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**Fear of Crime:
A Rational Response**

Christine Forsythe

**A Thesis
in
The Department
of
Sociology and Anthropology**

**Presented in Partial Fulfillment of the Requirements
for the Degree of Master of Arts
at Concordia University
Montreal, Quebec, Canada**

April, 1991

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Abstract

Fear of Crime A Rational Response

Christine Forsythe

Fear of crime has been viewed as a serious problem in both the U.S. and Canada, resulting in increased isolation and mistrust. It has been argued that this fear is irrational and out of proportion to the level of risk.

This thesis tests a model of fear as a rational response to subjective risk and personal vulnerability, using data from the Canadian Urban Victimization Survey.

The findings indicate that fear is a rational response, with vulnerability measures, such as sex and income, and perception of neighbourhood threat having the most impact on fear. Age was not found to have a strong relationship with fear, with the elderly somewhat more fearful under specific conditions. The importance of including interaction effects was demonstrated. Additionally, an objective measure of police performance, clearance rates, was included in the model for the first time and was found to have a significant relationship with fear.

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Introduction

Fear of crime is a serious social problem in Canada. Forty percent of urban Canadians report feeling unsafe at night in the streets of their neighbourhoods (Solicitor General, 1983: 6). This pervasive fear is seen to have serious consequences since it leads to isolation, withdrawal and mistrust.

"It extends to the forced alteration of daily living habits as well as to the negative psychological effects of living in a state of constant anxiety. As fear becomes manifest in the avoidance of strangers, sociability, mutual trust and the willingness to help others disappear"

(Clemente and Kleiman, 1977: 520).

For some groups, especially the elderly, fear of crime has been seen to be more of a problem than crime itself. Fear is seen to lead to almost complete withdrawal from social activity (Pollack and Patterson, 1980: 119; Costa, cited in Jones, 1987: 191). Yet, many sociologists and criminologists argue that this fear is irrational and unwarranted. This argument has been made on the basis of a number of seeming "paradoxes".¹

While it would be expected that those crimes which occur most frequently would generate the most fear, people fear the crimes which occur least often, personal violence. This is

the first paradox. The crimes which have the lowest frequency produce the most fear.

The second paradox is that actual crime rates and fear do not covary. Fear is seen as being out of proportion to the actual risk of victimization.

Finally, those who are least often victimized, that is, women and the elderly, exhibit the most fear. It is this last paradox, the so-called fear-victim paradox (Miethe and Lee, 1984), that has received the most attention in the literature, with varying explanations given to show why the elderly and women have this irrational response. Furthermore, the literature contains numerous suggestions as to how to lessen this fear.

While many researchers have identified one or more of these paradoxes, few have addressed the rational or irrational nature of crime beyond this. Thus, the irrational component of fear of crime is frequently cited but seldom directly discussed or tested.²

In fact, a great deal of research concerning victimization indicates that fear of crime is a rational and reasonable response to the risk of victimization. In response to this, Skogan and Maxfield (1981) proposed a model of fear as rational which included both situational factors and measures of personal vulnerability. In 1985, Baumer modified and tested the model in the U.S., and found support for this argument.

This research will follow and expand the model proposed by Baumer, but will use a Canadian sample. The modified instrument adheres closely to Baumer's so that comparisons can be made. Variables used in the model will be as similar to those of Baumer as the data will allow. A new variable, clearance rates, will be used that has not previously been included in the victimization literature. The introduction of this well-known factor adds a more objective measure of police performance to the subjective measure employed by Baumer.

CHAPTER I
Literature Review

Fear of Violence

The first paradox, in which it is stated that people fear the crimes most that occur least often, has been asserted by many researchers, both in the United States and Canada (Clemente and Kleiman, 1977; Merry, 1981; Gomme, 1986; Brillon, 1987; Ferraro and LaGrange, 1987). However, these authors do not attempt to test this assertion. In a review of the literature, Warr and Stafford (1983) also found that no one had tested this statement and that no empirical evidence existed to support this claim. While there is evidence that personal crimes and crimes involving weapon use are viewed as the most serious (Wolfgang, cited in Skogan and Maxfield, 1981; Warr and Stafford, 1983), evidence also exists which shows that "...Americans seem well aware that the relative risk of violent or personal offences (including murder) is substantially lower than the risk of property offences (including larceny)" (Warr and Stafford, 1983: 1034).

When official crime rates are used as a measure of risk, some researchers have found a correlation between rates and

fear, for both all-age and elderly samples, again indicating an awareness of the situation (Doob and MacDonald, 1979; Jaycox, 1978; Garofalo, 1979; Lawton and Yaffe, 1980; Atkinson, 1981; Skogan and Maxfield, 1981; Lee, 1983; Ortega and Myles, 1987). In this regard, and more specifically, Liska, Lawrence and Sanchirico (1982), using index crimes only, found official crime rates to be a strong predictor of fear. Furthermore, when breaking crime rates down in more detail, they found that robbery rates had the strongest impact, while the rate of other personal crimes, that is homicide, assault and rape, did not have a significant impact on fear.

As Warr and Stafford (1983) have shown, for high fear both high perceived risk and seriousness are needed, with seriousness and risk "almost precisely offset(ting) each other" (Warr and Stafford, 1983: 1038). Those crimes which are the most serious, such as murder and breaking and entering while at home, were seen as less likely to occur and were thus ranked lower on the fear scale. At the same time, the property crime breaking and entering while away from home was ranked low on perceived seriousness, but was seen as more likely to occur and therefore rated highest on the fear scale (Warr and Stafford, 1983: 1036).

The exception to this was the crime of rape, which was seen as serious but low risk and yet ranked very high (second of sixteen) on the fear scale.¹ In a subsequent analysis of the data, Warr (1985) found that, although the perceived risk of rape was low, it was much higher than the perceived risk of other serious offenses. He concluded that rape is seen as "a relatively likely event, particularly among younger women" (Warr, 1985: 243).

However, the level of risk was not sufficient to produce the high level of fear. This was seen as resulting, in part, from a "routine or habitual fear [of rape]" which is related to "female primary socialization" (Warr, 1985: 248). That is, women, throughout their lives have been made aware of their vulnerability and have been "almost universally warned about the danger of sexual molestation" (Macoby and Jacklin, cited in Warr, 1984: 698). This results in an awareness that rape can happen at any time, from a variety of sources. Thus, "rape and the fear of rape are a daily part of every woman's consciousness" (Griffin, cited in Warr, 1985: 239).

As has been shown, the first paradox has been an important factor in the literature on victimization. Unfortunately, in a substantial portion of this literature, the authors discuss this paradox as if it were fact and have

failed to realize that little empirical evidence had been gathered to support this conclusion. Researchers whose findings have relevance for this paradox have suggested that a variety of factors are, in a complicated way, involved in fear of crime. If there is high risk and the crime has a high level of seriousness, high fear results. Without contradiction, low levels of perceived seriousness with high levels of perceived risk can also result in high fear. Again, without contradiction, one crime of seemingly low risk, i.e., rape, and with a high level of perceived seriousness results in high fear.

Of interest in each of these findings is the reasonableness and rationality of the fear of crime manifested. Clearly, to live in a situation where one perceives a high risk of becoming the victim of a serious crime will reasonably produce high levels of fear. Also, to have a high level of fear of becoming the victim of a relatively less serious property crime is reasonable in that the risk is high. And similarly, the exceptional seriousness and unpredictability of the crime of rape encourages a high level of fear even when the level of risk may be low.

It can be useful to look at the instruments used to measure fear of crime, when attempting to explain the first paradox. The questions most often used in the literature are: "How safe do you feel being out alone in your neighbourhood at night", and "Is there any area right around here - that is within a mile - where you would be afraid to walk alone at night" (Yin, 1985: 35-38). Thus, the focus is on street crime and so it seems inevitable that fear of crime so measured would be fear of personal or violent crime: crimes which occur least often. In fact, this is one of the problems associated with these instruments: they omit property crimes such as burglary which have been shown to generate much fear (Skogan and Maxfield, 1981: 50).

Also, while urban residents have reported high levels of fear of crime, they have been shown to fear other things even more: for example, environmental problems and overcrowding (Skogan and Maxfield, 1981: 52). In 1981, the results of opinion polls, both in the United States and Canada, did not show that people were overly concerned with crime. In response to the question "In your opinion, what is the most important problem facing the country today?" only four percent of Americans cited crime or violence (compared to 53 percent citing inflation) and no 'crime' category appeared in the Canadian responses (Gallup Poll, 1982; Gallup Report, 1984). Fear of rape, while present in many women's lives,

again is not the major fear. "(M)ost women worry more about losing their jobs, getting a divorce, or getting cancer" (Gordon and Riger, 1989: 2). Thus, the focus on fear of crime is just that, and does not reflect an overwhelming fear of victimization.

Disproportionate Fear

The second paradox, in which it is stated that fear is out of proportion to actual risk, also has been posited by both Canadian and American researchers (Clemente and Kleiman, 1977; Liska, Lawrence and Sanchirico, 1982; Gomme, 1986; Brillon, 1987; Moeller, 1989). Some studies have shown that victims are no more fearful than non-victims (Braungart et al., 1980; Baker et al., 1983), but this can be seen as related to the measure used for previous victimization experience.² The more common finding is a weak positive relationship between actual victimization and fear (Garofalo, 1979; Lawton and Yaffe, 1980; Skogan and Maxfield, 1981; Toseland, 1982; Baumer, 1985). This weak relationship is thought to be a result of the small number of victims and the over-representation of minor offenses (Garofalo, 1979; Skogan and Maxfield, 1981). Also, the observation is made that young males are most often victimized and might be less likely to express fear, thus suppressing the true relationship

(Hindelang et al., 1978; Skogan and Maxfield, 1981). Thus, the choice of methodology has an important role, with those employing methods that simultaneously control for a number of variables more likely to identify the true relationship between victimization and fear.

Researchers who view the victimization experience as extending so as to include family members, friends and neighbours (vicarious or indirect victimization) have provided evidence that knowing a victim has a stronger impact than being victimized. While few experience direct victimization, many hear of those who have (Lotz, 1979; Finley, 1983; Gomme, 1986). Gomme (1986) combined two variables, direct victimization and victimization of a household member in the previous year, and found this measure to be second only to sex in predicting fear. Others have found, when including the two measures separately, that indirect victimization is a less powerful predictor (Lee, 1983; Baumer, 1985) but problems lie in the use of different time frames, such as past year or past several years. Furthermore, additional problems lie in the different measures of victimization (e.g., whether the respondent is a victim of personal crimes, of breaking and entering only, and so forth) as well as in the type of vicarious experience (whether the victim known is a family member living in the same vicinity, a neighbour, or a friend or relative living in

a different area). Skogan and Maxfield (1981) looked at the type of victim known, and found that respondents who knew a local victim were the most fearful. Additionally, if the victim was atypical, that is female or elderly or the victim of a personal crime, more people were likely to hear of the victimization and thus more fear was created. Lastly, Skogan and Maxfield found a moderate relationship between fear and the respondent and the local victim resembling each other, especially in terms of age and sex. That is to say, "(t)he extent to which "people like me" are victimized in the vicinity seems to be an important component in the dynamics of fear" (Skogan and Maxfield, 1981: 176).

Media exposure, another measure of vicarious victimization, has been widely cited, but little evidence has been found to support the hypothesis that high exposure creates higher fear. Skogan and Maxfield found, when controlling for such relevant factors as age, sex and education, that exposure to newspaper or television news had no impact on fear, and they hypothesized that media was too abstract and general to have an effect (1981: 178, 260).

In the Canadian context, media exposure has not been found to have a significant impact on fear. Doob and MacDonald (1978), in examining the relationship between fear

of crime and television viewing in four Toronto communities, found that those who watched the most were the most fearful, but this relationship disappeared when neighbourhood conditions, such as crime rate, were controlled. Other studies done in urban Alberta and in three Canadian cities (Montreal, Toronto, Winnipeg) failed to find a significant relationship between media exposure and fear (Sacco, 1982; Gomme, 1986).³

One of the primary arguments that fear is out of proportion to the actual risk of victimization has been the finding that victims reported no more fear than non-victims. However, this is not found to be the case when relevant controls such as sex are added to the equation or when measures are employed that take into account the more serious victimizations.

Adding vicarious victimization experience to the equation has given more support to the argument of fear as rational. If a household member or neighbour is victimized, this brings the risk to a tangible level. "It can happen to me." The fact that more fear is created when the victim resembles the respondent only increases this feeling. When a victimization which occurred in other than the respondent's neighbourhood is reported by the media, feelings of safety

are not affected. This, too, is reasonable since distant events would have little impact on one's feelings of safety in the neighbourhood.

The Fear-Victim Paradox

The third paradox, where it is stated that the least victimized are the most fearful, has been discussed by the most researchers. Many attempts have been made to either explain the paradox or disprove it, with the majority focusing on either the fear of women or the fear expressed by the elderly. Women and the elderly are in fact less victimized, both in Canada and the United States. Using American figures, Clemente and Kleiman (1977) found rates of personal victimization in 1973 to be almost twice as high for males, and five and one half times greater for those aged twenty to thirty-four than for those sixty-five and over. Similar results were found in a 1975 American sample, with males one and one half times more victimized than females and the youngest group over three and one half times more than those sixty-five and over (Garofalo, 1979).

Age has a clear relationship with victimization in these samples. As age increases, victimization decreases. The

Canadian pattern is similar, with males over one and one half times more likely to be victimized than females, and elderly about one-sixth as likely to be victims of violent or personal crimes as all other age groups, and one-twelfth as likely as the most victimized group, sixteen to twenty-four (Solicitor General, 1985: 4,6).

Many of the arguments put forward to explain why the elderly and women would be more fearful, though at less risk, have been applied to both groups. The relationship between age and fear, however, has received the most attention even though it appears to be weaker than the sex-fear relationship. It is also less consistent. While most researchers have found a positive relationship between age and fear (Clemente and Kleiman, 1977; Garofalo, 1979; Braungart et al., 1980; Toseland, 1980; Baker et al., 1983), others have found no relationship (Lebowitz, 1975; Ortega and Myles, 1987). However, when controls are introduced, the relationship between age and fear is somewhat clarified.

Lebowitz (1975) found the age-fear relationship was significant when controlling for size of place of residence. Residents of large urban areas expressed more fear than those in rural or small cities, with the elderly expressing the most fear of all age groups. Lebowitz hypothesized that the

fear provoking effects of urban life were magnified for the elderly. Maxfield (1984) found that age was not significant in relation to fear in high crime areas, where all age groups expressed high fear. The impact of age was found to be second only to sex, in low and mid crime areas, however, where the heightened vulnerability of elderly respondents resulted in greater fear. Thus, age has been shown to be related to fear under specific circumstances, with the elderly most fearful. However, this relationship is consistently found to be weaker than the sex-fear relationship, and to have less impact than perception of the neighbourhood conditions (Baker et al., 1983; Maxfield, 1984; Baumer, 1985). The controlled effect of age on fear has been "certainly less than one would suppose upon reviewing the social gerontology literature" (Clemente and Kleiman, 1977: 529).

The relationship between age and fear is less consistent in Canadian studies. The CUVS (1985) concluded that the elderly were more fearful than other age groups, and elderly women who had been recently victimized were the most fearful. However, no relative strengths of the associations were included in the discussion. Brillon (1983) found that the elderly, especially women, were much more fearful than younger respondents, when employing "formless fear" as measured on its strongest component - how safe do you feel out alone at night.⁴ In a multivariate analysis, Silverman

and Kennedy (1985) found age to have a significant impact, for males but not for females, while other researchers have found no relationship for both sexes (Sacco, 1982; Louis-Guerin, 1984). In addition, two other Canadian studies found age to be negatively related to fear, with older respondents less fearful (Atkinson, 1981; Gomme, 1988). These latter findings, however, are largely due to misspecifying the instrument used to measure fear.⁵

Sex, as previously mentioned, has a much stronger, more consistent relationship with fear of crime, with women the more fearful. Sex is seen as the strongest determinant of fear, both in the United States (Clemente and Kleiman, 1977; Garofalo, 1979; Baker et al., 1983; Maxfield, 1984) and in Canada (Sacco, 1982; Louis-Guerin, 1984; Kennedy and Silverman, 1985; Gomme, 1986, 1988).

The most common explanation for the third paradox is the physical and social vulnerability of women and the elderly. Women, in North America, are smaller than males, on average, and are less able to resist attack from violent offenders, most of whom are young males (Hindelang et al., 1978; Skogan and Maxfield, 1981; Statistics Canada, 1985; Yin, 1985). Women have been shown to have a realistic understanding of their vulnerability. When asked to compare their perceived

strength and speed to that of the average male and female, and whether they thought they could successfully defend themselves from attack, a sample of urban American women rated themselves weaker and slower than both men and other women, and also thought themselves significantly less able to defend against attack than males (Riger et al., 1978: 277). However, perceived vulnerability, as measured on relative speed and strength, accounted for only four percent of the variance in fear among these women.

Women are also subject to a specific crime: rape. It is this crime which generates great fear. Warr (1984) concluded that rape may be, in fact, the "master offense"; that "fear of crime is fear of rape " (1984: 700). A significant number of women are the direct victims of rape, and a substantially larger number are affected as indirect victims. In the United States, rape and rape-murder make up five and one half percent of all violence (Skogan and Maxfield, 1981: 73), while in Canada from 1976-1982, the rate of rape per one hundred thousand population rose from 7.9 to 10.2, the largest increase of all violent crimes against women (Statistics Canada, 1985: 104-105).⁶ These, it must be remembered, are reported crimes. According to the Canadian Urban Victimization Survey (CUVS), in 1981, sixty-two percent of victims of sexual assault (which includes rape, attempted rape, molesting and attempted molestation) did not report their victimizations, with forty-five percent not reporting

stranger assault (Solicitor General, 1985a: 3-4).

In addition to the problems associated with the rape itself, it has been shown that rape victims experience the highest proportion of injury. Hindelang et al. found that forty-eight percent of rape victims were injured, nineteen percent seriously (broken bones or teeth, gunshot wounds or internal injuries) (1978: 38, 47-48). While victims of aggravated assault were as likely to suffer serious injury, rape resulted by far in the most injuries.

Female victims of sexual assault (including rape and molestation) were also frequently injured according to Canadian findings, with sixty-one percent injured, and with twenty percent requiring medical attention (Solicitor General, 1985a: 5). According to this study, female victims had a high incidence of injury for non-sexual assault and robbery, while in the United States, women were found to be slightly more likely to be injured during these crimes (Skogan and Maxfield, 1981: 72).

Additionally, twelve percent of the sexual assaults against women occurred in conjunction with breaking and entering (Solicitor General, 1985a: 4). Furthermore, robbery

and non-sexual assault were also found to occur in conjunction with illegal entry more often for women than for men (12 and 7 percent differences, respectively). Thus, it was concluded that "(f)ear will be particularly great once the victim no longer believes her home provides safety" (Solicitor General, 1985a: 4).

Finally, women are seen as more socially vulnerable since they have fewer resources to deal with consequences of victimization. For example, they are less able to repair or replace damaged or stolen property, or to recover lost time from work due to injury, and so forth (Skogan and Maxfield, 1981: 74). In Canada, in 1981, women's average income was fifty-one percent (51.4) of men's (Statistics Canada, 1985: 69) and female-headed families were almost five times as likely to be in the 'low-income bracket' as male-headed households. Clearly, then, lost income and property would have greater repercussions for women.

Many of these same arguments apply to the elderly as well as to women. Elderly persons are again seen as less able to defend themselves against young male aggressors. Characteristics associated with aging, such as impaired vision and hearing, decreased motor skills, and so forth make the elderly not only more frail but less able to defend

themselves or escape attack (Skogan and Maxfield, 1981; Kosberg, 1985; Yin, 1985). A 1986 Canadian study found forty-six percent of seniors to be disabled (Statistics Canada, cited in The Gazette, August 17, 1990: D12).

Victimization is seen to result in more serious consequences for the elderly victim. Burt and Katz (1985), in a review of the literature, found that while the elderly were no more likely to be injured when victimized, they were more likely to be seriously injured than other age groups, and that the impact of these injuries had more far-reaching consequences. The elderly, for example, were more likely to report longlasting decreases in reported health, and were more likely to become and remain less self-sufficient as a result of victimization (Feinberg, cited in Burt and Katz, 1985: 344-345). The CUVS also found that elderly victims, though injured no more often than other age groups, were the most likely to suffer serious injury, measured here as needing medical or dental treatment (Solicitor General, 1985b: 4).

Financial consideration also plays a part in the vulnerability of the elderly, with lower and fixed incomes again affecting the ability to replace or repair lost or damaged property. While the elderly in Canada did not lose

more in terms of dollar value than other age groups, the impact was seen as twice as high when measured as a proportion of their income (Solicitor General, 1985b: 4).

Further attempts at explaining the third paradox have used age and sex as indicators of socialization. Women are seen as having been socialized to be submissive and dependent on men, while the elderly have been socialized to feel vulnerable due to isolation and dependence resulting from retirement policies, shift away from extended family, and so forth (Hindelang et al., 1978; Garofalo, 1979). Garofalo (1979), using age and sex as rough measures of role socialization, found support for this notion. However, Riger et al. (1978) found no significant sex differences in responses to a number of questions on fear⁷ and concluded that men were not unwilling to admit fear and that women were not overly submissive. The authors did, however, believe that socialization magnified the physical differences between men and women, but was seen to play a smaller role than vulnerability in producing fear.

In general, socialization is seen to play a part in explaining this paradox, but few use age and sex as measures of socialization. Rather, sex and age are seen as measures of vulnerability, which includes socialization to a lesser

extent (Hindelang et al., 1978; Riger et al., 1978; Yin, 1980). Other measures of vulnerability are also needed, however, such as height, weight and vigor (Skogan and Maxfield, 1981: 73).

The last, common explanation for the fear-victim paradox is the exposure hypothesis. Since the elderly and women tend to be in public places at night, particularly "risky" places, less than younger male individuals, it is argued that the risk for women and the elderly might be as high (or higher) but exposure to possible victimization is lower. This is hypothesized by a number of researchers, but remains largely untested (Yin, 1980; Lindquist and Duke, 1982; Brillon, 1987). Lindquist and Duke (1982) hypothesized that adding an 'at risk' weight to an analysis of the elderly fear-risk discussion would find the elderly equally or more victimized than other age groups. The CUVS found that, when controlling for 'evenings out', the differences in risk between males and females, young and old were greatly reduced (Solicitor General, 1984b: 5). For the elderly, going out frequently to risky places in the evening resulted in as much risk of personal theft and more risk of robbery (Solicitor General, 1985c: 2). Thus, some support for the exposure hypothesis was found.

Balkin (1979) argued that those at high risk, that is women and the elderly, constrained their behavior and thus lowered their exposure and victimization rates. Once the rate of victimization was lowered, fear might also be reduced. A test of this hypothesis gave some support, but a crude measure of the "real" victimization rate was used, so this model remained largely untested.⁸ Liska et al.(1988) argued the opposite. They found that constrained behavior and fear were reciprocally related, such that fear increased constrained behavior and constraint further increased fear. This latter argument, that constraint increases fear, has been more widely accepted, especially for elderly respondents (Goldsmith and Tomas, 1974; Brillon, 1987), with the elderly seen as 'becoming prisoners in their own home' because of fear.

However, a number of problems exist with Liska et al.'s study. First, they measured constraint, in part, by the number of evenings out for entertainment. It has been shown that this measure decreases with age, but that fear plays only a small role in this relationship. Most of the differences in number of evenings out for entertainment have been shown to be related to lifestyle differences, with respondents sixty-five and over citing 'age' and 'health' as the primary reasons for going out less while younger respondents cited 'family reasons' and 'money' as the primary

reasons (Hindelang et al., 1978: 214-218).⁹

Second, the way in which age was measured was problematic. The 'middle' category (30-61) was seen as too broad, while 'middle-old' and 'old-old' (62-70, 70+) could have been combined. Finally, for those who were seen to fear crime the most (70+), fear was not found to play a significant role in determining constrained behavior, and among middle-old respondents constrained behavior had no relationship with fear. The authors concluded that "we seem to know least about the effects of the fear of crime for those social categories who fear crime the most" (Liska et al., 1988: 836).

One interesting finding was that, while sex was related to fear for all age groups, it was unrelated to constrained behavior. Thus, the authors found that women were no more likely to constrain behavior than men, and that the most fearful age group did not constrain their behavior, as measured. Clearly, then, while arguing the reciprocal nature of the relationship, the authors provided little support for fear reducing exposure and thus lowering victimization rates for women or the elderly.¹⁰

Proponents of the lifestyle or routine activity approach also argue that reduced exposure decreases risk, which is measured in terms of amount of time in public places, with strangers, and so on (Hindelang et al., 1978). Age was found to be a strong determinant of lifestyle-exposure, while the effect of sex was seen as less strong and as disappearing at or near retirement. The elderly and women are seen as less exposed to risk, but it is not argued that constrained behavior increases fear. Some evidence exists which supports the lifestyle-exposure hypothesis, in terms of when and where crimes take place. The CUVS found that there was a seasonal variation in victimization, with most crimes occurring in the summer and fall when outside activity would be increased. Also, most violent victimizations occur in public areas at night. However, thirty percent of violent incidents happen in or around the victim's home (Solicitor General, 1984a: 5-6). For women, violent victimizations were less likely to occur in a public place than for males (differences of 17 and 23 percent for robbery and assault), and were more often committed in association with breaking and entering (Solicitor General, 1985a: 3). Twenty-one percent of sexual assaults occurred in the victim's home, with over half break and enter related.

In terms of the elderly, it has been found that the occurrence of violence (measured as rape and assault) in or

near the victim's home increases with age, with the largest increase for those sixty-five and over. Antunes et al. (1977) found that fifty-two percent of the violent acts occurred here for this age group (1977: 323-324). Predatory crimes (robbery, personal larceny) were also found to occur slightly more often in or near the home for the elderly. The authors conclude that staying home, for the elderly, will not eliminate fear, since this is where they are more likely to be attacked (Antunes et al., 1977: 326).

The review of literature has shown that the supposed irrational component of fear of crime is not supported by the evidence provided by research. Those people who are seen as most irrational in their fear, the elderly, have been depicted as isolated and alone, hiding from the world, virtual prisoners because of fear (Goldsmith and Tomas, 1974; Brillon, 1987). Yet, age has not been shown to be a strong predictor of fear, and little evidence exists that the increased amount of time spent alone is either due to fear or increases that fear. Women's fear has been shown to be largely due to vulnerability, fear of rape and to a lesser extent, socialization. As previously mentioned, what is needed is a model to test for the relevant variables for producing fear.

CHAPTER II

Research Design and Methodology

In 1981, Skogan and Maxfield proposed a model which included measures of personal vulnerability, victimization experience, and neighbourhood and city conditions. This 'cognitive-volitional' model assumed that individuals assessed their risks in terms of their environment and in terms of the potential costs of victimization (1981: 257), and gave support to the fear as rational argument.

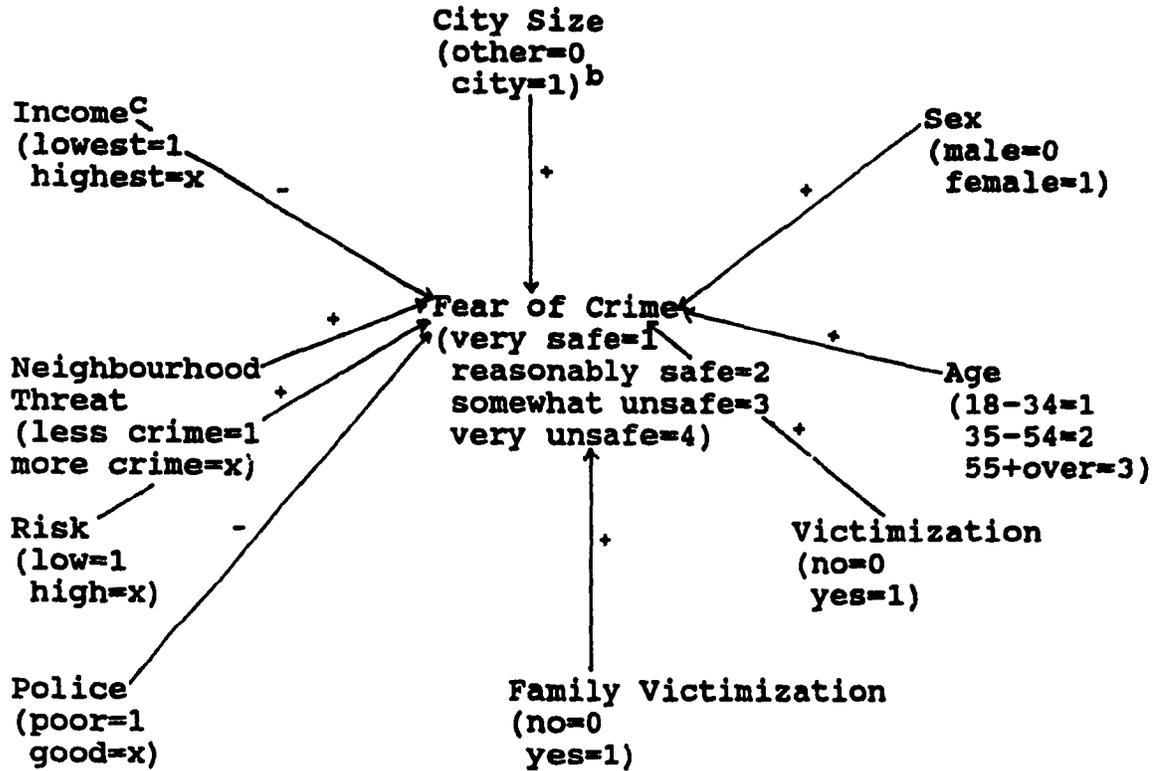
Vulnerability was measured in terms of age, sex and income; victimization experience included personal, vicarious and media effects. It was argued that vulnerability produced more fear than direct experience because of the potential consequences of victimization (Skogan and Maxfield, 1981: 63).

Neighbourhood conditions were measured on three components: objective and subjective risk of victimization (neighbourhood threat), incivility (social disorder), and integration (residential and social ties). Neighbourhood threat was seen to have the most impact on fear, but social disorder and integration were also significant.

In 1985, Baumer tested this model in the United States using a national sample, and again found support. Baumer's model (see figure 1) also included neighbourhood conditions, although perceived conditions only,¹ and measures of personal and social vulnerability. Baumer argued that omission of the social disorder and social cohesion variables would not 'damage' the model since "they are only part of the general crime problem, and a relatively small part at that" (Baumer, 1985: 244). Victimization experiences, although in the model, were excluded from the regression equation because of the weak zero-order correlation between victimization and fear, in spite of the fact that Skogan and Maxfield argued that this relationship would increase in the multivariate analysis, once age and sex were controlled (1981: 65).

The results of Baumer's multiple regression were shown to support the model of "fear of crime as an essentially rational response to a subjectively defined threat of harm" (1985: 242). All variables included in the model were significant and varied in the expected manner. Those seen as more vulnerable, that is women, the elderly and those with low income, expressed more fear, as did those living in neighbourhoods perceived as more dangerous.

Figure 1: Baumer's model of effects on fear of crime.^a



a. From Baumer, 1985; 244-246. b. 'Large' was equal to cities over 10,000 in population, while 'other' was made up of suburbs, small towns and rural areas. c. The categories of income were not included in Baumer's discussion but ranged from lowest to highest. Similarly, no categories were given for Neighbourhood Threat, Risk or adequacy of Police protection. However, it was clear from the discussion that Neighbourhood Threat ranged from 'less crime than other neighbourhoods' to 'more crime', that Risk ranged from 'low' to 'high' and that Police ranged from 'poor job' to 'good'.

Additionally, a number of interaction effects were found to be significant and to support the model. Age was found to interact with both size of place and gender, so that older respondents residing in large cities were more fearful, and

age had more impact on fear for males. This was seen to attest to the validity of age as a measure of vulnerability (Baumer, 1985: 251).

This investigation will use Baumer's model of fear as a rational response in the Canadian context. The sample chosen was taken from the Canadian Urban Victimization Survey (CUVS). The data were collected early in 1982, by Statistics Canada, in seven Canadian cities; Vancouver, Edmonton, Winnipeg, Toronto, Montreal, Halifax and Saint John's. The survey was conducted by telephone, with random selection using a two-stage probability sampling technique, excluding commercial and institutional telephones. Respondents were sixteen years of age and older.

A randomly selected subsample was chosen for this analysis with 6,004 respondents chosen from the original of over 61,000 respondents. This was done because of both time and space constraints,² but a sample of this size was felt to be large enough to be representative. The final number, however, was reduced to 2,839 after listwise deletion of missing values, which was used to ensure that all findings were based on the whole population.³ Multiple regression was used to assess the relative predictive power of each of the independent variables in the model, and also so that results

could be compared to those of prior research, particularly Baumer's.

Fear of Crime

The dependent variable, fear of crime, was measured by asking respondents 'how safe do you feel or would you feel walking alone in your neighbourhood after dark?' with four response categories ranging from 'very safe' to 'very unsafe'. (For exact questions and response categories, please see appendix A). This closely mirrors Baumer's dependent variable, 'how safe do you feel or would you feel being out alone in your neighbourhood at night?'. There are, however, a number of problems associated with these measures. First, crime is not mentioned explicitly. However, in the CUVS, the question was preceded by the statement 'First of all, I would like to ask you a few questions about your opinions on crime in general', and thus probably elicited fear of crime. Similarly, Baumer's question was part of the 'Take a Bite Out of Crime' questionnaire.

Other problems with these measures of fear have been identified by past research: the failure to specify the meaning of 'neighbourhood' and the mixing of hypothetical and actual fear (Garofalo, 1979), the omission of property crime, especially burglary (Skogan and Maxfield, 1981) and the

failure to distinguish fear of various crimes (Yin, 1980). There is also a question as to what these instruments measure, whether emotional fear or risk judgement, which are seen as related but distinct (Ferraro and LaGrange, 1987: 76). These authors suggest employing 'how afraid are you of' eleven separate victimizations, ranging from minor to severe (LaGrange and Ferraro, 1989). However, while this measure would eliminate some problems of the instrument used in this analysis, for example, it mentions crime explicitly and differentiates fear of various crimes, it still does not measure only emotional fear. Their measure still contains an element of risk. There is no fear of crime if there is no perceived risk. For high fear, as stated earlier, risk and seriousness are both needed. The measure of fear employed has also been shown to be related to perceived risk, but not highly correlated (Baker et al., 1983; Ortega and Myles, 1987). Thus, one advantage of using the measure of fear selected for this research is that it includes some measure of perceived risk (assessment of cues) and of seriousness in terms of physical and social vulnerability (consequences) (Yin, 1980: 33). The focus is on how safe the respondent feels, in terms of his or her own vulnerability.

Another criticism of the measure of fear employed in this research focuses on the "great variability" in the amount of time different groups of people are outside alone

at night (Garofalo, 1979). LaGrange and Ferraro (1989) see this as exaggerating fear levels for certain categories, especially elderly women, who spend less time than other categories out alone. The 'foreboding scenario' presented is intensified for these groups and is thought to result in falsely high reports of fear. The response to such claims from the perspective of the instrument chosen is that what is being tapped are the environmental cues and personal vulnerability of the respondent. Finally, since this measure of fear is one of the most commonly used, it allows comparison with other findings, again, particularly Baumer's.

The four response categories have been most often, in prior research, recoded into a safe/unsafe dichotomy (Clemente and Kleiman, 1977; Garofalo, 1979; Braungart et al., 1980; Liska et al., 1982; Ortega and Myles, 1987). However, in this study, the categories have been left as four ordered categories, even though this is seen to violate one assumption of regression, that is, interval measurement. When an ordinal variable is treated as such, however, it has not been shown to have a strong impact on the results and "correlation coefficients computed in terms of an arbitrary equal-interval assumption will be conservative estimates of the true correlation" (Boyle, cited in Hindelang et al., 1978: 192). This coding of the dependent variable has also

been employed by a number of researchers (Hindelang et al., 1978; Maxfield, 1984; Baumer, 1985).

Independent Variables

Age was recoded into three categories: 16-34, 35-54, 55 and over. This closely resembled the measure employed by Baumer,⁴ and was so coded to compare young and middle-aged respondents to the older population who have been found to be the most fearful. The 'old' category was defined here as beginning at fifty-five, the age of early retirement, where disengagement would logically begin. It was expected that fear would increase with age, with the elderly expressing the most fear since age would increase both physical and social vulnerability.

Annual family income was not recoded, and was made up of seven categories ranging from 'less than \$9,000' to '\$40,000 and over'. The expected relationship was a decrease in fear as income increased, since those with lower incomes would be less able to move to safer neighbourhoods, buy insurance and protective measures, or to replace lost property. This relationship has been found fairly consistently in previous research (Clemente and Kleiman, 1977; Louis-Guerin, 1984; Baumer, 1985).

One indicator of neighbourhood conditions, neighbourhood threat, was measured by asking respondents 'how does your neighbourhood compare with the rest of (city of residence) in the amount of crime?'. There were five response categories ranging from 'much more' to 'much less' crime. This variable has been used elsewhere in the literature (Massey et al., 1989) and has been found to have a strong relationship with fear, such that those respondents who perceive high threat are more fearful (Garofalo, 1979; Baumer, 1985).

Another measure of neighbourhood conditions, risk, was created by combining two questions on whether or not crime had increased, remained the same, or decreased in the neighbourhood and in the city of residence. The response categories of the original variables were recoded so that 'remained the same' and 'decreased' became one category (see Baker et al., 1983). The final variable had three response categories ranging from 'increased crime in both neighbourhood and city' to 'same/decrease in both'. It was expected, on the basis of previous findings, to have a relatively strong relationship with fear (Baker et al., 1983). Clearly, a better measure of subjective risk of victimization would have been a direct question on the perceived likelihood of falling victim to specific offenses (Baumer, 1985; LaGrange and Ferraro, 1989). Unfortunately, this type of question was not available from the CUVS data.

However, risk thus measured has been shown to play an important role in producing fear, with an effect second only to sex (Baker et al., 1983).

Measures of social cohesion and incivility were omitted from this model since the data did not allow for their inclusion. While these measures, especially social and physical disorder, have been seen to be important in producing fear (Taylor and Hale, 1986), they were also excluded from Baumer's model and thus, their omission is not a primary concern of this investigation. However, the importance of these factors will be discussed in the concluding chapter.

Another computed variable, confidence in the police (Police), was included in the model, with responses on two questions on police performance employed: 'what kind of job are your local police doing of enforcing the laws, of promptly responding to calls'. The responses ranged from 'good on both measures' to 'poor on both' (see Garofalo, 1979; Baker et al., 1983). It was expected that those who felt the police were doing a good job would be less likely to report feeling unsafe.⁵

Previous victimization (Victim) was measured by determining if the respondent had been the victim of a criminal offense in the past year, 1981, and was dichotomized into no and yes categories (Sacco, 1982; Baumer, 1985). It has been argued that the type of victimization, that is personal or property, or the severity of the victimization would have an impact on the relationship with fear of crime. The majority of past research has either employed personal victimizations only, or differentiated between victims of personal and property crime (Antunes et al., 1977; Hindelang et al., 1978; Garofalo, 1979; Liska et al., 1982; Baker et al., 1983). However, there were a number of reasons for coding victimization in this manner. The CUVS coded the information such that each victimization was counted, not each individual. That is, an individual who was victimized, for example, three times, had three records, including age, sex, fear and so forth. While it would be possible to determine if a victim of a particular crime had also been the victim of some other property or personal crime in the survey year, it would not be possible to determine which other crime(s) had occurred.

Also, records for all sexual assaults were removed from the file by the Solicitor General's office, for reasons of confidentiality. However, if a victim of sexual assault had also been victimized in another manner, for example

vandalized, in the survey year, the personal data record would remain. Thus, the amount of fear expressed might make little intuitive sense if seen as resulting from the vandalism only.

Finally, some evidence does exist that victimization measured with the dichotomous instrument does have a significant, if weak, impact on fear, with victims expressing more fear (Baumer, 1985). Baumer also measured victimization in essentially this manner, except that his frame of reference was 'during the past few years'. The measure employed in this research will be an improvement on that used by Baumer because recent events should have more impact on fear than more distant ones. This is supported by Garofalo (1979). It was expected that those who had been recently victimized would express the most fear, although the relationship is not expected to be strong, largely due to the preponderance of less serious victimizations. Baumer also included a question on vicarious victimization, which was found to have a weak significant relationship with fear. This variable was not included in the present study, however, since it was not available from the CUVS data.

City size has also been found to have a significant effect on fear of crime (Clemente and Kleiman, 1977; Sacco,

1982) and was included in Baumer's model. However, the usual measure of city size ranges from rural to large city.⁶ In this sample, only large urban centers were included, with no way to distinguish between inner city and suburb. As Table 1 shows, city size was recoded into three categories small, medium and large. This recoding was not expected to produce a large effect.

Table 1: City Population and Classification

City	Population*	Classification	Sample
St John's	152,480	Small	315
Halifax	275,750	Small	446
Winnipeg	578,625	Medium	367
Edmonton	650,895	Medium	457
Vancouver	1,250,610	Large	416
Montreal	2,798,045	Large	423
Toronto	2,975,495	Large	415

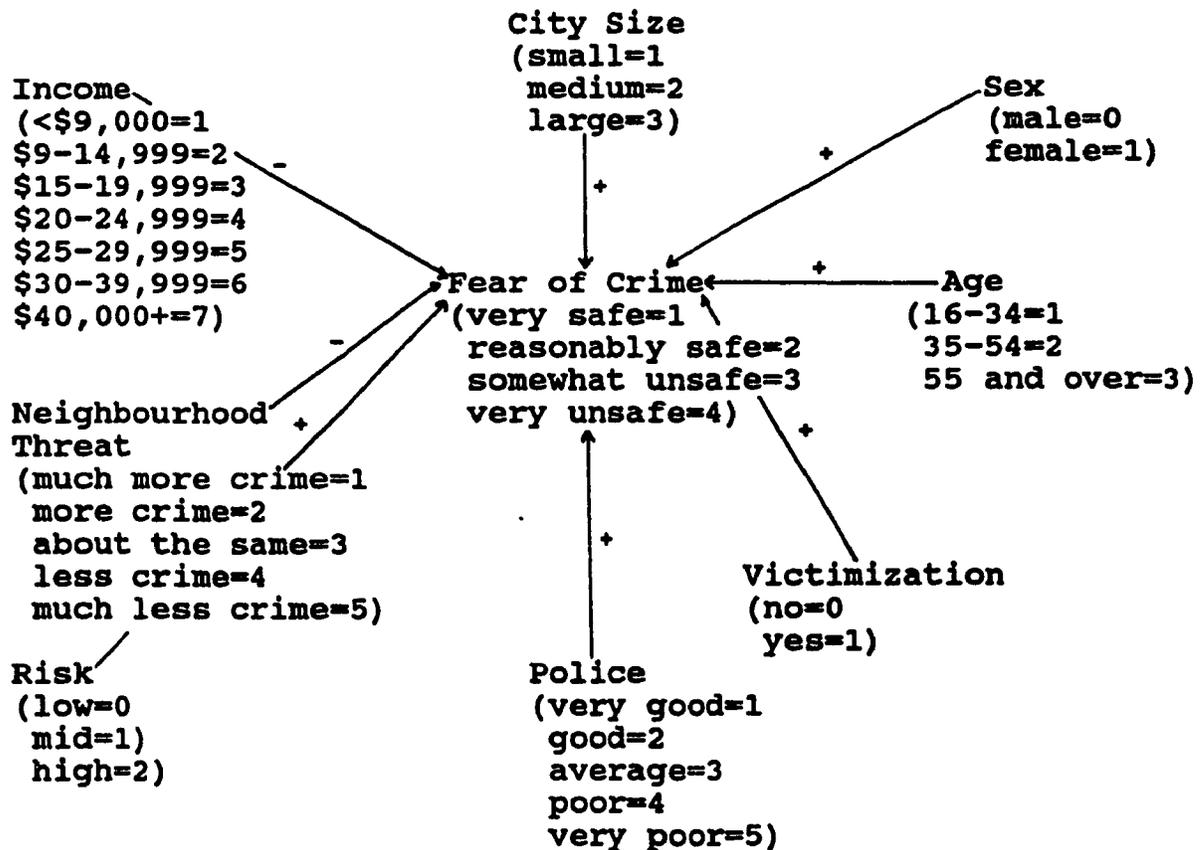
*From 1981 Census of Canada, "Population:Census Metropolitan Areas and Census Agglomerations of 50,000 and over, 1981".

Increases in population size have been "associated with normative conflict, individualism, depersonalization, breakdowns in both primary relationships and informal social controls, and geographic mobility, which lead to harmful psychological states such as alienation, powerlessness, anxiety, and fear" (Liska et al., 1982: 763), as well as to higher crime rates. While the effect of city size is not expected to be as strong as the measure which includes the rural-urban range, it is expected to have a positive,

significant effect. Liska et al.(1982) found this relationship using a sample of large American cities, even when controlling for official crime rate.

Finally, sex was included as a dummy variable and was expected, on the basis of prior research, to have a strong significant impact on fear, with females expected to be more fearful (Clemente and Kleiman, 1977; Garofalo, 1979; Baker et al., 1983; Maxfield, 1984). The hypothesized model (figure 2) resembles Baumer's model closely, except that vicarious victimization has been excluded.

Figure 2: Hypothesized model of effects on fear of crime



CHAPTER III
Empirical Findings

Sample Characteristics

Some discussion of the characteristics of the respondents in the sample is required before analysing the results of the regression itself. Table 2 presents the frequency distributions of each independent variable and the proportion of respondents who felt unsafe. The subsample selected resembled the total CUVS sample in terms of percent reporting fear, with the subsample slightly more likely to be fearful (2 percent difference) (Solicitor General, 1983: 6). The subsample also resembled the 1981 national sample in terms of age, sex and income. (Appendix B presents the national and subsample comparisons).

Women were more than three times as likely to report feeling unsafe than males, as has been found in prior research (Clemente and Kleiman, 1977; Braungart et al., 1980). As expected, the proportion of those who reported feeling unsafe increased with age, with the largest increase for those fifty-five and over (Clemente and Kleiman, 1977; Baumer, 1985).¹

Table 2: Percentage of respondents who felt 'somewhat' or 'very' unsafe.

Variable	N	% unsafe	Variable	N	% unsafe
Sample	2839	42.4	Police		
			Very Good	1272	40.1
Sex***			Good	556	42.4
Males	1436	20.3	Average	578	43.3
Females	1403	65.1	Poor	267	47.9
			Very Poor	166	48.8
Age***			Neighbourhood Threat***		
16-34	1489	40.1	Much More	42	54.8
35-54	868	40.7	More	251	62.5
55+	482	52.9	Same	766	52.3
Income***			Less	1403	38.1
<\$9,000	354	62.4	Much Less	377	23.9
\$9-14,999	397	56.4	Risk***		
\$15-19,999	443	48.5	Low	214	26.2
\$20-24,999	460	39.3	Mid	1388	35.1
\$25-29,999	352	34.4	High	1237	53.5
\$30-39,999	385	34.3	Victim		
\$40,000 +	448	24.8	No	1301	41.2
City Size*			Yes	1538	43.5
Small	761	42.8			
Medium	824	45.9			
Large	1254	40.0			

chi square *p<.05
 **p<.01
 ***p<.001

Income also varied in the expected manner, with those with lowest family income expressing the most fear (Clemente and Kleiman, 1977). Most respondents judged their neighbourhoods as having either less or much less crime (threat) than others in the city (63 percent) with only ten percent believing their neighbourhoods to have more or much more crime, which is in keeping with previous findings (Hindelang et al., 1978: 159). Respondents view their

neighbourhoods as safer because they are more familiar with the area and know which places to avoid (Merry, 1981) or because of a "psychological defense mechanism" which allows for some sense of security even if they live in a high crime neighbourhood (Conklin, cited in Hindelang et al., 1978: 171). Not surprisingly, those who felt their neighbourhoods to be safer were less fearful. Similarly, those who felt that the risk of victimization had increased also felt more fearful.

Many respondents (44 percent) felt that crime had increased in both the neighbourhood and city (high risk), with only eight percent believing it had decreased or remained the same in both (low). The 'mid' category was made up mainly of those who believed crime had gone up in the city and decreased or remained the same in the neighbourhood (98 percent). Thus, the same tendency to see elsewhere as more risky was reflected in this variable.

City size, while significant, did not vary in the expected manner, with those respondents living in medium cities expressing more fear. This could be due to a number of factors. In this survey, there was a higher percentage of recently victimized respondents residing in 'medium' cities than in either 'small' or 'large' (56.7 percent, compared to

52.8 and 53.6). While the relationship between city size and victimization was not significant, it might play a role in determining the relationship between city size and fear. Also, both 'small' and 'medium' cities had a higher proportion of female respondents which would result in more reported fear. When controlling for sex, the relationship between city size and fear was no longer significant.

Two variables, attitude toward the police and previous victimization experience, did have the expected relationship with fear but were not significant. Most respondents felt the police were doing either a very good or good job (64 percent), which has been found in prior research (Thomas and Hyman, 1977). Fifty-four percent of the respondents had been victimized in the survey year. While this figure is high, it is important to remember that victimization surveys tend to overrepresent the amount of crime, since minor offenses are reported (and indeed incidents which would not be considered criminal offenses legally) (Skogan, 1975).

The zero-order correlations, presented in Table 3, in most cases confirmed the expected relationships. Sex was by far the strongest correlate of fear, with women much more likely to express fear than men. The next strongest correlate was income, again in the expected direction, with those with

lower income more fearful. The two measures of neighbourhood conditions, neighbourhood threat and risk, were the next strongest correlates, indicating the importance of these variables in the fear relationship.

Table 3: Zero-Order Correlations for Main Variables (N=2839)

	Fear	Sex	Inc	NT	Rsk	Age	Pol	City	Vtm
Sex ^a	.506*								
Income	-.271*	-.210*							
NT	-.223*	-.008	.102*						
Risk	.206*	.047*	-.013	-.115*					
Age	.083*	.033	-.133*	.100*	.011				
Police	.058*	-.043*	.030	-.115*	.101*	-.195*			
City	-.039*	-.057*	.018	-.002	-.012	.031	.005		
Vtm ^b	.028	-.105*	.119*	-.160*	.146*	-.302*	.181*	.005	
Mean	2.34	.494	4.06	3.64	2.36	1.64	3.12	2.17	.54
S.D.	1.09	.50	1.98	.87	.62	.75	1.24	.82	.50

a. Male=0; Female=1.

b. No=0; Yes=1

*p<.05

While both sex and age were related to fear, only age had a significant relationship with neighbourhood threat. Of interest is the fact that elderly respondents were less likely than younger ones to see more crime in their neighbourhoods than other areas of the city. Also, the elderly were no more likely to see their neighbourhood as more risky than other respondents. Thus, support was given to a previous finding that higher vulnerability does not have an impact on perception of the environment; rather, those who are vulnerable see themselves as facing more dire

consequences (Skogan and Maxfield, 1981). However, sex and risk were related, although weakly, with women perceiving more risk in the environment. Baumer (1985) found a similar relationship employing a different measure of risk: likelihood of being robbed.

As previously mentioned, age had a significant impact on fear, in the hypothesized direction, but was a much weaker correlate than sex, income and neighbourhood conditions. This was expected on the basis of prior multivariate research (Clemente and Kleiman, 1977; Garofalo, 1979; Baumer, 1985; Gomme, 1986). Attitude toward the police also had the expected relationship: again a weak one (Garofalo, 1979; Baker et al., 1983; Baumer, 1985). Prior victimization experience did not have the predicted effect on fear, but this was not totally unexpected. Victimization surveys tend to overrepresent minor offenses and, while this cannot be tested in the sample used in this research, most victimizations in the CUVS sample were less serious property offenses, while only a few were more serious crimes such as sexual assault, robbery and assault. (Solicitor General, 1983: 2-3). The relationship between victimization and fear is expected, however, to become significant in the full equation when controls such as age and sex are included. Since most victims are young and male, the effect of victimization on fear was suppressed in the zero-order

correlation (see Hindelang et al., 1978; Skogan and Maxfield, 1981).

While victimization experience did not have a significant relationship with fear, it did covary significantly with neighbourhood threat and risk such that victims were more likely to perceive the neighbourhood as more dangerous than others in the city and as more risky than in the previous year. This supports prior findings (Hindelang et al., 1978; 169; Baumer, 1985; 246) and speaks to the importance of this variable, victimization, in the model.

An unexpected relationship was found between city size and fear; a significant negative relationship indicating higher fear in smaller cities. Again, it must be mentioned that city size as employed in this model was very different from the usual measure employed in American and Canadian studies which include rural and small communities (Clemente and Kleiman, 1977; Sacco, 1982). The relationship between city size and fear was the weakest in the model and might be partially due to the higher number of women in the smaller cities. However, it is as likely due to some other, as yet unidentified variable.

It is interesting to note that city size covaries significantly with attitude toward the police, such that residents of large cities are seen to rate the police higher on job performance. This is one possible explanation for the impact of city size on fear. That is, police in the large cities are either more effective or are judged to be so.

Also, official crime rates have been shown to affect fear (Garofalo, 1979). In the coding of the city variable, two of the three large cities, Montreal and Toronto, had the lowest official crime rates in 1981 of the cities sampled (Statistics Canada, 1981: Table 3). This possible explanation will be examined more fully later in the paper.

Next, the multiple regression was run, with results presented in Table 4. All variables had the expected relationship with fear, except city size which was not significant.² Sex was the strongest predictor of fear, with women much more likely to report feeling unsafe. The next strongest relationship was between perceived neighbourhood threat and fear. These two variables were also the strongest in Baumer's results, but in his study neighbourhood threat had the most impact. However, most previous studies have found sex to be the strongest determinant, even when neighbourhood conditions were included in the equation

(Garofalo, 1979; Maxfield, 1984).

Table 4: Multiple Regression Analysis of Fear of Crime
(N=2839)

Variable	B	Beta
Sex	1.403	.644**
Neighbourhood Threat	-.261	-.209**
Income	-.061	-.111**
Risk	.136	.077*
Victimization	.146	.067**
Police	.048	.055**
Age	.079	.054*
City Size	-.009	-.007
Sex by neighbourhood threat ^a	.103	.183*
Age by Risk	.082	.071*
Age by Income	.067	.057*
R-square	.363	

a. Sex in interactions female=0; male=1.

* p<.01

** p<.001

Victimization experience, as hypothesized, became significant, though weak, with victims more likely to report fear. The relationship between attitude toward the police and fear was also weak. This small effect has been found in other research (Garofalo, 1979; Baumer, 1985) and has been hypothesized as being due to a measurement problem (Garofalo, 1979: 95). The questions ask if the respondent thinks the police are doing a good job, but do not ask about the "overall criminal justice effectiveness" (1979: 95) in protecting the citizen. Baumer (1985) found a much stronger relationship when measuring the perceived adequacy of police

protection (an unstandardized coefficient of .177, compared to .048 in the present study).

The model explained thirty-six percent of the variance in fear of crime and gave support to the fear as rational argument. Those more vulnerable, women, elderly and low income, were seen as being more fearful, but age was not a strong predictor of fear. Those who perceived the neighbourhood as being a comparatively dangerous place to live and as being risky were also more likely to report fear. Respondents who had been recently victimized were more afraid than those who had not and, finally, those who felt the police were doing a good job were least fearful.

Interaction Effects

Baumer added interactions to his equation to determine under which conditions various factors, such as age and sex, had more impact, and found three interactions to be significant and to give support to previous findings. These interactions are: age by sex, attitude toward the police by risk, and age by size of place. Specifically, age was seen to diminish the sex-fear relationship since women are fearful throughout their lives while men become increasingly so as they age and become more frail (Furstenberg, cited in Baumer, 1985: 241). The age-fear relationship has also been shown to

vary under specific circumstances so that the relationship is not significant in rural areas or small towns (Lebowitz, 1975), or in high crime areas (Maxfield, 1984), or is suppressed by attitude toward the police (Baker et al., 1983). The significance of the age by size of place interaction was interpreted by Baumer as support for Maxfield's finding that age only had impact in areas of moderate threat, such as exists in most urban centers (Baumer, 1985: 247).³

None of these interactions was significant, however, in Baumer's 'large city' (10,000+) subsample and, similarly, none was significant in our research when the same step was included. A number of other interactions, however, were significant and are also presented in Table 4. The first interaction, sex by comparative neighbourhood threat, indicated that the impact of perceived danger, thus measured, was stronger for females, and gave support to the model. Women who perceived the neighbourhood as a more dangerous place were more likely to report fear than males who so judged.

The second interaction, age by risk, also supported the model, with older respondents more likely to report fear when risk was high. Again, the most vulnerable group, though no

more likely to perceive high risk, felt more afraid when the risk was high.

Lastly, age by income was significant, with the impact of age higher among respondents with low income (less than \$15,000 yearly). Older respondents with low income would be the most vulnerable group, since they would be both physically and financially unable to protect themselves.

The three interactions added only slightly to the explained variance, but did provide more support for the model of fear as rational. Women and the elderly were shown to be the most sensitive to environmental cues, thus indicating their higher vulnerability, while the elderly with low income were fearful due to both physical and social vulnerability.

As a final step, Baumer (1985) ran a separate regression for each "social condition", as defined by city size, to test the stability of the model. While the same step was included in this research, it is important to again note that city size was defined very differently in the two samples. The CUVS did not include rural and small towns, and did not allow for the differentiation of city and suburb. However, it was

felt that the inclusion of this step might help to determine some differences between the cities in the sample, as well as testing the model's stability. The results of these regressions are presented in Table 5, as are the results from the combined sample.

Table 5: Multiple Regression Analysis of Fear of Crime by City Size - Betas (Unstandardized)

Variable	Small (N=761)	Medium (N=824)	Large (N=1254)	Combined (N=2839)
Sex	.605*** (1.351)	.602*** (1.289)	.288* (.624)	.507*** (1.103)
Neighborhood threat ^a	-.242*** (-.311)	-.185*** (-.240)	-.191*** (-.251)	-.202*** (-.253)
Income	-.109** (-.063)	-.108** (-.061)	-.114*** (-.060)	-.110*** (-.061)
Risk	.017 (.031)	.047 (.090)	.199*** (.335)	.111*** (.195)
Age	.024 (.036)	.031 (.045)	.094** (.131)	.056** (.081)
Victim	.030 (.066)	.080** (.174)	.084*** (.182)	.067*** (.146)
Police	.036 (.032)	.051 (.044)	.072** (.064)	.056*** (.049)
City Size	N.A.	N.A.	N.A.	-.008 (-.010)
Age by Risk	.167** (.198)	.040 (.048)	.032 (.036)	.067* (.078)
Sex by Neigh threat	.173 (.130)	.171 (.125)	.050 (.037)	.156* (.088)
Age by Inc	-.001 (-.001)	.092* (.112)	.068* (.075)	.057** (.067)
Sex by Risk ^b	-.027 (-.024)	-.040 (-.034)	-.229** (-.199)	-.119 (-.104)
R ²	.365	.364	.375	.364

a. Because of small numbers in 'much more crime' category, 'more' and 'much more' were collapsed for subsamples only.

b. Not included in original regression since not significant in total sample.

*p<.05

**p<.01

***p<.001

Most of the additive variables retained their relative importance across the subsamples, with sex, neighbourhood threat and income having the most impact. Confidence in the police, age, and risk were not significant in small or medium cities, and previous victimization experience was not significant in small cities. In Baumer's study, the lack of significance for confidence in the police, in small towns and rural areas, was seen to indicate that police would have little impact on fear in these areas. However, the weak impact of attitude toward the police in large cities and the absence of a significant relationship between police and fear in both small and medium cities, and of any significant interaction effect in this sample is probably a function of the inadequate instrument employed to measure confidence in the police. This issue will be discussed more fully later in the thesis.

The age-risk interaction effect was significant only in the small city and total samples, with the elderly most fearful in high risk areas. Most interesting, in terms of the model, is the fact that both the main effects for age and risk were insignificant, in small and medium cities. Lebowitz (1975) found that the age-fear relationship was strongest in large cities (250,000 and over), as was found here (although 'large' is over one million). In the small cities, Halifax and St. John's, the elderly are only more fearful when risk

is high, and risk is only significant for elderly respondents. Thus, support for the model was found, with the elderly in high risk neighbourhoods more fearful, since the consequences of victimization would be greater, both physically and socially. In the medium cities, Winnipeg and Edmonton, the age-risk interaction did not reach significance, but was retained in the equation as part of a test of the overall model. However, exclusion of this interaction resulted in both age and risk becoming significant. This would seem to speak to the small role of age in producing fear of crime.

The second interaction effect, sex by neighbourhood danger, did not have a significant impact on fear in any of the three subsamples, but was significant in the total sample. The relationship was in the expected direction in all samples, however, with women who perceived the neighbourhood as dangerous expressing more fear.

Age by income was found to be significant in medium and large cities, as well as in the total sample, with the effect of age greatest among those with low family income. Those least able to physically defend themselves or to escape danger by moving to safer neighbourhoods, installing alarms and so forth were the most fearful.

The final interaction effect, sex by risk, was not significant in the total sample, although it approached significance ($t=.056$), but was found to have a strong relationship with fear in large cities only, with the effect second only to sex (betas of .288 and .229). In the larger cities, women who perceive high risk are the most afraid. This finding supports the model of fear as rational, with women's heightened vulnerability resulting in more fear when risk was seen as high. Risk does not have a significant impact in small or medium cities, except for the elderly in small cities. Thus, the risk of victimization, measured as increases in crime, is seen as low. "[U]nder conditions of moderate crime [measured as risk] males and females respond similarly" (Baumer, 1985: 250). In large cities, where the perceived risk is high, the sex differences would be magnified.

All the results were seen to give support to the model and to resemble previous findings to a large extent. There were some differences, however, between the results in the present investigation and those of Baumer. These differences are primarily in the effects of previous victimization experience, city size and attitude toward the police.

Previous victimization was included in Baumer's original model but excluded from the multivariate analysis due to the weak effect (the weakest of all variables included). Victimization was insignificant in the zero-order correlation in this investigation but was retained in the model due to the belief that the true relationship between fear and victimization was suppressed by the prevalence of male victims (see Hindelang et al., 1978). In fact, victimization became significant in the multiple regression and had a stronger impact on fear than attitude toward the police, a variable retained by Baumer since it had a much stronger relationship with fear in the zero-order correlation (.226 compared to .072).

City size has been found to have a significant impact on fear in prior American studies, often being found to be second only to sex in affecting fear (Moeller, 1989; Clemente and Kleiman, 1977). However, these models often omit variables which have been shown to be important in the fear equation, such as perceived risk and neighbourhood threat. Including these variables, Baumer (1985) found city size to have a weak significant relationship with fear. In Canadian studies, the impact of city size has been largely ignored. In 1982, Sacco included city size in his analysis and found a weak significant relationship. Again, and like the U.S. studies, perceived risk and threat were omitted from the

model. In this investigation, the lack of a relationship between city size and fear probably is due to the sample.

American studies often include rural areas and small towns, which were not available with this data. Sacco (1982) used all cities in Alberta with populations greater than 10,000 and had a range from 18,000 to 501,000. Thus, in his study, small towns were included. While the sample in this investigation had small, medium and large categories, all except 'small' were larger than Sacco's cities, and only the upper portion of the National Opinion Research Center (NORC) category 'medium' was captured (in the 'small' category). Clearly, then, in large urban areas, something other than population size is operating.

It has been argued that the official crime rate of a city would have an impact on fear of crime, with higher rates increasing fear levels (Garofalo, 1979; Liska et al., 1982; Ortega and Myles, 1987). Victimization rates have also been used, since they are seen to more accurately reflect the amount of crime in an area (Decker et al., 1982: 22). Official rates are seen to underestimate the amount of crime and to be less useful than victimization rates in comparisons across jurisdictions due to differences in "recording and patrol practices" (O'Brien, cited in Sampson, 1985: 9).⁴

While individuals are not necessarily aware of either official or victimization rates, it has been argued that cities and neighbourhoods develop 'reputations and images' reflecting these rates, through both informal interactions and the media (Yin, 1985: 46). In order to include an element of 'reputation and image', or awareness in this investigation, the city variable was recoded, first by official crime rate, then by victimization rate (see Table 6).

Each of the new variables was entered separately into the reduced equation. The results, presented in Table 7, show that only victimization rate was significant, with more fear expressed by those who lived in areas with high victimization rates.⁵ This produced a significant change in the R-square ($F=7.146$), but had the least impact of all the variables. Again, this finding gave support to the argument that fear is rational, with those living in higher crime areas expressing more fear. The official rate does not seem to reflect an accurate picture of crime, if the victimization survey has validity, and therefore was, not surprisingly, not significant.⁶

Table 6: Recoding of City Variable by Offense Rate and Victimization Rate

City	Criminal Code Offences ¹ Rate per 100,000 (Actual)	Classification
Vancouver	14,441.2 (61,664)	High
St John's	14,153.2 (12,653)	High
Edmonton	13,962.4 (70,622)	High
Halifax	12,386.4 (14,616)	Mid
Winnipeg	10,821.2 (65,393)	Mid
Montreal	9,633.1 (179,832)	Low
Toronto	8,287.4 (187,263)	Low

City	Victimization ‡ 'yes' CUVS subsample (total N)	National ² Rate	Classification
Vancouver	59.6 (416)	650	High
Winnipeg	58.9 (367)	597	High
St John's	54.6 (315)	532	Mid
Montreal	54.6 (423)	510	Mid
Edmonton	54.5 (457)	536	Mid
Halifax	51.1 (446)	535	Mid
Toronto	46.7 (415)	402	Low

1. From 1981 Crime and Traffic Enforcement Statistics "Table 3: Summary and Rate of Crime per 100,000 Population by Type of Police Force, Group Size, and Municipal Police Jurisdiction, 1981".

2. From Solicitor General, "Crime Prevention: Awareness and Practice", 1984 Table 1: Grouped Incident Rates by City. This is a rough measure combining rates of personal offences per 1,000 population and household incidents per 1,000 household.

Racial composition of American cities has also been shown to influence fear, with residents of cities with higher proportions of non-whites (Blacks, Asians and American Indians) expressing more fear (Liska et al., 1982).

Table 7: Multiple Regression Analysis of Fear of Crime
(N=2839)

Variable	B	Beta	
Sex	1.406	.646***	
NeighThreat	-.261	-.209***	
Income	-.061	-.111***	
Risk	.136	.077**	
Age	.079	.054**	
Victimization	.146	.067***	
Police	.049	.056***	
Agerisk	.082	.071**	
AgeInc	.066	.057**	
SexNt	.104	.184**	
R ²	.363		
Plus (each added separately)			R ²
Official Crime Rate	-.021	-.016	.363
Victimization Rate	-.070	-.041**	.365
Race	.007	.007	.363

*p<.05
**p<.01
***p<.001

In order to test the impact of this, the city variable was again recoded, on a rough measure of proportion of Black and Native residents⁷ (see Table 8) and was entered into the reduced equation. Race, thus coded, did not produce a significant effect (see Table 7). Race has been shown to have a strong influence on fear in the United States (Clemente and Kleiman, 1977; Parker, 1987), but this relationship has not been supported in this research. According to Sacco (1985: 283)

"the rapidly growing inner-city black population in many urban areas of the United States tends to accentuate traditionally American forms of racial conflict. In Canada, by contrast, more complex and variable urban ethnic patterns suggest less obvious relationships between ethnic composition and the occurrence and magnitude of urban problems."⁸

Table 8: Recoding of City Variable by Proportion Non-White

City	Rate per 1000 ^a	Classification
Winnipeg	30.49	High
Edmonton	24.14	High
Vancouver	15.00	Mid
Halifax	14.36	Mid
Toronto	11.83	Mid
Montreal	7.35	Low
St John's	1.67	Low

 a. From 1981 Census of Canada "Population: Language, Ethnic Origin, Religion, Place of Birth, Schooling".

While race was not seen to have a significant relationship with fear, it is interesting to note that the cities with the highest proportion of non-whites, Winnipeg and Edmonton, were also those with the most reported fear (when coded as 'medium'). The finding that city size and attitude toward the police was negatively related, in the zero-order correlation, might also speak to the proportion of non-white in these cities as Black and Native respondents have been shown to be much less favourable in their attitudes toward the police (Skoog et al., 1980; Baker et al., 1983;

Parker, 1987). Thus, while racial composition was not significant, it might be useful in attempting to understand the levels of fear in some of the cities sampled.

As mentioned earlier, the impact of attitude toward the police differed in Baumer's research and in the present investigation. In Baumer's investigation, attitude toward the police had a relationship with fear more than three and one half times as strong as that found in our study. Thus, attitude toward the police, as measured on speed of response and law enforcement did not appear to be as valid a measure as that employed by Baumer which asked about the adequacy of police protection (Baumer, 1985: 244). Indeed, Garofalo (1979), who found a slightly stronger relationship when asking what kind of job the local police were doing, expressed dissatisfaction with these types of measures, and hypothesized that measures that asked about the level of protection afforded by the criminal justice system would be more useful. This situation encouraged the development of a new hypothesis, namely that an objective measure of police performance (that is, one which does not reflect a subjective response to the kinds of questions concerning police behavior found in previous research) would produce a stronger effect on fear. Thus the decision was made to recode city once again and this time on the basis of the objective measure clearance rates. Clearance rates are the proportion of known offenses

cleared: by arrest, referral to social agencies and so forth. Clearance was chosen because it is an objective measure of police performance: the higher the solution rate, the better the police are performing.

The choice of this variable "clearance rates" introduces into the literature on victimology a well-known variable in criminological research but one which has not been used in victimology research. One probable reason for this is that the variable clearance rates has been largely associated with a particular model of police behavior, namely the crime control model. Since police spend most of their time on service and order maintenance (Griffiths et al., 1982: 60) it is understandable that the crime control model and/or those variables most closely associated with it might not be the first choice of investigators. Furthermore it can be argued that residents of a city are not normally aware of the official clearance rates. While such arguments may be correct, when the question is limited to this level of specificity, it does not necessarily support the conclusion that the residents of a city are unaware of police performance in regard to crime and do not have an image of the police based on their performance. In this respect the kinds of arguments that have been made for official and victimization rates (arguments found in the victimology literature and previously mentioned in this research) can be

used in support of clearance rates: arguments which speak of reputation, image and the role of the media.

The clearance rates of the seven Canadian cities and the recoding of the city variable into "clearance" are shown in Table 9. Clearance rates are calculated on criminal code offences only.

 Table 9: Recoding of City Variable by Clearance Rates
 (Criminal Code Offences)

City	Clearance Rate ¹ per 100,000 pop.	Classification
Montreal	20.1	Low
Vancouver	24.1	Low-Mid
Winnipeg	24.1	Low-Mid
Edmonton	26.6	High-Mid
Halifax	28.2	High-Mid
St John's	29.5	High-Mid
Toronto	47.1	High

 1. From Statistics Canada, 1981 Crime and Traffic Enforcement Statistics, "Table 8: Number of Actual Offences, Cleared by Charge and Cleared Otherwise, Percentage Cleared and Rate per 100,000 Population for the twelve selected police metropolitan areas and Canada, 1981", except St John's which is from the Uniform Crime Reporting Survey, Canadian Centre for Justice Statistics, "Crime by Offence 1981".

This variable had a significant impact on fear (see Table 10). While this variable is seen to measure police performance, the original variable on attitude toward the police was retained since it did not measure exactly the same thing (a significant correlation of $-.080$). Clearance

measured how successful the police were in handling reported crimes, while 'police' measured the respondent's opinion of the performance of the police on two components: law enforcement and response time.

Table 10: Multiple Regression on Fear of Crime - Saturated Model (N=2839)

Variable	B	Beta
Sex	1.375	.632***
NeighThreat	-.253	-.203***
Income	-.058	-.106***
Risk	.184	.104***
Age	.075	.052**
Victimization	.136	.062***
Police	.046	.052***
Clearance	-.133	-.112***
Age by Risk	.076	.065*
Sex by NeighThreat	.086	.154*
Age by Income	.067	.057*
Sex by Risk ^a	-.094	-.108
Sex by Clearance	.097	.128**
R ²	.370	

 a.The addition of sex by clearance reduced sex by risk to insignificance.

*p<.05
 **p<.01
 ***p<.001

Finally, all interaction effects were again tested and three of the four previously discussed, that is age by risk, sex by neighbourhood threat, and age by income, as shown in Table 10, retained their relationships and significance. Additionally, sex by clearance was found to be significant,

but the inclusion of this interaction reduced sex by risk to insignificance. Clearance rates were more important for women than men in this study. This finding is not inconsistent with the views expressed by Gordon and Riger (1989) in that it indicates women's greater vulnerability and their increased attention to factors which have an impact on their security. According to Gordon and Riger, women's perceptions of their risk "are the result of calculated assessments" (1989: 14). Women, in their study, were shown to behave in a careful, calculated manner more frequently than men: to be alert and watchful and to take all precautions to ensure safety (Gordon and Riger, 1989: 16-18). While there is "no consistent evidence that higher clearance rates result in lower crime rates" (Greenberg and Kessler, 1982: 784) it is reasonable to believe that higher clearance rates indicate that the police are playing an active role and thus women would perceive the neighbourhood as a more secure place.

CHAPTER IV

Discussion and Conclusions

The purpose of this study has been to test a model of fear of crime, in which fear is seen as a rational response to the subjective risk of victimization. The data used were taken from the Canadian Urban Victimization Survey, the largest victimization survey ever done in Canada.

The variables included in the model measured social and physical vulnerability, neighbourhood conditions and crime related factors, such as offence rates and previous victimization experience. All expected hypotheses were supported, with the exception of city size, and evidence was found that fear is a rational response to "subjectively defined risk and personal vulnerability" (Baumer, 1985: 251).

Those respondents who were more vulnerable, that is women, the elderly and those with low family income, expressed more fear of crime, as did those who lived in neighbourhoods perceived as dangerous or as presenting more risk. Respondents who felt the police were not doing an adequate job of protecting them and those who had been victimized in the survey year were also more likely to report fear.

Two of the measures of vulnerability had strong relationships with fear. Sex had the strongest impact, with women much more likely to report feeling unsafe. Sex also interacted with neighbourhood threat and clearance rates such that women were more fearful when the neighbourhood was seen to present danger, both in terms of comparative threat and police effectiveness.

A second measure of vulnerability, income, also had a strong impact on fear and again supported the model. Those who were not able to escape the threat of victimization either through protective measures such as alarm systems or moving to safer neighbourhoods,¹ or to recoup their losses, i.e., low income respondents, were more likely to report fear.

The final measure of vulnerability, age, had a much weaker impact on fear. While increasing age did result in both fewer victimizations and higher fear, the latter relationship was not as strong as much of the literature has indicated. However, the significance of the relationship and the significant interactions between age and both income and risk show that age is an important indicator of vulnerability. The impact of age was strongest for those respondents who had low family income and lived in

neighbourhoods perceived as risky.

The neighbourhood conditions included comparative danger, risk and police protection (both perceived and objective). All of these had the expected relationships with fear, such that neighbourhoods that were seen to present more threat, and less protection, produced more fear.

Relative neighbourhood threat had the most impact of the neighbourhood conditions, second only to sex, while risk and perceived police performance had substantially less. This mirrored Baumer's (1985) findings and spoke to the importance of perceived neighbourhood conditions in attempting to understand fear levels. This factor has been ignored in past Canadian research.

Clearance rates had the third strongest additive effect on fear, as well as producing a significant interaction with sex. A loss or breakdown in social control has been shown to be associated with fear of crime (Gates and Rohe, 1987). "[A] community's sense of control over its own fate is [also] a major factor affecting fear" (Lewis and Salem, cited in Donnelly, 1989: 71). This loss is often measured by such things as physical disorder and incivilities. However, it can

also be argued that the failure of the police to successfully fulfill one of their prime objectives, crime control (as measured by rate of reporting and rate of clearance, see Needle and O'Neill, 1980), would result in the perception of a breakdown in social control.

The final variable that dealt with environmental conditions, city size, did not have a significant impact on fear. While city size has been shown to be an important variable in American studies (Clemente and Kleiman, 1977; Moeller, 1989), it has not been found to consistently affect fear in Canadian studies. Sacco (1985), in a bivariate analysis, found city size and fear to be unrelated and concluded that part of the problem might be the mixing of city and neighbourhood levels of analysis. The level of fear "may be more closely related to neighborhood rather than city conditions" (Sacco, 1985: 290), since the question on fear focuses on the respondent's neighbourhood. While the same 'mix' has produced a significant relationship in the U.S., Sacco believed that the structure of American and Canadian urban centers differed greatly in terms of visible, inner city populations, and that this would explain the divergent findings. The Canadian urban experience was seen as more variable, with "less apparent patterns of ethnic settlement and conflict" (Sacco, 1985: 291).

The strength of perceived neighbourhood threat and the absence of an effect for city size on fear both speak to the importance of a neighbourhood focus when examining fear levels. This is especially true when measuring fear in the manner employed in our study, 'how safe do you feel walking alone in your neighbourhood?'

Additionally, the sample consisted solely of residents of large cities. Past research has shown that fear levels do not differ greatly between large cities (Garofalo, 1977), with more variation found across different neighbourhoods within the city (Maxfield, 1984). The importance of a neighbourhood focus will be discussed further, later in the chapter.

Previous victimization experience had a weak significant effect on fear levels, with those who had been victimized the most fearful. Victimization rates also had a weak effect, while official crime rates were not significant. These latter two findings also speak to the level of analysis. It would be expected that local (neighbourhood) crime rates would have more impact on fear than city rates (Maxfield, 1984).

The test of the model's stability across city size resulted in similar relationships and explained variances for each sample. In the small city sample, previous victimization experience and adequacy of the police were not significant. Police protection also was not significant in medium cities.

In Baumer's (1985) discussion, the insignificance of police protection in small/rural areas was seen to indicate that police performance would not have an impact on fear levels, except in areas where there was a higher risk of victimization (Baumer, 1985: 248). However, in the present research, attitude toward the police and city size were related such that residents of small cities were more likely to give a lower evaluation of police performance (see Table 3). Forty-three percent of small city residents felt the police were doing an average or poor job, compared to thirty-eight and thirty percent of those in medium and large cities. It is possible that residents of the smaller cities, with an overall lower judgement of the police, might be somewhat fatalistic about the impact of the police in providing protection.

The weak significant relationship between age and fear in medium cities, and the conditional relationship found in small cities (where only the interaction between age and risk

was significant) further clarifies the role of age in the fear equation. This finding also highlights the importance of including relevant variables as well as testing for all significant interactions.

The test of Baumer's model using Canadian data is important for a number of reasons. A large problem in looking at fear of crime in past Canadian studies has been the wide variability in the instrument used to measure fear. While no one measure has been found that is seen to encompass all the requirements needed, a number of instruments have been used consistently in past American studies which has allowed for comparisons across findings. This has not been the case in Canadian research.

In the Canadian context, many researchers have employed instruments which either combine or interchange the measures of concern (worry) and fear (Doob and Macdonald, 1979; Atkinson, 1981; Louis-Guerin, 1984; Krahn and Kennedy, 1985; Gomme, 1988). This results in inconsistent findings, with those who express concern not necessarily those who express fear.²

Some Canadian researchers have employed the same instrument used in our research and in many American studies including Baumer's, but have added a response category 'neutral' (unlabelled), so that neutral was seen as a middle category, between 'reasonably safe' and 'somewhat unsafe' (Kennedy and Silverman, 1985; Silverman and Kennedy, 1985). This has not been found elsewhere in the literature.

The CUVS question on fear did not contain a 'neutral' category, but it can be argued that respondents might reply 'don't know' if they could not select between the other categories. However, less than two percent of the original 6,004 respondents answered in this manner, compared to seventeen percent of the respondents in Kennedy and Silverman's (1985) study. Respondents are much more likely to select a middle response category when it is 'explicitly offered' (Schuman and Presser, cited in Bishop, 1987: 220).

While there are 'no safe generalizations' about the effects of including a neutral category (Bishop, 1987: 227), the outcome will be affected and thus comparisons with other studies, all of which excluded this neutral category, will be problematic. When our investigation was reanalysed, coding 'Don't Know' as a middle, neutral category, all effects were seen to increase, so that sex, age, risk and so forth had

stronger relationships with fear than when the original coding of the dependent variable was used.³

Another problem in the Canadian studies has been that few researchers have included any measure of perceived neighbourhood conditions in their analysis, even though these have been shown to be important in the U.S. (Skogan and Maxfield, 1981; Baumer, 1985). While some researchers have included objective measures of neighbourhood conditions, such as official crime rates (Doob and Macdonald, 1979), location and dwelling type (Kennedy and Silverman, 1984-85, 1985), there has been no inclusion of variables such as perceived risk and perceived neighbourhood danger.

A final problem to be discussed deals with the methodology chosen by the Canadian researchers. Multivariate analysis has been viewed as the preferred method when trying to discover which variables have impact on fear, especially when one is interested in the relative predictive power of the variables. Some Canadian researchers, while employing multivariate techniques, have run separate equations for certain categories of respondents, based on beliefs which are not necessarily supported.

In 1985, Silverman and Kennedy employed multivariate analysis (Lisrel IV), but ran separate equations for males and females, since they believed there was so much difference between the two in fear that two separate models were needed.⁴ More importantly, in another study, separate path analyses were done for each age group to attempt to show why the elderly are the most fearful, and what factors affect different age groups (Kennedy and Silverman, 1985). However, prior research has not consistently shown the elderly to be more fearful, and no effort was made in this study to test this assertion on their data before attempting to explain it.

The belief that the elderly are much more fearful than any other age group has received a great deal of attention. In 1987, Brillon, using the published data from the CUVS, concluded that "in spite of the fact that elderly people are less often victims of crime than other age groups, they are much more fearful" (1987: 65). This, however, has not been shown to be the case (see, for example, Clemente and Kleiman, 1977).⁵ While the elderly express more fear than younger respondents, the relationship is not a strong one and inclusion of relevant variables, such as social incivilities, might be expected to reduce this relationship even further. This will be discussed later in the chapter.

The test of Baumer's model in the Canadian context has been shown to be useful, since it indicates the relative predictive power of the variables and allows for comparisons with past American findings. Additionally, it has included a more objective measure of police performance not previously employed (clearance rates), which was found to be significant. The test of the model has also shown that fear of crime is a rational response to the subjective risk of victimization.

Because of limitations imposed by the CUVS data, the model has omitted a number of factors which have been shown in the past to be important in the fear equation. Measures of incivility or social cohesion were included in Skogan and Maxfield's model (1981), but were not included in Baumer's model (1985) nor in the present study. Baumer believed that the exclusion of these factors would not "seriously damage" the model since "they are only part of a general neighborhood crime problem, and a relatively small part at that" (1985:244).⁶

However, there has been much evidence that these factors play an important role in producing fear of crime. Taylor and Hale (1986), in testing three models of fear of crime, found that sociodemographic variables such as sex, income, home

tenure (own/rent), consistently had the strongest relationship with fear, but also found that perceived neighbourhood problems⁷ were "strongly tied to fear" (1986: 181). Taylor and Hale (1986: 186) concluded that

"controlling for social class, land uses related to incivilities, and crime, perceptions of neighborhood problems are linked with fear of crime. This strong, replicated linkage supports Garofalo and Laub's notion that fear of crime is closely connected with a more general "urban unease"."

Other authors have found that reported crime and perceptions of incivility interact to increase fear levels in a community (Lewis and Maxfield, 1980: 162). The actual rates of crime (UCR) were seen as being mediated by perceptions of incivility, such as abandoned buildings, vandalism, loitering teens, drug use, so that respondents living in areas with high crime rates and low incivilities were less fearful than those in areas with somewhat lower crime rates but more incivility problems (Lewis and Maxfield, 1980: 185).

Perceived risk has also been shown to be affected by incivility, so that those who reported incivility as a problem also reported high risk. Perceived risk has been shown to affect fear levels. It would seem that the perception of incivilities in the neighbourhood would have an indirect effect on fear of crime, through risk, as well as a possible direct effect. This still needs to be investigated.

One important consideration in the argument linking incivilities and fear is Warr's notion of 'perceptually contemporaneous offenses' (Warr, 1984: 695). That is, the offenses seen as likely to occur in conjunction with another offense. Increased social disorder is measured by such things as teens loitering, beggars and so forth. These circumstances might not have an impact on crime rates, nor are they likely to adversely affect young, healthy males. However, for elderly respondents, a group of teenagers loitering might create higher fear levels due to the older individuals' heightened vulnerability and to the linking of possible criminal victimizations to which the elderly are susceptible, such as purse snatching.

Similarly, women are more fearful of incivilities since "the fear of rape appears to cast its shadow over a wide variety of circumstances, including some (e.g., loitering, strangers, begging) that might appear innocuous to men" (Warr, 1985: 247). Thus, the inclusion of a measure of social incivility might help to explain further the levels of fear expressed by both women and the elderly.

Other variables that have been shown in past research to have a relationship with fear have also been omitted from this model. Living arrangements, (whether some or no other

adults in the household), marital status, location of residence (whether inner city or suburb), and dwelling type have all been shown to have a relationship with fear, such that respondents who live with other adults are less fearful (Lebowitz, 1975; Braungart et al., 1980; Toseland, 1982; Gomme, 1986), as are those who live in suburbs and in single family units (Kennedy and Silverman, 1984-84; 1985). Some of these variables, such as location of residence and dwelling type, can be viewed as replacing 'city size', but on the neighbourhood level, since they are indicative of such things as population density and local crime rates. Other measures of physical vulnerability, such as health, height and weight would also be useful, with health shown in past research to affect fear (Toseland, 1982; Lee, 1983).

The addition of some of these factors might well serve to further reduce the impact of age on fear. Living conditions, for example, vary considerably with age. Those sixty-five and over tend to live alone much more frequently than younger individuals, both in the U.S. and Canada.⁸ This would lead to higher reported fear for the elderly since no one would be there to care for them in the event of injury resulting from victimization. This "foreshadow(s) perhaps permanent institutionalization if the worst should befall them" (Skogan and Maxfield, 1981: 72). Also, the majority of those over sixty-five tend to live in the inner city, where

crime rates are the highest (Atchley, cited in Pollack and Patterson, 1980: 120).

The overall findings have shown that fear of crime is a reasonable and rational response to subjective risk and level of vulnerability. While it would be inappropriate to suggest ways in which it would be possible to reduce this fear, since fear is reasonable, it is appropriate to suggest strategies that would alleviate some of the environmental factors that operate on fear.

Baumer proposes changing the reputational character of the neighbourhood, either by "community building" or reducing crime rates (1985: 251-252). He also suggests that increased police presence (foot patrol) might reduce subjective risk levels and thus fear.

The present findings indicate that the two main areas of importance in fear levels are sex differences and perceived neighbourhood threat. Women are much more fearful of being victimized, largely due to the fear of rape. As has been shown, women are the most fearful when the neighbourhood is judged to be dangerous and when the police are not successful in apprehending criminals (low clearance rates). Thus,

changing the reputational character of the neighbourhood should have an impact on female fear levels especially.

Increased foot patrol has not been shown to reduce crime rates but has been shown to reduce neighbourhood disorder (Wilson and Kelling, 1982). Thus, fear that is due to linking crimes with incivilities, such as strangers, loitering teens, prostitution and so forth might be expected to be diminished. This would affect both women and the elderly.

Additionally, it has been suggested that community policing, where police target problems specific to the neighbourhood, would lower fear levels (Murphy, 1988), again through focusing on the order function more than the crime control model. However, the results of our research show that crime control has an impact on fear levels, particularly for women. High clearance rates result in less reported fear. While it is possible that higher clearance rates are associated with high order maintenance, this remains to be investigated.

The idea that fear of crime is more of a problem than crime itself for the elderly has not been supported by our findings. The elderly, who are more vulnerable and suffer

more serious injury and higher relative losses from victimization, are seen as only slightly more fearful than other age groups. The interaction between age and income has shown the importance of focusing on the low income elderly, as well as on all low income respondents.

The test of this model in the Canadian context has provided a basis for future research on fear of crime. While the purpose of our investigation has been to test a general model of fear as a rational response, it has not been suggested that this is a complete model. It is important that this model be expanded to include the variables which have been omitted, such as incivilities, location, dwelling type and so forth. Additionally, the success of programs which can be seen as strengthening the community or increasing order, such as community policing and neighbourhood watch, should be evaluated.

The strength of the relationship between perceived neighbourhood threat and fear in our study indicates the importance of a neighbourhood level of analysis. However, while local or neighbourhood measures are seen as preferable, when they are not available, the more general city variables do help to explain levels of fear and should not be discarded. It should be remembered, however, that city level

variables such as crime rates and racial composition might produce weaker effects because of the level of analysis.

It is also important that this model be tested on a national sample, including other than just large urban centers. In 1988, Statistics Canada began a national survey on criminal victimization as part of its General Social Survey. This data would provide a national sample for our model, and also includes a number of factors not available from the CUVS data. Vicarious victimization, home tenure, and ethnic group membership are a few of the variables included in the 1988 study that were excluded from the CUVS (Statistics Canada, 1989).

However, the only question on fear is identical to the one employed in the CUVS, again focusing on fear of personal crime only. Future research should also include a measure of fear of property crime, separate from fear of personal crime, which has been omitted from our study. While personal crimes have been shown to generate the most fear, property crimes such as burglary generate a high level of fear because of both high risk and relatively high seriousness (see Warr and Stafford, 1983).

Additionally, the inclusion of an objective measure of police performance has provided avenues for future research. A better measure of clearance rates should be included to see if this initial finding, based on a raw measure, is correct. Since clearance rates covary with the perceived adequacy of the police in the expected manner and have the most impact for women, who are seen as more aware and wary of situational factors, we expect future tests to support the finding that police performance affects fear levels. A measure of the level of awareness of these rates should also be included. Respondents could be asked about the success of the police in apprehending criminals to see if perceived and actual rates are related.

Endnotes

Introduction

1. In the literature, many terms have been used when discussing the apparent contradictions identified in this research as 'paradoxes'. These statements have been seen as anomalies (Burt and Katz, 1985), conundrums (Taylor and Hale, 1986), inconsistencies (Wanner and Caputo, 1987), and so forth. However, they are most frequently identified as paradoxes (Liska et al., 1982; Skogan and Maxfield, 1981; Miethe and Lee, 1984; Brillon, 1987; Wanner and Caputo, 1987).

Furthermore, these statements qualify as paradoxes since they "seem contradictory, unbelievable or absurd, but may actually be true in fact" (definition of paradox, from Webster's New World Dictionary, 1982: 1029).

2. Past researchers who have addressed this issue directly have not been able to refute the irrational nature of fear of crime, largely because incomplete models were employed.

Jaycox (1978), in attempting to show that the elderly were rational in their high levels of reported fear, looked only at local crime rates. She concluded that the elderly are "no more or less irrational than their younger neighbors" (1978: 333), but was unable to explain why elderly residents in 'safe' neighbourhoods would be more fearful than younger residents who were more at risk. The vulnerability of the elderly was seen as one possible explanation but this was not a central part of the discussion. Moeller (1989) also looked only at crime rates and concluded that while sex differences in fear had decreased somewhat, the rate of forcible rape had not decreased. Thus, the high fear of women was seen as "irrational, produced by factors other than objective risk of victimization" (Moeller, 1989: 219). Looking at isolated factors, such as crime rates, has not allowed for an adequate understanding of these paradoxes.

Chapter I

1. This ranking reflects women only, while all others were based on both sexes. There is evidence that women report higher fear of all types of crimes than do men and higher risk of personal crimes only (Cordner, 1986: 230; LaGrange

and Ferraro, 1989: 707). Thus, this higher fear reflects both fear of rape and the tendency of women to be more fearful.

2. Previous victimization experience has been measured in a number of ways. The respondent is asked whether he or she has been the victim of any crime (Baumer, 1985; Wanner and Caputo, 1987), of a personal crime (Garofalo, 1979), of burglary (Braungart et al., 1980), or of burglary, robbery or assault (Baker et al., 1983). Response categories usually indicate whether the respondent was or was not a victim. However, in instances where specific crimes are mentioned, such as burglary, respondents who were victims of crimes other than the one given are coded as non-victims. Thus, the results are affected.

3. In 1988, Gomme reanalysed the data from the three city sample and found that exposure to media did have a weak significant relationship with fear of crime when controlling for age, sex, and socioeconomic status. However, the measure of fear was constructed from two questions; the first asked if the respondents worried that they themselves, their family or property would be victimized. This combined fear for self with fear for others and fear of personal crime with fear of property. One of the advantages of using 'how safe do you feel' is the focus on self, which is seen to include an evaluation of risk and vulnerability, which is lost in Gomme's measure. His model also found age to be negatively related to fear and explained less than nine percent of the variance in fear.

4. Brillon differentiates between concrete and formless fear, with concrete measuring fear of six major crimes, such as murder, and formless measuring fear of being alone, day and night, in the neighbourhood, the home, and the business section. Age was shown to have a weak, negative relationship with concrete fear and a weak, positive one with formless. When formless fear was measured on the strongest indicator only, i.e., 'how safe do you feel out alone at night', a stronger, positive relationship was found, for both sexes. Brillon sees concrete fear as a more valid fear, based on risk, while formless fear is seen to be not based on risk. However, the measure of concrete fear asked about specific crimes to which the elderly seldom fall victim. Thus, the elderly do not feel at risk and so are not as fearful as younger respondents. The elderly are more commonly victims of such crimes as personal larceny (Antunes et al., 1977), which are not included in 'concrete fear', but are more likely fear inducing for the elderly who feel less able to defend themselves and who might more easily be injured in the course of the crime.

5. Atkinson asked about the level of safety from crime in the neighbourhood which again included both property and personal

crime, and omitted perception of personal vulnerability by extending beyond safety of self. This measure is more like an evaluation of risk which, while related to fear, has been shown to be not highly correlated (Baker et al, 1983; Ortega and Myles, 1987). Also, evaluation of risk has been shown to be similar for all ages (Skogan and Maxfield, 1981; Solicitor General, 1984b). Louis-Guerin employed a scale to measure fear which included a question on concern about local crime, an evaluation of overall risk and perception of personal risk of robbery or attack. Thus, the above mentioned problems were included, as well as the problem of concern versus fear. Furstenberg (1971) showed that concern about the crime problem and fear of being victimized were distinct and unrelated. A respondent could be concerned about the level of crime and still feel safe from victimization. Gomme asked about how worried respondents were of being victimized, but also included worry about family and property, again losing the subjective risk and combining personal and property offences.

6. It is not known if this is an actual increase in victimization or the result of more reporting or more recording by the police (see Statistics Canada, 1985: 104). However, increases in either occurrence or reporting would have a similar effect on fear levels, with increases resulting in more women hearing about rape (vicarious victimization).

7. Riger et al. asked the respondents 'do you ever feel afraid that someone might deliberately harm you?' and 'how often do you think about your own safety?' and found similar percentages for males and females (1978: 277).

8. Balkin's measure of "real" victimization rate was:

$$\frac{\text{published victimization rate}}{\text{rate who expose themselves to crime.}}$$

Rate of exposure was measured as the proportion of respondents who said they had not, in general, limited or changed their activities in the past few years because of crime.

9. A better measure of constraint might have been the one employed by Hindelang et al. (1978), 'In general, have you limited or changed your activities in the past few years because of crime', which showed sex and age differences, with more women and older respondents indicating that they had (Hindelang et al., 1978: 204-207). The authors concluded that males felt that they had a similar chance of being victimized but were less fearful.

10. All findings were problematic here, due to the measures used and to the type of analysis employed, that is, full information maximum likelihood. This type of analysis has been shown to be "more sensitive to errors in model specification than limited information estimators" (Berry, 1984: 62). There is some evidence that this model was misspecified. Some variables which have been shown to be important in explaining fear were omitted, such as neighbourhood conditions, and the R square for the equations were low, especially for the groups seen as most fearful, that is the elderly ($R^2=.09$).

Chapter II

1. Neighbourhood conditions included Risk, measured as likelihood of robbery in the following year, comparative Neighbourhood Danger, and perceived adequacy of Police protection in the neighbourhood.

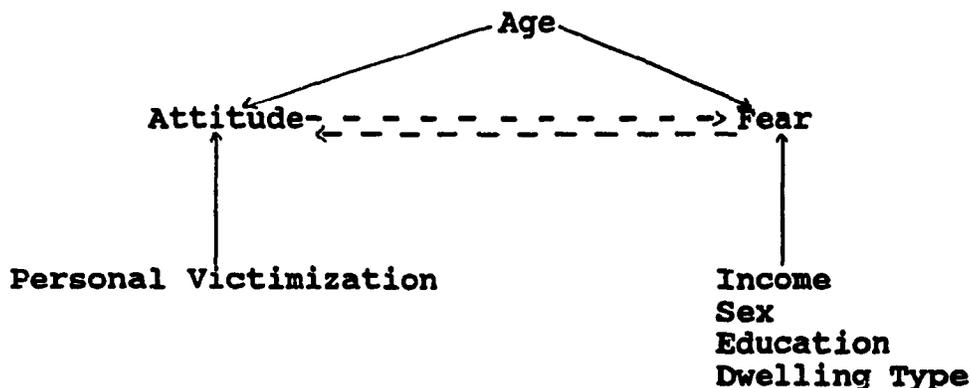
2. The time constraint was largely due to the fact that there was only one Cyber tape drive in the University and it was not possible to tie it up for long periods of time, since other users would be waiting. On Vax, it was not possible to run a job of this length. In terms of space, neither Vax nor Cyber account could be extended to include a sample of 61,000 respondents. The subsample selected (6,004) was the largest that could be saved on the Cyber. A larger sample could not be taken using Vax, due to the time problem.

3. While the use of listwise deletion of missing data resulted in a substantial decrease in the sample size, it was necessary to use this method since many of the missing cases were from only a few variables, notably Risk and Police (with 1098 and 1701 missing, respectively). Thus, pairwise deletion would not be applicable as its use is recommended when there are many variables with a few missing cases each (Nie et al., 1975: 353). Since non-victims were more likely to be missing on other questions, perhaps because they had less interest in the survey, the percent victimized increased from forty-seven percent to fifty-four percent. However, victimization surveys tend to overrepresent victimizations, especially minor ones, and this was not seen as affecting the outcome to any great extent. The results of a regression using pairwise showed that victimization had a weak significant relationship with fear, similar to that found when listwise was employed, although somewhat weaker when pairwise was used (unstandardized coefficients of .103 and .148).

4. Baumer's first category ranged from 18-34 while the CUVS began at age 16. There were few respondents in the subsample employed in this investigation aged 16 or 17 ($N=33$) and they

differed only slightly from those in the 18-34 group in terms of fear (2.4 percent difference in fear, with 16-17 year olds more fearful).

5. It has been argued that perception of police performance has an impact on fear of crime (Garofalo, 1987; Baumer, 1985). However, the reverse has also been posited, that is that feelings of safety have an impact on the perception of police performance (Brillon, 1984). Baker et al. (1983) tested the causal nature of this relationship and found that neither confidence in the police nor fear was significant in the respective equations. The authors concluded that confidence in the police had more impact on fear than vice versa, based on the size of the coefficients, and thus argued that attitude toward the police had an impact on fear, empirically as well as theoretically (Baker et al., 1983: 327). In the present study, a two-stage least squares was run, with Police and Fear seen as reciprocally related and including a number of exogenous variables (see model below). The results were similar to those of Baker et al., (1983) in that, while neither fear nor attitude was significant, the relationship from attitude to fear was the stronger of the two, (coefficients of $-.087$ and $.008$).



6. In the National Opinion Research Center (NORC) community size is usually measured by the following ordered categories (Clemente and Kleiman, 1977: 524):

- (1) Rural (under 2,500)
- (2) Small town (2,500-50,000)
- (3) Suburb of large city
- (4) Medium city (50,000-250,000)
- (5) Large city (250,000 plus)

Chapter III

1. Age was also run with less broad categories, which were similar to those of past research (see Atkinson, 1981; Census

Canada, 1981). The same results were found: as age increased fear increased, with the largest increase for those 65 and over (see table below).

Fear of Crime by Age (N=2839)

Age	% unsafe (total N)	
16-30	39.9	(1144)
31-45	40.7	(924)
46-54	40.8	(289)
55-64	44.1	(247)
65+over	62.1	(235)

2. City size was recoded into two categories, Large and Other, based on Sacco's (1982) finding that city size, thus coded, did have a significant impact on fear. However, city size in this investigation still retained its insignificant relationship.

3. According to Baumer, age only had impact in areas of moderate risk and not in high risk areas (since all ages would be more fearful) or in low risk areas (since little risk for anyone), which was seen to support Maxfield (1984). Maxfield found that age was significant in low and mid crime areas where increased vulnerability of the elderly would make them more sensitive even when risk was low. It should be noted that Baumer measured risk on likelihood of robbery within the next year while Maxfield used official crime rates.

4. Victimization surveys also have problems such as including incidents which would not be legally defined as crimes, using unclear definitions of crimes and failing to elicit some reports that were made to the police (Skogan, 1975: 28).

5. The city variable was also recoded by official crime rates, using personal crimes only, since these are felt to be the crimes "most likely to create a fear of crime" (Garofalo, 1979: 94). This produced a significant impact on fear similar to that of survey rates (betas of -.043 and -.041, respectively). However, most researchers who use personal crime rates include the property crime 'burglary' and exclude 'murder' (Skogan and Maxfield, 1981; Baker et al., 1983). This was not possible in our research and so this recoding was not included in the discussion.

6. In fact, it has been shown that official rates and victimization rates measure different things. When Uniform Crime Reports (UCR) and National Crime Survey (NCS) rates were compared, the "agreement between the two data sources was minimal" (Sampson, 1985: 9).

7. The measure for race was based on the 1981 Census of Canada data on ethnic origin and thus was a very raw measure. Only those who said they were of African origin were coded as Black, while Native was made up from 'Native' and 'Native and other' categories.

8. Race was also recoded on the basis of proportion of Black residents and entered into the equation. Race thus coded still failed to produce a significant effect.

Chapter IV

1. There is evidence in these findings that poorer respondents live in comparatively worse neighbourhoods. The zero-order correlation (Table 3) shows that as income increased, respondents were less likely to view their neighbourhood as more dangerous than others in the city.

2. Another measure of fear that has been used in Canadian studies is 'do you avoid certain places and areas of the city because of the possibility of crimes or violence?' (Gomme, 1986: 254). While this measure does not confuse concern with fear and does elicit responses on the personal level, it probably inflates the percentage of fearful respondents among certain categories, such as women and the elderly, who are able to avoid places since they are less likely to be employed full time and so on.

3. Fear of crime was recoded with those respondents who answered 'don't know' placed in a middle, neutral category. The results (presented below) show that all effects were increased somewhat while relative strengths and significance were not affected. The largest changes occurred in sex and neighbourhood conditions. While these changes are not large, it must be remembered that less than two percent responded in this manner (no stated middle category). When this category is stated, the effect is expected to be greater.

Multiple Regression of Fear of Crime, with Fear categories excluding and including 'neutral'

Variable	without 'neutral' Beta (unstandardized)	with 'neutral' Beta (unstandardized)
Sex	.644 (1.403)***	.635 (1.956)***
NeighThreat	-.209 (-.261)***	-.210 (-.371)***
Income	-.111 (-.061)***	-.115 (-.089)***
Risk	.077 (.136)**	.091 (.226)***
Age	.054 (.079)**	.061 (.123)**
Victim	.067 (.146)***	.063 (.195)***
Police	.055 (.048)***	.054 (.067)***
City size	-.007 (-.009)	-.006 (-.012)
Agerisk	.071 (.082)**	.056 (.091)*
SexNT	.183 (.103)**	.180 (.143)**
AgeInc	.057 (.067)**	.046 (.076)*
R-square	.363	.356

*p<.05
**p<.01
***p<.001

4. The authors did not find large differences between the sexes, in terms of the model selected. In our study, the model was adequate for both sexes, although it explained more variance in fear for female respondents. Measures of neighbourhood conditions had more impact for females, and clearance rates and risk were only significant for these respondents (see below). Age was not significant for females, with only the interaction between age and income producing a significant effect. Increasing age and low income resulted in higher fear for women. For men, perceived risk interacted with age, so that risk had more impact for older respondents.

Multiple Regression of Fear of Crime, for male and female sample

Variable	Male Beta (b)	Female Beta (b)
Clearance	-.039 (-.037)	-.123 (-.134)***
NeighThreat	-.171 (-.171)***	-.213 (-.247)***
Risk	.052 (.075)	.119 (.191)**
Income	-.130 (-.060)***	-.107 (-.054)**
Age	.096 (.118)**	.020 (.025)
Police	.061 (.044)*	.056 (.045)*
Victimization	.066 (.120)**	.080 (.157)**
AgeRisk	.091 (.091)*	.068 (.068)
AgeInc	.042 (.048)	.101 (.096)**
R-square	.117	.187

*p<.05
**p<.01
***p<.001

5. Brillion defined elderly as sixty-five and over, while in our study, the last category began at fifty-five. This was done primarily to replicate Baumer's categories, but also because there is evidence that disengagement begins at fifty-five. For example, in 1981, labour force participation dropped sharply for both sexes at age fifty-five (see Statistics Canada, 1985: 48). However, in order to test Brillion's assertion, age was recoded into more usual categories (see endnote Chapter iii, number 1), and entered into the equation. Age thus coded produced a weaker relationship with fear (betas of .052 and .043), while the age-risk interaction increased slightly (from .065 to .80). These findings continue to support the model and to argue against the high fear of the elderly.

6. The CUVS did include a question that could be used to measure incivilities to some extent. This question, however, was thought to underestimate both the number of respondents who felt incivilities were a problem, as well as the impact of perceived incivilities on fear.

Instead of the usual question on incivilities which asks how much of a problem in the neighbourhood various incivilities are (see Skogan and Maxfield, 1981: 110), respondents were asked 'do you think there is a serious crime problem in your neighbourhood?'. If the respondent answered yes, he or she was then asked 'what is the most serious crime problem?'. The responses were: personal safety, property loss, vandalism, disturbing the peace, drugs/alcohol and prostitution. Seventy-five percent of the respondents stated that there was no serious crime problem. Of those who said there was, twenty-six percent cited incivilities (19% vandalism), compared to fifty-two percent citing property loss and twenty-two percent personal safety. Past research has shown that concern with social order problems is more common than concern with crime problems (Skogan and Maxfield, 1981: 95), and thus this measure was seen as problematic. It seems likely that respondents who might have seen incivilities as a problem were not asked that question since they did not view incivilities as a "serious crime problem".

Nevertheless, the variable was recoded into two dummy variables (no problem-crime problem and no problem-incivility problem) and entered into the equation. The results (presented below) show that the perception of either type of problem creates more fear. However, the weak relationships reinforce the notion that the measure used was inadequate. Gates and Rohe (1987) found perceived incivilities to have an impact on fear similar to that of sex, while Skogan and Maxfield concluded that "problems with neighborhood crime and disorder remain the most important predictors of fear" (1981: 123).

Multiple Regression of Fear of Crime, including Crime Problem and Incivilities

Variable	Beta (unstandardized)
Sex	.758 (1.646)***
NeighThreat	-.170 (-.213)***
Income	-.111 (-.061)***
Clearance	-.108 (-.129)***
Crime Problem	.088 (.250)***
Risk	.072 (.126)**
Age	.052 (.075)**
Incivilities	.050 (.221)**
Victimization	.047 (.103)**
Police	.047 (.041)**
SexNT	.164 (.092)**
SexClear	.148 (.112)**
AgeInc	.061 (.072)**
AgeRisk	.055 (.064)*
R ²	.375

*p<.05

**p<.01

***p<.001

7. In this study, physical problems included empty or neglected houses and negligent slumlords, while social problems included noise, drugs and loitering teens (Taylor and Hale, 1986: 181).

8. In the U.S., twenty-eight percent of those sixty-five and over live alone, compared to nine percent of younger respondents (Lawton, cited in Pollack and Patterson, 1980: 120). In Canada, in 1981, thirty-two percent of elderly women and thirteen percent of elderly men lived alone (compared to ten and eight percent of the total sample of women and men, aged fifteen or more).

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Appendix A

Questionnaire Items and Recoding of Variables

DEPENDENT VARIABLE:

FEAR OF CRIME

v8 How safe do/would you feel walking alone in your neighbourhood after dark?

- *00 not stated
- 06 very safe
- 07 reasonably safe
- 08 somewhat unsafe
- 09 very unsafe
- *10 don't know

* coded 'missing'

INDEPENDENT VARIABLES:

VULNERABILITY

SEX

v45 Interviewer note respondent's sex.

- *0 not stated
- 1 male
- 2 female

* coded missing; variable recoded male=0, female=1.

AGE

v46 In what year were you born?

881:967 year 1881 to 1967

- *000 not stated

* coded missing

- AGE recode 1 16-34
2 35-54
3 55+over

INCOME

v68 In which of the following ranges did your total family income fall, for the calendar year 1981? Include all income, before taxes and deductions, of all members of your family. Stop me when I get to the right category.

- *0 not stated
- 1 less than \$9,000
- 2 \$9,000-\$14,999
- 3 \$15,000-\$19,999
- 4 \$20,000-\$24,000
- 5 \$25,000-\$29,999
- 6 \$30,000-\$39,999
- 7 \$40,000 and over

*8 don't know

* coded 'missing'

NEIGHBOURHOOD CONDITIONS

RISK

v5 In the last year or two, do you think that crime has increased, decreased or remained the same in your neighbourhood?

- 1 increased
- 2 decreased
- 3 same
- *4 don't know

* coded 'missing'; variable recoded decreased/same=0, increased=1.

v6 In the last year or two, do you think that crime has increased, decreased or remained the same in (city of residence)?

- 1 increased
- 2 decreased
- 3 same
- *4 don't know

* coded 'missing'; variable recoded decreased/same=0, increased=1.

Risk computed by adding v5 and v6

- RISK 1 decrease/same in city and neighbourhood
2 increase in either city or neighbourhood
3 increase in city and neighbourhood

NEIGHBOURHOOD THREAT

v9 How do you think your neighbourhood compares with the rest of (city of residence) in terms of the amount of crime? Would you say your neighbourhood has

- 1 much more crime
- 2 more crime
- 3 about the same
- 4 less crime
- 5 much less crime
- *6 don't know

* coded 'missing'

POLICE

v12 Do you think that your local police force does a good job, an average job or a poor job of enforcing the laws?

- 1 good job
- 2 average job
- 3 poor job
- *4 don't know

* coded 'missing'

v13 Do you think that your local police force does a good job, an average job or a poor job of promptly responding to calls?

- 1 good job
- 2 average job
- 3 poor job
- *4 don't know

* coded 'missing'

Police computed by adding v12 and v13

POLICE 1 good job of enforcing the laws and responding promptly
2 good/average job
3 average job of enforcing laws and responding promptly*¹
4 average/poor job
5 poor job of enforcing the laws and responding promptly

*1. Eighty-two percent of respondents in this category judged the police to be doing an average job on both measures employed, with ten percent seeing the police as doing a good job of enforcing the laws but a poor job of responding promptly, and eight percent seeing the police as doing a good job of responding promptly but a poor job of enforcing the laws.

CRIME EXPERIENCE

PREVIOUS VICTIMIZATION

v307 Now I would like to ask you a few questions about some things that may have happened to you last year, that is, from January 1 to December 31, 1981.*¹
blank*²

- 1 sexual assault (removed from file)
- 2 (attempted) robbery
- 3 assault
- 4 (attempted) break and enter
- 5 (attempted) motor vehicle theft
- 6 (attempted) theft of personal property
- 7 (attempted) theft of household property
- 8 (vandalism)
- 9 household crime - someone else harmed or threatened
- 0 unclassifiable

*1. This statement was followed by a number of questions on victimization, ranging from 'Did anyone deliberately damage or destroy any property belonging to you or any member of your household, such as a window in your home or a fence in your yard' to 'During 1981, were you knifed, shot or

attacked with some other weapon by anyone at all?' Variable 307 was a derived variable 'primary crime classification'.

*2. 'Blank' was recoded as 'non-victimized' after running a crosstabulation with v307 and v73 'incident report number'. It was assumed that those respondents who did not complete an incident report and who were in the 'blank' category of the crime classification variable did not report a victimization in 1981 to the interviewer, and thus were seen as non-victims.

INTERACTION EFFECTS

Only those interactions which produced a significant effect in the model will be discussed here.

AGE BY RISK

RISK was recoded: 0 same/decrease in either or both city and neighbourhood
1 increase in both city and neighbourhood

AGE BY INCOME

INCOME was recoded into two dummy variables:

INCOME1 0 other
1 <\$15,000
INCOME2 0 other
1 \$15,000-\$29,999

Only Age BY INCOME1 was significant.

SEX BY NEIGHBOURHOOD THREAT, SEX BY RISK, SEX BY CLEARANCE

SEX was recoded 0 female
1 male

Appendix B

Comparison of CUVS Subsample and Canadian Population, 1981.

Table A shows the sample and population distribution for age, sex and income. As can be seen, the CUVS sample closely resembles the national population in terms of sex. Age, while similar, does show some differences, particularly in the proportion of those aged fifty-five and over. The CUVS data, however, omits a substantial number of those sixty-five and over who live either in collective households (8%) or in small urban and rural areas (30%) (Solicitor General, 1985c: 1), which would help to explain this difference.

Table A:¹ Demographic Characteristics of the CUVS Sample and Canadian Population, 1981, adults 15 + older.²

Category	CUVS	Population 000's
*Sex		
Males	1436 (50.6%)	9257.3 (49.1%)
Females	1403 (49.4%)	9605.0 (50.9%)
*Age		
15-34	1489 (52.4%)	8874.9 (47.0%)
35-54	868 (30.6%)	5467.0 (29.0%)
55+over	482 (17.0%)	4520.2 (24.0%)
**Income		
(Census, when Different)		
<\$9,000	354 (12.5%)	748.8 (12.3%)
(9,999)		
\$9-14,999	397 (14.0%)	791.4 (13.0%)
(10-15,999)		
\$15-19,999	443 (15.6%)	621.0 (10.2%)
(16-19,999)		
\$20-24,999	460 (16.2%)	803.6 (13.2%)
\$25-29,999	352 (12.4%)	858.4 (14.1%)
\$30-39,999	385 (13.6%)	1217.6 (20.0%)
\$40,000 +	448 (15.8%)	1053.2 (17.3%)

1. Table format from Parker, 1987: 489.

2. Age in CUVS begins at 16.

* From 1981 Census of Canada, Statistics Canada Catalogue 92-901.

** From 1981 Census of Canada, "Table 1: Percentage Distribution of Families by Income Groups in Current and Constant (1971) Dollars for Selected Years". 1980 figures used since estimates are only available for 1981. (catalogue 13-207)

Family income also differs between the two populations, with the largest differences found in the \$30,000-39,999 category. However, the median family income for both groups is quite similar (\$25,490 for the Canadian population, between \$20,000-24,999 for the sample) with the Canadian population seen to have slightly higher income.

Appendix C

Multicollinearity Tests

While the zero-order correlations (Table 3) indicated that no independent variable was highly correlated with another, this method does not

"take into account the relationship of an independent variable with all the other independent variables. It is possible, for instance, to find no large bivariate correlations, although one of the independent variables is a nearly perfect linear combination of the remaining independent variables." (Lewis-Beck, 1986: 60).

Thus, each independent variable was regressed on all the others, with the results presented in Table B.

Table B: Results of Multicollinearity Tests, with each independent variable regressed on all the other independent variables

Independent variable Regressed on all others	R ²
Sex	.058
Age	.128
Income	.079
Neighbourhood Threat	.082
Police	.075
Risk	.064
Victim	.148
City Size	.014
City size recoded as:	
Victimization Rate	.021
Clearance Rate	.023
Race	.012

The results show that multicollinearity is not a problem with the variables employed in this study, with the "largest coefficient of multiple determination", $R^2=.148$, far from 1.0 (Lewis-Beck, 1986: 61).