

**WHY ARE WE SO FEARFUL?
CHALLENGING TRADITIONAL APPROACHES TO FEAR
OF CRIME AND PERSONAL SAFETY IN CANADA**

by

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in Partial Fulfillment of the Requirements
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MASTER OF ARTS

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ABSTRACT

The purpose of this study is to test, within a feminist criminology framework, the hypothesis that vulnerability, expressed through age, gender and socio-economic status directly and indirectly affects fear of crime in Canada. Using multiple regression and path analysis, this research also evaluates the significance of predictors generally accepted in American and British fear of crime research, including previous victimization, neighbourhood incivilities, perception of crime rate, neighbourhood attachment and satisfaction with police.

Results from the 1994 Winnipeg Area Study indicate that gender and age but not socio-economic status were significant predictors with specific types of crime. Neighbourhood disorder was also a useful predictor. Winnipeggers expressed a general fear of crime, indicated by worry about both specific property and personal crimes.

Based on this data, the vulnerability hypothesis has not been supported. The crime-specific explanation for fear of crime was also not accepted. Further Canadian research using multiple measures of fear is required. Social change is required to reduce fear of crime. On a local level, the Winnipeg Police Service and related community agencies should expand their strategy and adopt a multidimensional approach to personal safety beginning with the recognition of the pervasiveness of domestic and interpersonal violence.

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INTRODUCTION

Personal safety, measured in terms of security with one's surroundings and the people therein has become a popular pursuit of police and community groups. The concept of personal safety is inversely tied to fear of crime; that is, the belief expressed by many in society that regardless of official statistics released about crime patterns, their worry about being victimized is both constant and incorporated into their everyday routine. Many municipalities have developed target hardening strategies aimed at reducing this fear and creating a sense of safety by improving environmental cues like adding street lights in dark areas and passing laws to restrict neighbourhood incivilities. Despite this undertaking, the level of fear of crime in society has not declined.

Education campaigns which have also been launched, are directed specifically at the group that research indicates feels the most vulnerable to victimization, women. Police services offer women self-defence classes and encouragement to become more risk avoidant and aware of their surrounding environment. Such campaigns advocate that women should not walk alone at night, should stay in well-lit areas and above all, be on guard around strangers. The education campaigns have not resulted in a significant reduction of fear. Instead, a more critical interpretation concludes that the focus of these campaigns has served to reinforce women's fear and undermine their own

strategies for feeling safe.

According to a recent report from the Canadian Centre for Justice Statistics, the 1993 General Social Survey found that 27% of Canadians felt somewhat or very unsafe walking alone in their neighbourhood after dark. This is comparable to the results of the 1988 GSS in which 25% of Canadians reported feeling unsafe.(Sacco,1995:4) These findings indicate that despite the energies and resources funnelled into these programmes, they have failed to alleviate the high level of fear in society. Because these initiatives have been less successful than expected, new directions are required. It is not sufficient to conclude that women have a high level of fear of crime because the group "women" is comprised of a diverse membership whose affinity may end with gender. Certainly, not all women register the same degree of fear; neither does the level of personal safety for all men hover at a consistently high point.

The primary purpose of this research is to test the significance of the most commonly included predictors in fear of crime models using a multivariate dependent variable to measure fear. Multiple regression is the most suitable methodology for this type of analysis. Paramount to fear of crime research is the notion of vulnerability, expressed in gender, age and socio-economic status. In order to provide an additional dimension to this research, path analysis will be employed. This method will reveal the direct and indirect effects of vulnerability on fear of crime levels. The findings will be analyzed with specific attention towards the impact of fear of crime research within the Canadian context.

Although much research has been conducted in the United States and Britain, the corresponding research area, using multivariate analyses, has received relatively little attention in Canada. Consequently, this is important research enabling the test of assumptions and conclusions proposed by other researchers by using data from a medium sized Canadian city.

The results of this research should provide a foundation for a Canadian model of fear of crime. The degree to which vulnerability induces fear as well as the types of social and environmental cues that create and sustain insecurity will be evaluated. The model will illustrate which Winnipeggers are fearful and will provide police and community groups with a more concrete idea of which segments of society should be targeted as well as the types of campaigns that will produce a positive impact on these people.

The social consequences inherent in people's low levels of personal safety undermine social cohesion. Citizens become less likely to leave their homes and their neighbourhood areas thus becoming more isolated, not only from the larger city but also from members within their own neighbourhood. Other results of this isolation include the failure of core-area businesses and a rise in the desertification of some neighbourhoods. A major repercussion is the acceptance that the "criminal" is the stereotypical image proffered by the media as well as the "law and order" rhetoric of certain politicians and interest groups; a portrait that is too frequently classist and racist. Ultimately, the price of living in a society whose citizens harbour a high level of fear of crime is the gradual

acceptance of more punitive measures, not only in the area of criminal justice but also with government sponsored social services.

The effects of high levels of fear of crime are unquestionably destructive. The challenge is to effectively address the anxiety, that is, by determining the source and the guardians of this fear.

CHAPTER I: REVIEW OF THE LITERATURE

Despite the shortage of multivariate analyses of Canadian research on fear of crime, a large body of American and British literature encompasses several theoretical angles to explain this social phenomenon. The most common approaches incorporate such elements as: vulnerability, direct/indirect victimization, neighbourhood incivilities and community concern, specific crime-centred, perception of neighbourhood crime and confidence in the police.

The dominant literature has attempted to explain the reasons women have incredibly high levels of fear relative to their official rate of victimization. Baumer (1985) explains that "the interaction of subjective risk and gender...suggests that efforts that focus on the objectification of risk might be especially effective for women"(252). He argues that if women were forced to 'rationalize' their fear they would realize that they are not at risk for victimization. This early, simplistic approach to reducing fear of crime has been largely discounted by other researchers. As Fattah and Sacco (1989) explain; "affective measures, unlike cognitive measures...do not have 'objective' empirical referents against which these perceptions may be judged. Thus, while we may conclude that a given cognitive perception is inaccurate or incorrect, such a judgement is meaningless when applied to an affective perception such as fear or worry"(209).

Having accepted that fear of crime is a justified response to the perception

of specific cues and situations, researchers are now evaluating social structures that may produce or contribute to fear. Although some researchers have focused exclusively on one social factor, the more credible predictive models are approaching multi-dimensionality. In order to create and test a causal model, consideration of the variables used in previous fear of crime research is essential. As identified above, the literature supports the inclusion of a variety of neighbourhood and individual variables. An examination of three dominant fear of crime models currently under debate in the literature will assist in the construction of a useful Canadian model.

VULNERABILITY

A cursory glance at the literature indicates that vulnerability serves as the foundation for most fear of crime conceptual models. As a result, vulnerability can be understood as mediating directly and indirectly through other variables to affect fear of crime levels. One example is its effect on direct and indirect victimization. Individuals who believe themselves to be impervious to attack, because of a sense of security, will maintain a low level of fear of crime despite exposure to indirect victimization.(Hung and Bowles 1995) These variables are explained in physical and psychological terms as well as being negotiated through other social factors. Vulnerability reflects the inequality of power and is

expressed through gender, age and socio-economic status.

In terms of the psychological component, Riger, Gordon and Le Bailly (1978) argue that fear of crime is the consequence of sex-role socialization which manifests personality traits associated with fear. Sacco (1995) refines this argument, suggesting that women have higher levels of fear of crime because of "childhood training which stresses passivity and dependency"(6). Although his contention is debatable, it is clear that women are socialized, not only in the family but in society generally to be concerned about their personal safety. Such psychological influences serve to increase women's fear of crime.

Researchers have also underscored the physical element of vulnerability. Yin (1985) explains that any consideration of vulnerability should include such personal factors as physical disability and hearing loss. Taylor and Hale (1986) expound this notion, citing that women and the elderly are more fearful because of their physical vulnerability and the serious level of harm they could sustain during an attack. Skogan and Maxfield (1981) also use this sense of vulnerability to explain women's high levels of fear;

passive vulnerability...is due to the physical conditions of individuals and recognition by potential offenders that they can be exploited. Because those conditions usually cannot be altered, that potential for exploitation is an enduring feature of their lives, and it should not be surprising if it greatly affects their assessments of the risks of their environment.(72)

Finally, Warr (1984) emphasizes that women suffer both in terms of defending themselves during the assault as well as recovering financially and otherwise

after the attack. Thus, physical vulnerability contributes to the overall assessment of personal safety.

The final module of vulnerability is mediated through socio-economic status. Social class determines standard of living, the neighbourhoods and type of housing that are affordable, the type and location of jobs and ultimately, the ability to adopt crime and fear-reducing strategies. Baumer (1985) elaborates; "the poor tend to live in more dangerous neighborhoods, are less able to secure their homes, and find it more difficult to avoid dangerous areas"(241).

Determinants of social class, such as education, income and occupation are important variables in calculating vulnerability and ultimately, fear of crime.

The issue of vulnerability as illustrated through social inequality will be discussed in greater detail in the theoretical elaboration chapter.

VICTIMIZATION

The first model of fear of crime focuses on the convergence of previous victimization, personal vulnerability and environmental factors. Previous victimization refers both to individuals who have directly been the victims of crime as well as those who hear about crime from other victims, family, friends, law-and-order politicians and the media. Covington and Taylor (1991) emphasize the importance of including indirect victimization experiences, explaining that many people are indirectly victimized when they hear anecdotes

from the relatively few number of people who have been directly affected by crime.(232). According to Taylor and Hale (1986); "a criminal event sends out 'shock waves' that spread throughout the community via local social networks"(156). Results from Parker and Ray's (1990) multiple regression analysis of survey data indicate that victimization is the most significant and constant predictor of fear of crime.(38) Both direct and indirect experience with crime can elevate an individual's level of fear of crime.

Routine activities theorists draw on elements of vulnerability to explain which individuals are most susceptible to criminal victimization. They posit that victimization is encouraged when there is a motivated offender, a suitable target and the absence of capable guardianship.(Kennedy and Forde 138) Suitable targets are determined according to their perceived vulnerability. Capable guardianship refers to the social and physical structures in society that protect individuals. Research conducted by Kennedy and Forde (1990) using the 1982 Canadian Urban Victimization Survey reveals that residents in areas of high unemployment and one person households are more likely to be assaulted. They also found that younger, unmarried, low-income males were most often victimized.

A major shortcoming of routine activities theory and specifically the Kennedy and Forde research project is the amount of attention devoted to stranger crime in the public sphere, thereby ignoring the prevalence of interpersonal violence. Domestic assault and other crimes that occur in the

private sphere are underreported in official crime statistics and thus, are often minimized when contemplating victimization in society. Data from the Canadian Centre for Justice Statistics show that 32% of adult females were victimized by their spouses or ex-spouses and only 17% by strangers.(Hung and Bowles,1995:12) Stanko (1990) extends this idea;

the current thinking about safety and danger fails to capture what people know and experience as personal violence. Whilst our attention is continuously attuned to that which happens in public places, there is a stony silence, almost a denial of the extent of violence that happens in private, usually between those who already know each other, however slightly. To the extent that it is acknowledged at all, we assume that this private violence is normal. Real violence, that committed by strangers is abnormal, an affront to public safety.(9)

The narrow definition of stranger victimization becomes translated into public policy without the realization that programmes created based on this understanding fail to address women's realities.

Sacco and Fattah (1989) argue that interpersonal crimes against the elderly are also underreported and frequently misclassified; "our culture, after all, provides us with a highly idealized image of family life and the intensity and pervasiveness of these beliefs mitigate against a willingness to admit that the family may be the site of physical, psychological, emotional or economic violence"(230).

Due in large part to the critical work of these criminologists, the discussion of victimization has been widened to confirm that not only young men who

frequent bars but also women and the elderly within their own homes are at risk for victimization. This reality reinforces the legitimate fear of crime that occupies women and the elderly.

Research projects conducted by Sacco (1995), Covington and Taylor (1991), Parker and Ray (1990), Box et al. (1988), Taylor and Hale (1986), Baumer (1985), Yin (1985), and Garofalo (1981) confirm that victimization experience contributes to a higher level of fear of crime.

NEIGHBOURHOOD INCIVILITIES AND COMMUNITY CONCERN

To complete this model, consideration of neighbourhood incivilities and community concern is necessary. The term neighbourhood incivilities refers to physical and social disorder, including public drinking, street harassment, noisy neighbours, abandoned houses or buildings, vandalism, and garbage.(Skogan 1990) Covington and Taylor (1991) explain the role of incivilities; "residents perceiving more 'clues' to the underlying level of disorder in their immediate environment feel more vulnerable and thus more fearful"(232). The prevalence of such disorder can undermine neighbourhood ties, particularly residential commitment and integration into the local community.(Skogan and Maxfield 1981) Thus, as argued by these researchers, incivilities can lead to the destruction of community concern; that is, the loss of social order. Communities without cohesion lose their informal social control on the area. In turn, the loss of

control feeds into opportunities for crime and increased fear. Taylor and Hale (1986) conclude that fear is both an indication of social position and of the level of confidence in the neighbourhood. Skogan (1990) analyzed data from 40 areas in San Francisco by conducting a path analysis to decompose the relationships between these factors and fear of crime. Results revealed that social and physical disorder mediated the effect of perceived crime problems, fear of crime and actual victimization. The presence of neighbourhood incivilities can undermine community concern and stability thereby creating an environment for increased fear of crime.

Through further research, Skogan concludes that areas with low levels of income, employment and education are more inclined to report extensive problems with neighbourhood disorder.(1990:59) Lewis and Salem (1981) found that fear of crime is related to neighbourhood conditions, including abandoned buildings, vandalism, teenagers hanging around, and illegal drug use.(quoted in Yoko and Austin,1991:46) Social vulnerability determines the type of neighbourhood in which an individual can afford to live. Consequently, the poor and the unemployed are forced to move into low-income neighbourhoods which are often plagued by absentee landlords and growing social problems that are tolerated by agents of social control. Ultimately, citizens who are socially secure have higher levels of home ownership and can become established in neighbourhoods that are not troubled by incivilities and that receive sufficient support from the police service. Those without such security

are prone to incivilities, thereby compounding their vulnerability as well as their fear of crime.

NEIGHBOURHOOD ATTACHMENT

There is an interaction effect between perception of neighbourhood crime and neighbourhood attachment. The causal arrow leading to neighbourhood attachment indicates that individuals who perceive a high level of crime will retreat from activities and relationships outside their home, thereby reducing their level of attachment. However, the relationship can also be viewed in the other direction. Skogan and Maxfield (1981) explain; "the web of interpersonal relationship ties...is likely to facilitate the spread of crime stories which concern local residents and events close to home"(160). Thus, a substantial level of attachment may provide a "realistic" appraisal of neighbourhood crime or alternatively, such attachment may yield a distribution circle for crime stories thereby increasing the perceived level of crime and ultimately, the fear of crime.

Neighbourhood attachment also shares a relationship with neighbourhood incivilities. In assessing the level of attachment, Kasarda and Janowitz (1974) contend that the length of residence is the most important variable for integrating into a neighbourhood. Austin and Baba (1990) concur, citing that in their research, the length of residence was the most significant indicator of community attachment. The number of years that an individual lives in the same residence

depends largely on socio-economic status. Consequently, individuals without stable employment may not be able to remain in the same residence for an extended period of time, thereby effectively undermining any attachment with their neighbourhood.

St. John et al (1986) indicate that aside from length of residence, community attachment is determined by evaluating both physical and social elements of a neighbourhood. They maintain that satisfaction with the surrounding environment, both in terms of the physical nature of the neighbourhood as well as social interactions with neighbours predict overall community attachment. An extension of this argument presumes that neighbourhoods with incivility problems will garner less satisfaction for residents. Thus, neighbourhood incivilities influences neighbourhood attachment which in turn affects fear of crime.

PERCEPTION OF NEIGHBOURHOOD CRIME

Perception of neighbourhood crime is largely influenced through the combination of vulnerability, experience with crime and neighbourhood incivilities. It also interacts with the concept of neighbourhood attachment. Individuals, by virtue of their social and/or physical vulnerability, may be sensitive to criminal events within their neighbourhoods and thus are likely to perceive a

more inflated crime rate than it is actually reported to be. Residents who have either directly or indirectly experienced crime will also be more sensitive. In terms of neighbourhood incivilities, Skogan (1990) affirms that perceptions of increasing neighbourhood crime are associated with neighbourhood disorder, even when incorporating many demographic factors. Therefore, residents who live in areas of high disorder and are more frequently exposed to crime will perceive the crime rate to be high. Such a perception will increase an individual's level of fear of crime.

An examination of the dominant literature on vulnerability, previous victimization, neighbourhood incivilities and neighbourhood attachment indicates that these variables play an important role in determining fear of crime. The merit of the crime-centred approach and satisfaction with police service now requires evaluation.

SPECIFIC CRIME-CENTRED: SEXUAL ASSAULT

The specific crime-centred explanation for fear of crime argues that women's high level of fear of crime can be explained by their anxiety about one specific criminal offence; "the most obvious difference in the crime situation for men and women is that women have an additional crime to fear - rape - that men do not experience"(Riger et al.,1978:278). Recent statistics from the Canadian

Centre for Justice Statistics reveal that 11.2% (34,764) of all reported violent crimes committed in Canada in 1993 were sexual assaults on women.(Hung and Bowles,1995:13) Thus, although women may have lower victimization rates for all other violent offenses, "fear of rape was not clearly separable in respondents' minds from their anxieties about other crimes"(Sacco,1990:488). This is only a partial explanation because it does not account for men who have high levels of fear. However, it does suggest that women's high levels of fear of crime reflect their concern about becoming victims to one specific crime as opposed to crime in general. It is useful to isolate fear of sexual assault in order to determine if this is the case.

SATISFACTION WITH POLICE SERVICE

The final variable to be considered, quality of police service has only recently received attention in the literature. Box, Hale and Andrews (1988) posit that; "if people believe that the police are effective and efficient at clearing-up crimes and apprehending criminals, that they respond to calls quickly and that they have physical presence on the ground, then they are less likely to fear crime"(342). Results from a multiple regression analysis on national survey data indicate that police activities can foster confidence in local residents but reduce fear only in subjectively high risk areas.(Baumer,1985:248) Research conducted

by Scaglion and Condon (1980) reveals that personal interaction with police is the most critical element in determining overall attitudes toward police. Waller (1990) acknowledges that the type of contact between police and the public is important: "victims are likely to be more concerned about how they are treated than people participating in citizen crime prevention programs. If victims have a positive image of their experience with the police, this positive image will be communicated to their friends and family"(144). Consequently, individuals who have experienced crime will have a strong opinion, either positive or negative, of police service. Individuals in contact with the police for other reasons may be more ambiguous in their evaluation.

In interpreting vulnerability and its effect on the level of satisfaction of police service, Scaglion and Condon (1980) indicate that;

lower income minority groups have less favorable attitudes towards police than do middle income whites, that white nonethnics tend to have less favorable attitudes toward police than do white ethnics, and that young people tend to have less favorable attitudes than older people.(486)

This assessment may be the result of overpolicing certain segments of society and underpolicing in specific communities within a city. Also, the respondent's perceived level of systemic racism within the criminal justice system may affect his or her level of satisfaction with police.

Edwards (1989) suggests that divisions can also be drawn between men and women, resulting from the quality of attention that each group receives from police:

the police organization is imbued and saturated with ideologies that have worked against the recruitment and promotion of police women. The same divisive attitudes have also significantly influenced the police response to crime and victims, priorities, policies, operations and police accountability...violence against women and sexual misconduct, have been considered less serious than incidents involving violence and sexual abuse occurring in public.(26)

As a result of these structural problems, women may be less likely to report crimes to the police or to be satisfied with the level of service they receive.

In terms of neighbourhood incivilities, Rountree et al. (1994) argue that "residents in more disadvantaged areas must "try harder" to obtain the same results as in less disadvantaged areas"(411). Stark (1987) concurs:

the police tend to accept the premise that vice will exist *somewhere*. Therefore, they tend to condone vice in neighborhoods from which they do not receive effective pressures to act against it...the police frequently come to share the outside community's view of stigmatized neighborhoods - as filled with morally disreputable people, who deserve what they get.(902, original emphasis)

Individuals who live in areas plagued by neighbourhood disorder may perceive that they are being ignored hence, they may be less satisfied with police service. A low level of police satisfaction may translate into concern about the responsiveness and effectiveness of police service, thereby increasing fear of crime.

Individuals who perceive an increase in neighbourhood crime may be less satisfied with police than those who perceive a stable or decreasing rate of crime in their neighbourhood. This proposition is related to the perception of

neighbourhood incivilities. Respondents presume that proficient police service should result in crime reduction; therefore, when residents believe that crime is rising, the effectiveness of the police service becomes suspect. Consequently, the respondent's reported level of satisfaction with police service may be influenced by his or her perception of the neighbourhood crime rate.

Bennett (1991) warns that satisfaction with police is only a part of the fear of crime equation because the other variables involved, such as victimization rates and neighbourhood incivilities, cannot be controlled by police. Satisfaction with police services should be included in a fear of crime conceptual model, with the acknowledgement that it provides only a partial interpretation.

Thus far, the traditional theoretical frameworks described in the literature emphasize previous victimization, neighbourhood clues and the vulnerability of women and the elderly, as well as the newer variables of specific crime-centred and police satisfaction to explain fear of crime. Although these variables provide the framework for a conceptual model, consideration of feminist criminology is necessary to produce a truly multidimensional approach to this issue.

Competing models of fear of crime offer different variables but are guided largely by the same theoretical orientation. Vulnerability, whether determined by gender, age or socio-economic status, affects perceptions, choices and outcomes. Considering vulnerability as a starting point for theoretical elaboration of fear of crime is necessary to create a useful conceptual model. By acknowledging indirect effects, a conceptual model incorporating these variables

provides a robust framework for testing fear of crime within a Canadian context.

STATEMENT OF THE PROBLEM

There are several elements of this project which advance the current body of research on fear of crime. The most significant contribution of this project is the production of a preliminary test of fear of crime predictors within a Canadian context. Currently, no multivariate analyses of fear of crime have been conducted in Canada. Thus, this research will evaluate the applicability of previous British and American findings, signifying which predictors are valuable in measuring fear in Canadian communities.

The orientation of this research has been informed by feminist criminology theories. This branch of criminology criticizes the mainstream theories for their misconceptualization of fear, in failing both to understand the origins of victimization and to recognize the variety of domains within which violence remains pervasive and largely ignored. To pursue a more critical approach to fear of crime, vulnerability, experienced in social, economic and physical spheres, is presented as the starting point for identifying who is fearful and explaining why. This theoretical approach is integral to fear of crime research because it is derived from the acknowledgement that fear is intentionally tied to specific groups as the direct result of social actions.

This project also introduces a more robust measure of fear of crime. The popular use of the measure "fear of walking alone at night" as a dependent

variable has been criticized for being ambiguous and presenting respondents with an unrealistic situation. The 1994 Winnipeg Area Study uses a series of questions involving specific crimes to probe the respondent's level of worry. In this way, respondents are able to evaluate each situation, involving both personal and property crimes, on a ten-point scale. Using such a multivariate dependent variable allows for a clear analysis of fear of crime. Thus far, few fear of crime researchers have employed such measures. Consequently, it is essential to illustrate the strength in explanatory power that such a complex measure can yield.

A related benefit of this research and the multidimensional aspect of the dependent variable is the ability to test the crime-centred approach to fear of crime. Isolating one of the specific situations, involving worry about becoming the victim of sexual assault, will enable the comparison between fear of sexual assault and fear of other crimes. This crime-centred theory has not been tested within the framework of multiple fear of crime measures. Hence, this research provides a solid measure through which the effect of the fear of sexual assault can be determined. Similarly, producing separate regression equations for each dependent variable will reveal any differences in fear levels.

Finally, the inclusion of a multivariate independent variable contributes to the current body of fear of crime research. Measuring neighbourhood incivilities by creating a scale of neighbourhood disorder, including misbehaving teens, people loitering, noisy neighbours, run-down buildings, and drug and alcohol

abuse provides more explanatory results than the commonly adopted single measure approach. Adopting this approach will assist the respondent in understanding what is meant by disorder. Such a scale of neighbourhood incivilities measures has not been widely tested or incorporated into multidimensional fear of crime models. It will yield sound information about the types of incivilities that most concern respondents.

The contributions to Canadian fear of crime research, by incorporating elements of feminist criminology, testing the crime-centred approach, as well as the methodological additions of adopting robust dependent and independent variables through the use of multiple regression and path analysis, illustrate the value of conducting this research project.

CHAPTER II: THEORETICAL ELABORATION

As previously indicated, feminist criminology informs the conceptual model for this project. The foundation of this theoretical elaboration rests with the understanding that fear of crime is driven by vulnerability. In turn, vulnerability is produced by unequal power relations in society. This inequality becomes expressed in women's behaviour;

women pay the emotional costs of feeling anger, anxiety and resentment in their relationships with others or in their own assessments of self-worth and personal esteem; incur financial loss through shouldering the expense of transport, locks and bolts, and 'safer' housing; and suffer social isolation because of concern about the dangers of the unknown.(Stanko,1990:177)

Messerschmidt (1991) argues that in order to understand the dynamics of victimization and inequality, the relationship between social actions and social structures must be examined. Social actions continually adapt the social structures which govern the operation of society. As a result of these actions, the inequality of women is perpetuated. Fundamental to this conceptualization is that in order to achieve meaningful crime prevention and thus a reduction in fear of crime, there must be "a direct challenge to men's dominance in all spheres of everyday life"(Stanko,1990:181).

In this chapter, the roles of social action and social structures in determining vulnerability and fear of crime will be discussed. In order to contextualize the theory, case studies demonstrating the way in which actions

influence structures will be detailed. Finally, the role that feminist criminology plays in affecting the study of fear of crime will be explored. The starting point for understanding feminist criminology's connection to fear of crime begins with the recognition pointedly stated by Stanko (1995) that; "the reality of sexual violence - whether from known or unknown men - is a core component of being female and is experienced through a wide range of everyday, mundane situations"(50).

Primary to presenting a feminist criminology elaboration to the study of fear of crime is a historical context within which to ground contemporary issues. This perspective reveals a consistent framework of social, economic and legal structures that; "have fostered male privilege and women's dependence on male partners" (Johnson,1996:21). Men have traditionally held the positions of authority within society and as a result; "have had the power to define what is harmful and what is not, and to perpetuate acts of violence against women without great fear of reprisal"(Johnson,1996:22). Within this framework, the resistance encountered by contemporary struggles for gender equality can be understood. Similarly, the degree of struggle necessary to achieve meaningful results is compounded because social structures perpetuate power over women. Thus, women are fearful of victimization because they live in a society whose structures exist to further the interests of the powerful. For the most part, women are unable to affect the structures which sustain their inequality.

Recent work of Messerschmidt (1993) aims to bring men into the

discussion of victimization; "to structure a comprehensive feminist theory of gendered crime, we must bring men into the framework...by articulating the gendered context of men's behavior and of crime"(62). To understand how this gendered society operates, the role of social actions and social structures must be clearly identified. Messerschmidt succinctly explains that; "social actors maintain and change social structures within any particular interaction, and those social structures simultaneously enable and constrain social action"(63).

Corresponding to the function of social actors is the reality that the social groups with power have preferred access and can achieve changes in structures.

Groups who lack power are restricted from the resources that would produce the power necessary to reduce and ultimately eliminate their inequality.

Messerschmidt suggests that the reconstitution of structures is an ongoing process of evolving masculinities. As structures change to reflect contemporary realities, men are not always able to secure their masculinity. He proposes that when these traditional avenues fail, men use crime as a social action to bolster or reinforce their masculinity.(1991:85)

The consideration of several examples is useful to demonstrate the ways in which actors create and alter structures. Messerschmidt explains that "a manifestation of gender relations of power is the obvious structural fact that men control the economic, religious, political, and military institutions of authority and coercion in society"(71). The division of labour and primary school education are two sites of social action which perpetuate the inequality and subsequent

vulnerability of women.

The division of labour has frequently been cited as one of the original locations for gendering activities. As women have been accepted in the workforce, Messerschmidt argues that; "hegemonic masculinity is no longer based on being the sole breadwinner...new constructions of masculinity and femininity are emerging from the identical ongoing practices"(70). These new forms are reflected in the division of household labour as well as the scope of job opportunities available to women in the labour force. Despite having paid employment outside the home, many women remain largely responsible for childcare and household chores. The 1990 General Social Survey found that; "72% of wives aged 15-64 working full-time who had children living at home were solely responsible for meal preparation, compared with 86% of wives employed part-time and 89% of those not in the labour force"(Marshall,1993:11). Indeed, as women toil with these domestic chores, men continue to guard responsibility for repairs and outside work.

For women in the labour force, harassment continues to shape the social structure of the workplace. Pain (1991) explains that; "feminists have seen sexual harassment in the workplace as having a very clear role in helping define male and female space"(426). Masculinities become reproduced through social actions expressed as harassment because men as social actors permit, tolerate and participate in the harassment of women in order to define the workplace. Martin (1995) explains that; "such harassing behavior is less blatant or

threatening than quid pro quo harassment, is condoned by management, and is regarded as "normal" male behavior or as an extension of the male prerogative of initiation in male-female interaction"(217). Constituted by action, the workplace as a social structure allows glass ceilings and other barriers to persist. Gartner et al (1990) indicate that; "while women are now more likely to be wage earners, neither their absolute economic position nor their position relative to males has improved substantially"(596). The result for women is the restriction of their full participation in the labour force.

Equal division of labour has not yet been achieved because men dominate positions of authority. Without access to power, women continue to be subjugated to the interests of the powerful. This subjugation is reflected in the types of employment women hold, salary ranges, and the scope of benefits and accommodations provided for working mothers. Division of labour leads to vulnerability. Women have fewer choices about jobs, housing, means of transportation, childcare and relationships. This heightened vulnerability results in an increased fear of crime.

Education is a second site where social action becomes translated into structure. Martin explains that; "women are not born weak, passive, dependent, and receptive to male initiation; they are socially conditioned to develop these qualities. Similarly, men learn that they are expected to be strong, dominant, independent, aggressive, and the initiators of sexual interaction"(1995:223). Beginning in primary school, children are presented with images of "socially

acceptable" norms and behaviours. In a review of education in Ontario, Gaskell et al. (1995) enumerate common stereotypes; "little girls in elementary texts played with dolls while their brothers played baseball; mothers wore aprons and baked cookies, while fathers drove off to work"(102). Because masculinities guide the dominant discourse and determine appropriate images, children are socialized into gendered roles. Ultimately, the education system perpetuates and reproduces new generations of traditional gender divisions.

As a consequence of this stereotyping, the division of labour is supported in denying women full access and participation. Occupations included in elementary school teaching reflect "a sex-segregated labour market - women are witches and men are truck drivers...the man 'plays golf' while the woman 'is a true and loyal friend'"(Gaskell et al,1995:102). Boys are both challenged and expected to aspire to careers whereas girls are presented with conflicting images that focus on emotions and domestic responsibilities.

Sex-role socialization also extends to messages about the threat of victimization; "women are socialized to protect themselves from attack instead of eliminating the potential attack"(Pain,1991:423). The notion that women are somehow responsible for their own victimization leads women to minimize or reject their own experiences with violence. In the education system, girls are provided with a "code of unspoken rules about dress, behaviour, lifestyle, sexuality, and female loyalty and passivity in relationships"(Pain,1991:423) in order to avoid victimization.

Social action maintains the dominance of masculinity by “excluding women's experience from that which schools have traditionally deemed worthy of study and analysis”(Gaskell et al,1995:105). In spite of progress toward a more integrated curriculum, the evolving process of redefining masculinities ensures that gender norms and sex-roles still persist in schools.

The ways in which labour and education are organized and controlled by those in positions of power are reflected in all spheres of life. The study of criminology and specifically, fear of crime are no exception. Despite resistance to change, feminist criminologists have been making meaningful contributions to the measurement and conceptualization of fear of crime.

Gardner (1990) suggests that advancements made by women have not affected the way in which sociological research understands victimization; “women may have made considerable progress in occupation, education and home life; yet in public places they are regularly subjected to inferior treatment by men in the form, for instance, of catcalls, evaluative “compliments” and verbal contacts”(31).

In terms of the study of criminology, a growing body of literature is critical of traditional conceptualizations of fear of crime. Gardner, along with Stanko (1995; 1992; 1990; 1985), Kelly (1990), and others have contested this “traditional” approach to fear of crime. Stanko (1995; 1992; 1990a; 1990b; 1985) rejects the notion that violence is a random occurrence within a normally ordered life. Instead, she insists that women deal with the threat of violence on a daily

basis;

rather than viewing violence as a disruption to the supposedly calm life we lead, I perceive it as an ordinary part of life...If any of us takes measures to try to guarantee our safety - such as staying alert on the street, resisting arguments with our intimates because their bad tempers might lead to a beating or avoiding certain public places that make us feel uneasy - we are automatically taking violence into account as a possible occurrence in our lives.(1990:5)

Scheppele and Bart (1983) extend this critique by maintaining that women adopt strategies to protect themselves from victimization. They argue that "many women's personal landscapes have been posted with cultural signs, warning of the do's and don'ts in their travel"(64).

Stanko (1992) emphasizes that fear of crime as it is understood in contemporary research fails to acknowledge women's lived experiences of sexual and physical violence. Furthermore, by focussing exclusively on stranger victimization, the dominant literature has neglected the reality that interpersonal violence is much more prevalent in society, even if it is not reflected in official crime statistics. Stanko (1992) insists that this narrow conceptualization of violence as street crime "distorts and sensationalizes violence against women"(130). She also asks "how useful crime prevention advice is to women and whether it acknowledges women's own knowledge about the sexual dangers in their everyday lives"(1990, 177).

Aside from conceptualization issues, there are also structural problems with the way in which fear of crime is addressed. Pain (1991) suggests that "the

failure of the state to react to violence against women is a sign of its acceptance of force as a form of social control"(426).

In order to remedy the way in which police address fear of crime and crime prevention, Stanko argues that; "good crime prevention would demand that all aspects of community life, especially the institutions which might assist women to escape and complain about the violence of men, promote women's economic, sexual and political independence"(1990,181). Instead, crime prevention agencies, including the Solicitor General of Canada, continue to devote resources to warn women about men in public places.(DeKeseredy et al 1995)

Pain (1991) emphasizes that the threat of sexual violence cannot be ascribed to all men. However, she cautions that "there is no reason why the barriers to equality with men entailed in social control must only be those which are sizeable and immediately recognizable"(427). Accordingly, when studying fear of crime and crime prevention, the role of harassment and threats must not be diminished. Fear of crime restricts women's freedom. Pain (1991) suggests that fear of sexual violence "encourages women towards traditional roles and dependence on men"(426).

The theoretical issues underlying the misconceptualization of violence are encompassed under the banner of vulnerability. Fear of crime is not simply manifest in previous victimization. Social action creates vulnerability and affects the social structures that govern socio-economic status, neighbourhood

affordability and the type of police service that is offered. The conceptual model, developed within the framework of feminist criminology, seeks to incorporate personal indicators of age, gender and socio-economic status as well as the structural indicators of police service and neighbourhood disorder. By adopting this type of model, fear of crime is understood as existing within a larger sphere.

The feminist criminology critique has forced the reconsideration of many assumptions that have guided research into fear of crime. The 1994 Winnipeg Area Study, the data set for this research project, seeks to validate women's daily experiences with violence by including more detailed questions on victimization, worry about specific crimes and neighbourhood incivilities. Incorporating a critical conceptualization of fear, changes in measurement and the theoretical elaboration of the conceptual model permit the inclusion of factors relevant to women's experiences. These efforts represent an attempt to reduce the research gaps in the study of victimization and fear of crime, thereby redistributing power from men to women.

CHAPTER III: METHODOLOGY

In order to conduct meaningful research, a suitable data set must be secured. In addition, a clear hypothesis must be developed and concepts integral to testing the conceptual model must be selected. In this chapter, the benefits and limitations of the data set are explored and the hypothesis and key concepts are presented. The statistical techniques most appropriate for evaluating the hypothesis are determined. Finally, the initial descriptive statistics for each variable included in the analysis are displayed as well as any necessary transformations required to produce meaningful analysis.

THE DATA SET

The data set for this project comes from the 1994 Winnipeg Area Study, conducted by the Department of Sociology at the University of Manitoba. This annual study draws a random sample from all working telephone numbers in Winnipeg. Household is the primary sampling unit with sex, age and residency variables assigned to each. Interviews were completed with 1002 respondents, yielding a 75% completion rate. The median age of respondents is 42 years. In terms of gender, this sample contains more women (59.5%) than men (40.5%). The 1991 Census indicates that 52.3% of Winnipeg residents over 18 years of

age are women.(Forde;1994,4) A weighting variable has been included in the data set to compensate for the oversampling of women. Although gender has been corrected, there are other potential flaws in using this data set for studying fear of crime which must be noted.

The determination of hypotheses for this project was limited by the variables included in the Winnipeg Area Study. For example, the survey does not probe if media reports of crime affect fear even though research indicates that such indirect victimization is influential in determining an individual's level of fear of crime.(Sacco 1995) The classification of ethnic identity as opposed to race also produces some difficulties. Race has been mentioned in the literature as contributing to one's sense of vulnerability (Skogan 1995); however, by classifying individuals by ethnic identity, it is no longer possible to identify them by race. Of the 986 responses to the question of ethnicity, 42% of respondents surveyed identified themselves as Canadian with the remaining 58% shared among 45 different categories. Consequently, this research does not include variables on the effect of the media or race.

Asking respondents about their victimization experiences in the past year presents another weakness with measurement in the 1994 Winnipeg Area Study. In this study, respondents were asked if they, or a member of their household had been the victim of a crime in the past year. Johnson (1996), Smith (1994) and Stanko (1990) criticize this measure for failing to acknowledge that the lifetime prevalence of victimization experiences affects fear of crime levels.

Excluding incidents that occurred more than twelve months prior to the interview renders such events inconsequential, when in fact, they are integral to this area of research. Hence, a more valid measure of victimization would provide a wider window for recording victimization experiences while balancing the effect of memory decay.

A second significant issue with this measure is that many women underreport their victimization experiences because they do not consider certain events to be serious enough to mention. Smith (1994) indicates that such experiences as threats, harassment, obscene telephone calls and particularly, violence within the home are underreported. Skogan (1986) suggests that one explanation for the underreporting of crime is that; "victims may not remember disputes which arise within kinship or friendship circles as readily as they remember events involving strangers. Or, such disputes may not register as the kind of incidents that the interviewer is looking for"(86). To reduce the problem of underreporting, multiple measures of victimization, placed in more than one section of the interview questionnaire should be employed.

Despite these shortcomings, the 1994 Winnipeg Area Study measurement of victimization is of some value. The use of an open-ended question probing the crime allows respondents to name and describe their particular victimization experience. In addition, the use of professional, experienced interviewers in collecting this data is essential in conveying sincerity and confidentiality to respondents who are being asked to discuss sensitive issues.

The measurement of the dependent variable presents a more appropriate assessment of fear of crime than previously adopted measures. Previous measures, particularly asking respondents "how fearful do you/would you feel walking alone after dark in your neighbourhood" have been criticized for providing a vague situation that most people do not encounter. In the Winnipeg Area Study, this variable is measured by asking respondents a series of questions to gauge their worry about becoming the victim of specific crimes. (See Appendix B.) Focusing on the concept of worry is similar to the traditional measures of fear; however, the inclusion of specific offenses allows respondents to frame a mental image of the situation and decide accordingly on their level of fear. Break and enter, theft, mugging, fraud and sexual assault provide the range of personal and property crimes to be tested. Research conducted by Lalli and Savitz (1976), Sundeen and Mathieu (1976), Lewis and Maxfield (1980), Warr and Stafford (1983), Warr (1984), Taylor and Hale (1986) have used multiple offenses and the concept of worry to evaluate fear of crime.

Other variables measured in the Winnipeg Area Study including sex, age, perception of crime, neighbourhood incivilities and attachment are consistent with the conceptualization of other researchers.

SPECIFICATION OF THE HYPOTHESIS

Vulnerability, as expressed through age, gender and socio-economic status, both directly and indirectly affects fear of crime.

OPERATIONALIZATION OF KEY CONCEPTS

The actual questions from the Winnipeg Area Study are presented in Appendix B.

1) VULNERABILITY: This refers to the social and physical weakness ascribed to individuals. Vulnerability will be measured by three indicators:

a) GENDER: Gender will be measured through question 3.

b) AGE: Respondents to the Winnipeg Area Study must be at least 18 years old. Age will also be measured through question 3.

c) SES: Socio-economic status will be measured through education and household income. The first indicator refers to the highest level of education completed at the time of the interview. This variable will be measured through question 108. The second indicator refers to the total income of the household for the past year. Household income will be measured through question 112.

2) EXPERIENCE WITH CRIME: This refers to the direct or indirect victimization of respondents. This variable will be measured through question 21.

- 3) **NEIGHBOURHOOD INCIVILITIES:** This refers to the social and physical disorder found in neighbourhoods. A respondent's perception of neighbourhood incivilities will be measured through question 25a-e.
- 4) **PERCEPTION OF CRIME RATE:** This refers to an individual's assessment of the crime rate within his or her neighbourhood. Perception of the crime rate will be measured through question 18.
- 5) **LEVEL OF SATISFACTION WITH POLICE:** This refers to the level of overall satisfaction with police services within an individual's community. This variable will be measured through question 20.
- 6) **COMMUNITY ATTACHMENT:** This refers to the level of attachment that an individual has for his or her neighbourhood. Community attachment will be measured through neighbourhood satisfaction, that is, the degree to which individuals are satisfied with their neighbourhood as a place to live. Community attachment will be measured by question 7.
- 7) **FEAR OF CRIME:** This refers to worry or concern about becoming the victim of a crime. This variable will be measured through questions 24a-e. Fear of crime serves as the dependent variable for the analysis.

DETERMINING THE STATISTICAL TECHNIQUE

The purpose of this research is to identify the strength of the effect that each predictor has on determining fear of crime levels for Winnipeggers. Such information is essential for the police service to target appropriate programmes to those who experience the most fear. Responses to the dependent variable, worry about becoming the victim of specific crimes, are measured on a ten-point scale. In order to test the conceptual model, multiple regression and path analysis will be used. Although other statistical techniques may be more appropriate given the level of measurement for the dependent variables, the power of interpretation as well as the ability to assess the direct and indirect influence of individual predictors confirm the value of using a combination of multiple regression analysis and path analysis.

A difference of proportions test has been conducted for each dependent variable, as well as the independent variables measuring neighbourhood incivilities, to assess whether variables originally gathered in ordinal form can be treated as interval. (See Appendix C.) These tests indicate that all of the dependent and independent variables may be included, as interval or dummy variables, for inspection in the multiple regression analysis and path analysis. Multiple regression will reveal the strength of the conceptual model in explaining fear of crime. The second methodology, path analysis, will decompose the indirect effects of vulnerability, as defined by gender, age and socio-economic

status on fear of crime.

The difference of proportions test for v100 (worry that a thief will break into your home while you are away) indicates that the association between v100 and v26 (age) yields a z score ($z=4.22$) outside of the acceptable range. However, the associations between v100 and v272 (income)($z=0.643$) and v100 and v265 (education)($z=0.089$) produce acceptable values, indicating that, with caution, v100 can be treated as an interval variable.

Testing the associations between v101 (worry that someone will use a weapon to take something from you by force) and the independent variables shows that v101 can be treated as an interval variable. The results for v102 (worry that someone will steal your coat when left unattended) and v103 (worry that someone will cheat or con you out of a large amount of money) confirm that all of the z scores are within the acceptable range. Therefore, v102 and v103 can also be treated as interval.

For this study, the final dependent variable, v104 (worry about becoming the victim of sexual assault), has been limited to female respondents. All of the associations tested generate scores within the acceptable range. Consequently when women are selected, v104 can be treated as an interval variable for this analysis.

The second set of difference of proportions tests considers the associations between the independent variables for perception of neighbourhood incivilities and the interval variables, age (v26) and income (v272). The z score

results for associations involving v105 (misbehaving juveniles), v106 (loitering), v107 (noisy neighbours) and v108 (run-down buildings/houses) are all within the acceptable range. The associations with V109 (drug/alcohol abuse) yield z scores which are above the acceptable level; v109 & v26 ($z=2.13$) and v109 & v272 ($z=2.42$). Therefore, four measures of neighbourhood incivilities may be treated as interval, the fifth measure can be transformed into a dummy variable if its inclusion in the analysis is essential.

These difference of proportions tests indicate that all of the variables tested, except v109 can be treated as interval. Thus, the z scores produced through difference of proportions tests confirm that multiple regression analysis and path analysis should yield worthwhile results in evaluating these fear of crime predictors.

THE VARIABLES

The multiple regression model includes six separate dependent variables and eleven independent predictors. This section will present each of these variables, indicating their level of measurement as well as initial descriptive statistics. Where required, transformations have been performed.

DEPENDENT VARIABLES

As indicated, a separate regression analysis will be run for each dependent variable and one regression will be conducted using a composite measure for fear. Testing each variable independently, as opposed to creating only an encompassing composite measure permits the comparison of fear of crime levels among different types of crimes. By employing this tactic, the validity of the crime-specific hypothesis, that women's fear of crime can largely be explained by their fear of sexual assault, can be evaluated. The Winnipeg Area Study prefaces the measurement of these dependent variables by explaining to respondents that "at one time or another most of us have experienced fear and worry about becoming the victim of a crime".

V100: WORRY THAT A THIEF WILL BREAK INTO YOUR HOME

Respondents were asked to evaluate their worry about the possibility that a thief will break into their home while they are away on a scale from 0 (never worry) to 10 (worry a great deal). This variable is measured on an ordinal level. Descriptive data are reported in Table 3.1. Only 1 of the 1002 Winnipeg Area Study questionnaires has missing data for this variable. The largest number of responses (17.8%) occurs in value 5, the midpoint in the range, indicating that residents are neither consumed by worry nor do they profess to be not at all worried about having their home burglarized.

Table 3.1: Descriptive Statistics for V100

Mean	5.193	Std. Dev.	3.196
Minimum	.000	Maximum	10.000
Kurtosis	-1.045	Skewness	-.107
Std. Error	.101	Missing Cases	1

The frequency histogram for V100 shows a mildly peaked distribution (kurtosis = -1.045) with heavy tails. The distribution is slightly skewed to the left (-.107). Grouping the data increased the kurtosis (-1.078) and minutely lowered the skewness value (-.101). Because significant improvements in the variable

have not been achieved, V100 will remain untransformed for the multiple regression analysis.

V101: WORRY THAT SOMEONE WILL USE A WEAPON

Respondents were asked to evaluate their level of worry about the possibility that someone will use a weapon to take something from them by force. This variable is ordinal, using a scale ranging from 0 to 10. Descriptive data are displayed in Table 3.2. Only 6 of the 1002 cases are missing for this variable. The largest number of responses (18.8%) occurs in value 0, indicating that these respondents do not worry at all about someone using a weapon to seize something from them. The frequency histogram shows minor kurtosis (-.963) with skewness to the left (.354). Efforts made to group the data marginally reduced both the kurtosis (-.800) and the skewness (.306). The change in values is not significant to warrant adopting the transformation for this variable.

Table 3.2: Descriptive Statistics for V101

Mean	4.084	Std. Dev.	3.151
Minimum	.000	Maximum	10.000
Kurtosis	-.963	Skewness	.354
Std. Error	.100	Missing Cases	6

V102: SOMEONE WILL STEAL COAT WHEN UNATTENDED

Respondents were asked to assess their level of worry about the possibility of having their coat stolen when they have left it unattended somewhere. This variable is measured on an ordinal level with values ranging from 0 to 10. Descriptive data are presented in Table 3.3. Nine of the 1002 cases are missing for this variable. The largest number of responses (19.2%) occurs in value 0, indicating that these respondents reported that they do not worry at all about someone stealing their coat when left unattended. The frequency histogram shows a leptokurtic distribution (kurtosis = -1.209) with a slight skewness (.176) to the right. Grouping the data only marginally reduced both the kurtosis (-1.017) and the skewness (.152). Because transforming V102 will not improve the distribution significantly, it will be left in its original form for the multiple regression analysis.

Table 3.3: Descriptive Statistics for V102

Mean	4.533	Std. Dev.	3.404
Minimum	.000	Maximum	10.000
Kurtosis	-1.209	Skewness	.176
Std. Error	.108	Missing Cases	9

V103: SOMEONE WILL CHEAT OR CON YOU OUT OF MONEY

Respondents were asked to evaluate their level of worry about the possibility that someone will cheat or con them out of a large sum of money. This variable is measured on an ordinal level, with a scale ranging from 0 to 10. Descriptive data appear in Table 3.4. Five of the 1002 cases are missing for this variable. The largest number of responses (38%) occur in value 0, indicating that these respondents reported that they do not worry at all about someone cheating or conning them out of a large sum of money.

Table 3.4: Descriptive Statistics for V103

Mean	2.926	Std. Dev.	3.269
Minimum	.000	Maximum	10.000
Kurtosis	-.506	Skewness	.878
Std. Error	.104	Missing Cases	5

The frequency histogram shows mild kurtosis (-.506) with moderate skewness to the right (.878). The distribution problems arise from the high number of responses occurring in value 0. A logarithmic transformation is the most appropriate remedy for this type of problem. However, both the log10 and log(10+1) transformations do not substantially improve the distribution. The cautionary effect that a transformed variable creates in interpreting findings is not justified by the minute improvements produced by the transformation. As a result, V103 will be left untransformed for the multiple regression analysis and must be interpreted with caution.

V104: SOMEONE WILL SEXUALLY ASSAULT YOU

Respondents were asked to evaluate their level of worry about the possibility of being sexually assaulted. This variable has been measured at an ordinal level, using a scale ranging from 0 to 10. Descriptive data are presented

in Table 3.5.

Table 3.5: Descriptive Statistics for V104

Mean	3.176	Std. Dev.	3.517
Minimum	.000	Maximum	10.000
Kurtosis	-.978	Skewness	.685
Std. Error	.111	Missing Cases	3

Three of the 1002 cases are missing for this variable. The largest number of responses (41.5%) occur in value 0, indicating that close to half of all respondents to this survey reported that they do not worry at all about someone sexually assaulting them. The frequency histogram reveals a platykurtic distribution (-.978) with positive skewness (.685). The cross tabulations for V104 and gender indicate that the positive skewness is due to the large number of male respondents in value 0. Selecting out male respondents from the equation produces a frequency histogram with a normal distribution. Because both gender and fear of sexual assault are integral to this fear of crime research, selecting out males to allow the testing of V104 provides more value than simply discarding the variable. Thus, the multiple regression analysis of V104 will only include female respondents.

INDEPENDENT VARIABLES

There are 13 independent predictors in this fear of crime model. A few of the variables may be entered into the equations in their original form, the others however, do not meet the required assumptions for multiple regression and must be transformed. Descriptive statistics as well as any transformations conducted are presented below.

V25: GENDER

Gender was ascertained by the interviewer at the beginning of the telephone interview. The gender for each household was designated prior to initial contact. If the respondent of the denoted gender was not available, then the person who answered the telephone was selected to complete the survey. As mentioned earlier, because women were oversampled, a weighting variable has been included to compensate for the lower number of male respondents. There are no missing cases for this variable. Gender is measured at a nominal level. For the multiple regression analysis, it will be recoded into a dummy variable (male = 0, female = 1.)

V26: AGE

Respondents were asked to report their age at the time of the interview. There are 46 (4.6%) missing cases for this variable. Descriptive data are presented in Table 3.6.

Table 3.6: Descriptive Statistics for V26

Mean	41.683	Std. Dev.	16.986
Minimum	18.000	Maximum	88.000
Kurtosis	-.396	Skewness	.697
Std. Error	.549	Missing Cases	46 (5%)

Age is measured at an interval level. The largest number of responses, at 3.6% of all responses, occurs in value 35, indicating that although 35 is the mode, the age of respondents is largely well-distributed among the values between 18 and 88 years. The data are slightly skewed to the right.

V59: NEIGHBOURHOOD SATISFACTION

Respondents were asked to evaluate their level of satisfaction with their neighbourhood as a place to live. This variable has been measured at an ordinal

level, using a scale ranging from 1 to 7. Descriptive data are presented in Table 3.7. Two of the 1002 cases are missing for this variable. The largest number of responses (38.4%) occurs in value 7, indicating that these respondents reported being very satisfied with their neighbourhood as a place to live. In order to meet the criteria for multiple regression, V59 will be transformed into a dummy variable (somesat: 1-4 = 1, 5 - 7 = 0).

Table 3.7: Descriptive Statistics for V59

Mean	5.807	Std. Dev.	1.325
Minimum	1.000	Maximum	7.000
Kurtosis	1.796	Skewness	-1.335
Std. Error	.042	Missing Cases	2

V87: PERCEPTION OF NEIGHBOURHOOD CRIME RATE

Respondents were asked to evaluate the level of crime in their neighbourhood compared to two years ago. Perception of neighbourhood crime has been measured as an ordinal variable with 3 values. Descriptive data are presented in Table 3.8. Ninety-eight (9.8%) of the 1002 cases are missing for this variable. The largest number of responses (50.4%) occur in value 2, indicating that half of all respondents surveyed perceive that their neighbourhood

crime rate has remained the same. V87 has been transformed into a dummy variable, showing that the crime rate has increased or declined/remained constant (crime: 3 = 0, 1 2 = 1).

Table 3.8: Descriptive Statistics for V87

Mean	2.415	Std. Dev.	.569
Minimum	1.000	Maximum	3.000
Kurtosis	-.797	Skewness	-.324
Std. Error	.019	Missing Cases	98 (9.8%)

V89: LEVEL OF SATISFACTION WITH POLICE SERVICE

Respondents were asked to assess how satisfied or dissatisfied they are with the level of police service in Winnipeg. Level of satisfaction with police has been measured as an ordinal variable with 4 values. Descriptive data are presented in Table 3.9. 41 (4%) of the 1002 cases are missing for this variable. The largest number of responses (58.9%) occurs in value 3, indicating that the majority of respondents interviewed are somewhat satisfied with the level of police service in Winnipeg. Because V89 has not been measured on an interval scale, it will be recoded into a dummy variable showing satisfaction and dissatisfaction with police service (police: 1 2 = 1; 3 4 = 0).

Table 3.9: Descriptive Statistics for V89

Mean	2.834	Std. Dev.	.746
Minimum	1.000	Maximum	4.000
Kurtosis	.339	Skewness	-.558
Std. Error	.024	Missing Cases	41 (4%)

V90: VICTIM OF CRIME

This question probes the victimization experience of members of the respondent's household. Respondents were asked whether they or a member of their household had been the victim of a crime in the previous year. Descriptive statistics are presented in Table 3.10.

Table 3.10: Descriptive Statistics for V90

Mean	1.762	Std. Dev.	.426
Minimum	1.000	Maximum	2.000
Kurtosis	-.477	Skewness	-1.235
Std. Error	.013	Missing Cases	1

Experience with victimization over the past year has been measured on a

nominal level. No distinction is made between the respondent or the family member as the direct crime victim. However, this variable should be included in the analysis because both direct and indirect victimization experiences are useful to fear of crime research. For the multiple regression analysis, it will be recoded into a dummy variable showing whether or not someone in the household had been victimized (no = 0, yes = 1). Only 1 of the 1002 cases is missing for this variable. The largest number of responses (58.9%) occur in value 2, indicating that more than half of all respondents reported that neither they nor members of their household were victimized in the previous year.

V105: PERCEPTION OF MISBEHAVING JUVENILES

Respondents were asked to evaluate how much of a problem misbehaving juveniles pose in their neighbourhood. Perception of misbehaving juveniles is measured on an ordinal level with values ranging from 0 to 10. Descriptive data are presented in Table 3.11.

Eighteen (1.8%) of the 1002 cases are missing for this variable. The largest number of responses (18%) occurs in value 0, indicating that these respondents perceive that misbehaving juveniles are not at all a problem in their neighbourhood.

Table 3.11: Descriptive Statistics for V105

Mean	4.238	Std. Dev.	3.138
Minimum	.000	Maximum	10.000
Kurtosis	-1.058	Skewness	.232
Std. Error	.100	Missing Cases	18 (1.8%)

V106: PEOPLE LOITERING ON THE STREETS

Respondents were asked to assess how much of a problem people loitering on the streets pose in their neighbourhood. Perception of people loitering is measured on an ordinal level with values ranging from 0 to 10. Descriptive data are presented in Table 3.12.

Table 3.12: Descriptive Statistics for V106

Mean	2.914	Std. Dev.	3.092
Minimum	.000	Maximum	10.000
Kurtosis	-.414	Skewness	.854
Std. Error	.098	Missing Cases	9

Nine of the 1002 cases are missing for this variable. The largest number of responses (35.1%) occurs in value 0, indicating that over one-third of all respondents perceived that people loitering on the streets is not at all a problem in their neighbourhood.

V107: NOISY NEIGHBOURS

Respondents were asked to assess how much of a problem noisy neighbours pose in their neighbourhood. Perception of noisy neighbours is measured on an ordinal scale with values ranging from 0 to 10. Descriptive data are presented in Table 3.13.

Table 3.13: Descriptive Statistics for V107

Mean	1.754	Std. Dev.	2.567
Minimum	.000	Maximum	10.000
Kurtosis	2.202	Skewness	1.703
Std. Error	.081	Missing Cases	2

Two of the 1002 cases are missing for this variable. The largest number of responses (35.1%) occurs in value 0, indicating that more than one-third of all

respondents perceive that noisy neighbours are not at all a problem in their neighbourhood. The data are somewhat skewed to the right.

V108: RUN-DOWN BUILDINGS AND HOUSES

Respondents were asked to assess how much of a problem run-down buildings and houses pose in their neighbourhood. Perception of run-down buildings and houses is measured at an ordinal level with values ranging from 0 to 10. Descriptive data are presented in Table 3.14. Two of the 1002 cases are missing for this variable. The largest number of responses (54.3%) occurs in value 0, indicating that more than half of all respondents perceived that run-down buildings and houses are not at all a problem in their neighbourhood. The data are moderately skewed to the right.

Table 3.14: Descriptive Statistics for V108

Mean	1.628	Std. Dev.	2.448
Minimum	.000	Maximum	10.000
Kurtosis	2.402	Skewness	1.717
Std. Error	.077	Missing Cases	2

V109: DRUG OR ALCOHOL ABUSE

Respondents were asked to assess how much of a problem drug or alcohol abuse pose in their neighbourhood. Perception of drug and alcohol abuse is measured at an ordinal level with values ranging from 0 to 10. Descriptive data are presented in Table 3.15. Sixty-seven (6.7%) of the 1002 cases are missing for this variable. The largest number of responses (44.8%) occurs in value 0, indicating that close to half of all respondents interviewed perceived that drug or alcohol abuse is not at all a problem in their neighbourhood.

Table 3.15: Descriptive Statistics for V109

Mean	2.149	Std. Dev.	2.776
Minimum	.000	Maximum	10.000
Kurtosis	.815	Skewness	1.322
Std. Error	.091	Missing Cases	67 (6.7%)

INCIVIL: OVERALL MEASURE OF INCIVILITIES

The variable INCIVIL represents a composite measure for neighbourhood incivilities (variables v105, v106, v107, v108 and v109). Descriptive data are

presented in Table 3.16.

Table 3.16: Descriptive Statistics for INCIVIL

Mean	1.409	Std. Dev.	.627
Minimum	1.000	Maximum	3.000
Kurtosis	.475	Skewness	1.270
Std. Error	.021	Missing Cases	85 (8.5%)

The values of INCIVIL, producing an ordinal level variable, have been grouped into 3 categories; not at all a problem (0-3= 1), somewhat of a problem (4-6=2) and a big problem (7-10=3). 85 (8.5%) of the 1002 cases are missing for this variable. The largest number of responses (61%) occurs in value 1, indicating that more than half of all respondents surveyed perceive that neighbourhood incivilities are not a problem.

To address assumption issues with multiple regression, INCIVIL will be recoded into a dummy variable showing incivilities as either a problem or not at all a problem (hidisor: not a problem = 0, a problem = 1). Attempts to create two dummy variables for INCIVIL revealed a distribution of 90% - 10% for somewhat of a problem/not a problem. Because this type of distribution capitalizes differences in the category with 10% of responses, it is not worthwhile to retain such a variable for regression analysis. As a result, only one dummy variable

will be used to measure INCIVIL.

Thus, INCIVIL will replace variables V105 - V109 in the analysis.

Although using a variety of measures for neighbourhood incivilities is useful from a theoretical standpoint, the measurement and distribution of responses among the values for each variable indicate that the majority of respondents to this survey are not concerned with such disorder in their communities.

V265: EDUCATION

Respondents were asked to indicate the highest level of education that they had completed at the time of the interview. Education is measured on an ordinal scale with values ranging from 1 to 15. Descriptive data are presented in Table 3.17.

Table 3.17: Descriptive Statistics for V265

Mean	8.576	Std. Dev.	2.568
Minimum	1.000	Maximum	15.000
Kurtosis	-.624	Skewness	.301
Std. Error	.081	Missing Cases	2

Two of the 1002 cases are missing for this variable. The largest number of responses (24.7%) occurs in value 7, indicating that for a quarter of all

respondents interviewed, the highest level of education completed is high school.

V272: HOUSEHOLD INCOME

Respondents were asked to indicate their household income for the past year before taxes and deductions. Income is measured on an ordinal level with values ranging from 0 to 31. Descriptive data are presented in Table 3.18. Three hundred and forty-four (34%) of the 1002 cases are missing for this variable. The largest number of responses (8.3%) occurs in value 19, indicating that household income is well distributed among the values. Strategies for dealing with the high percentage of missing values with this variable will be explored in the next chapter.

Table 3.18: Descriptive Statistics for V272

Mean	17.256	Std. Dev.	8.347
Minimum	1.000	Maximum	31.000
Kurtosis	-.846	Skewness	-.242
Std. Error	.325	Missing Cases	344 (34%)

Descriptive statistics and a preliminary evaluation of assumptions for each of the variables used in the multiple regression and path analysis procedures have been presented. The following chapter presents a more detailed assessment of the assumptions required for multivariate analyses and displays the results of the multiple regression analysis and path analysis.

CHAPTER IV: RESULTS

In order to generate meaningful data analysis, a variety of assumptions regarding the data must first be satisfied. For multiple regression and path analysis, consideration must be given to the following issues: normality, linearity, homoscedasticity, multicollinearity, outliers, case to independent variable ratio and missing data. The first section provides evidence to verify each of these assumptions.

Following the assumptions, the multiple regression equations are presented in detail. Fear of a thief breaking into your home while you are away, fear that someone will use a weapon to take something from you by force, fear that someone will steal your coat when you have left it somewhere unattended, fear that someone will cheat/con you out of money and fear of being the victim of sexual assault are the five dependent variables. A separate regression analysis has been executed for each variable. In addition, a summary variable TOTAL incorporating all five fear variables has been also been used as a dependent variable. Evaluating the comparison between using a single crime-specific variable as opposed to one that combines a variety of offenses will provide useful methodological information for the measurement of fear of crime. More importantly, results from these six regression equations will illustrate which variables are significant in predicting which Winnipeggers are most fearful.

Finally, in order to enhance the findings produced through multiple regression, the results of the path analysis will be presented. To facilitate the use of this methodology, the composite measure 'TOTAL' has been designated the dependent variable. The independent variables, particularly those expressing vulnerability; age, gender and socio-economic status, will be decomposed into direct and indirect effects.

SATISFYING THE ASSUMPTIONS

In this section, assumptions of multiple regression and path analysis are verified. Recalling the previous chapter, descriptive statistics for each variable have been presented. Therefore, in order to avoid repetition, only a summary of the required transformations will be presented.

NORMALITY, LINEARITY AND HOMOSCEDASTICITY

The assumptions of normality, linearity and homoscedasticity can be tested by examining the residual scatterplots, histograms and normal probability plots generated by the computer package "Statistical Package for the Social Sciences" (SPSS). According to Halli and Rao (1992), a distribution is normal when; "for any fixed value of the independent variable, the distribution of the dependent variable is normal with a constant variance but may have different

means"(64). Linearity, expressed through a straight line relationship between residuals and predicted scores, provides the base model for multivariate analysis. Finally, homoscedasticity reflects variability and is violated when the band of residuals is not of approximately equal width across the predicted dependent variable.(Tabachnick and Fidell 1989) In order to assess these assumptions, the residual scattergrams will first be examined.

The scatterplot for V100, fear that a thief will break into your home while you are away, presents a fairly rectangular distribution although it appears moderately skewed to the left. V101, fear that someone will use a weapon to take something from you also has a slightly negative skew but the distribution is largely rectangular. V102, fear that someone will steal your coat when left somewhere unattended, is definitely skewed to the left. Although the scatterplot indicates there may be a failure of normality, further analysis of the residuals is necessary. V103, fear that someone will cheat or con you out of a large sum of money is also somewhat irregular with a large number of responses in the 0 category. As a result, the distribution is skewed to the left. V104, fear that someone will sexually assault you, yields a rectangular distribution. This variable is also minutely skewed to the left. Finally, TOTAL, the composite dependent variable has a rectangular distribution with a slightly negative skew.

To varying degrees, all of the variables exhibit skewness. However, except for V102 and V103, the distributions do resemble rectangles and therefore pass these assumptions. An examination of the histograms will further

clarify the validity of these assumptions.

As a test of normality, the histogram reveals any skewness or kurtosis in a distribution. Norusis (1993) emphasizes that; "it is unreasonable to expect the observed residuals to be exactly normal - some deviation is expected because of sampling variation"(329). The histogram for V100, fear that a thief will break into your home when you are away, presents a slightly irregular distribution. V101, fear that someone will use a weapon to take something from you has a negatively skewed distribution. Despite an unusual scattergram, the histogram for V102, fear that someone will steal your coat when it has been left unattended, has a relatively normal distribution. V103, fear that someone will cheat or con you out of a large sum of money, does not present a normal histogram. The left side of the distribution appears normal, however, the right side contains very few values and does not resemble a curve. V104, fear of being sexually assaulted has a fairly normal histogram. Finally, TOTAL, the composite measure of fear, also has a moderately well-balanced histogram.

An analysis of the histograms indicates that V103 is slightly irregular while the other four equations are acceptable. The normal probability plots provide the final criteria for evaluating normality.

Normal probability plots display the observed distribution of residuals against the expected normal distribution. Normality is approved when the data points converge around the straight line. (Norusis 1993) The normal probability plot for V100, fear that a thief will break into your home while you are away,

indicates a slight dip below the line at the bottom and a corresponding dip above the line at the top. Overall, this variable appears to be normal. For V101, fear that someone with a weapon will take something from you, a few observed values are slightly below their expected levels but generally, normality is achieved. The normal probability plot for V102, fear that someone will steal your coat when left unattended, shows two virtually identical lines. For V103, fear that someone will cheat or con you out of a large sum of money, the observed values diverge moderately about the midway point of the expected values. This result suggests that normality may not be achieved. Overall, V104, fear of being sexually assaulted presents congruent distributions. Finally, the observed and expected distributions for TOTAL are almost identical.

An evaluation of the scattergram, histogram and normal probability plot for each regression equation indicates that all of the variables, except for V103, meet the assumptions. However, as indicated in Chapter III, $\log_{10}$ and $\log(10+1)$ transformations failed to significantly improve the distributions. As a result, V103 may be used in its untransformed state provided that results are interpreted with caution.

MULTICOLLINEARITY

Multicollinearity, another assumption required for multivariate analysis,

occurs when independent variables are highly correlated with each other. Tabachnick and Fidell (1989) suggest that failure to prevent multicollinearity does not invalidate the results so much as weaken them because it is difficult to separate the effects that each of the variables exerts on the dependent variable. A correlation matrix presents information to evaluate the existence of multicollinearity.

A review of the zero-order correlation matrices indicates that none of the bivariate correlations approximate .70. In fact, the strongest correlation is between neighbourhood disorder and neighbourhood satisfaction at .37. Thus, multicollinearity does not present a problem among these variables.

OUTLIERS

Outliers are extreme data points which may skew results. SPSS provides two strategies in order to identify the existence of outliers in the data. Casewise plots present information for cases with standardized residuals with large values. Mahalanobis distance displays the five highest and lowest values for each equation. A frequency plot of each variable also yields basic information on the distribution. Examining the plots and the Mahalanobis distance indicates that there are no outliers in the data.

MISSING DATA

There are three processes available for dealing with missing data; pairwise or listwise deletion and mean substitution. With the pairwise technique, cases with missing data are matched and deleted as a pair. Listwise maintains all variables included in the analysis and eliminates cases with missing values. This is the default for the regression procedure in SPSS. Mean substitution takes the mean for the variable and assigns it to the cases with missing values. A comparison of the frequencies for variables in both the general survey and the subset of cases with missing values was conducted. The distribution of the missing values closely approximates the distribution of the overall sample. This analysis indicates that there are no significant differences between the subsample of missing values and the overall sample. As a result, mean substitution has been used in the regression analysis. By adopting this measure, a larger sample size may be maintained through both the regression and path analyses thereby adding to the quality of the models. The alternative to adopting the mean substitution approach would result in the loss of 344 cases from household income, representing a loss of 34% of the total number of cases.

The rest of the variables used in the analyses had 10% or fewer missing cases.

CASE TO INDEPENDENT VARIABLE RATIO

The case to variable ratio assumes that there are enough cases in the data set to support the analysis of a certain number of independent variables. An acceptable ratio is considered 25 cases for each independent variable.

(Tabachnick and Fidell 1989) In this research project, there are 9 independent variables and a total of 1002 cases. As a result of adopting the mean substitution approach to missing cases, the case to variable ratio is 1002:9 or 111.3:1. This figure certainly exceeds the recommended 250 cases for a model with a comparable number of independent variables.

After evaluating these assumptions for multivariate analysis, it is concluded that all of the variables are acceptable. V103, fear that someone will cheat or con you out of a large sum of money, is weak in terms of normality but transformations attempting to improve the distribution have failed. With cautious interpretation of V103, the multiple regression analysis and path analysis may proceed.

MULTIPLE REGRESSION ANALYSIS

Regression analysis is useful to identify the strength of the relationship between a dependent variable and a set of independent variables and then to determine, where appropriate, the significance of each independent variable in that relationship. (Tabachnick and Fidell 1989) The computer software "Statistical Package for the Social Sciences" (SPSS) provides a regression programme that facilitates testing the models developed for this research project. The "regression enter" procedure has been employed for each regression equation. This technique generates a variety of statistics by entering all of the independent variables as a group regardless of their individual contribution to R^2 . This technique permits testing the overall model as well as determining significant predictors.

Overall, six regression equations have been produced reflecting each of the 6 dependent variables. In order to test the crime specific approach to explaining fear of crime, each dependent variable was tested using gender, age, household income, education, satisfaction with police, perception of neighbourhood crime rate, satisfaction with neighbourhood as a place to live, perception of neighbourhood incivilities, and previous victimization experience in the past year.

The following section presents the findings from the multiple regression analyses, indicating which models are useful and which variables produce

significant effects in predicting fear of crime.

“TOTAL” - COMPOSITE VARIABLE

In the first regression equation, the effects of gender, age, household income, education, previous victimization, level of neighbourhood incivilities, perception of neighbourhood crime rate, neighbourhood attachment and level of satisfaction with police services on TOTAL are tested. Recalling Chapter III, TOTAL is a composite variable that represents level of worry reported by respondents about five specific crimes. According to the theoretical model, these variables should all produce some effect on the dependent variable, with gender, age, household income and education (socio-economic status) producing the strongest effects. The findings should indicate that people who are vulnerable, in particular, older and/or younger women with lower levels of education and in the low income bracket express the most fear of victimization.

Table 4.1 presents the unstandardized regression coefficients (B) and intercept, the standardized regression coefficients (b), sr^2 , and R, R^2 and R^2_{adj} . With all variables in the equation, $R^2 = .20$ ($R^2_{adj} = .19$) indicating that this combination of independent variables accounts for 20% of the variance in predicting which residents are worried about becoming the victim of a crime. Of that 20%, virtually all (.18) of the variance is explained by the five significant independent variables with the rest (.02) generated jointly by all 9 independent

variables. The F values for the standardized regression coefficients as well as the 95% confidence intervals indicate that five of the nine independent variables produce significant effects on TOTAL.

HIDISOR (.228) produces a moderate effect on TOTAL, suggesting that residents who perceive that disorder is a problem in their neighbourhood are more likely to worry about being victimized. This is consistent with the findings of Covington and Taylor (1991).

WOMEN (.254) produces a strong effect, indicating that women may be more likely than men to report feeling worried about becoming the victim of a crime. This finding is supported by the research of Taylor and Hale (1986), Warr (1984) and Skogan and Maxfield (1981) and is consistent with the theoretical model which posits that people who are vulnerable within society are more likely to be fearful.

CRATE (-.098) has a weak effect on the dependent variable. This suggests that people who perceive an increase in their neighbourhood crime rate are more likely to report being worried about crime than are those who perceive a stable or decreasing rate. Research conducted by Skogan (1990) supports this finding.

V265 (-.151) also has a weak effect on the dependent variable. This indicates that there is a relationship between fear of crime levels and number of years of education. People with fewer years of education are more likely to report being fearful.

Table 4.1: Multiple Regression of 9 Independent Variables on TOTAL - Composite Measure for Fear of Crime				
Variables	B	b	sr ²	
Age (V26)	-.010	-.139	.021	R ² = 0.20 R ² _{adj} = 0.19 R= 0.44 F (9,992) = 26.746 p<.0001 Intercept = 2.859 sr ² (sig) = .18 sr ² (total) = .02
Gender (WOMEN)	.587	.254	.073	
Household Income (v272)	.008	.049	--	
Education (V265)	-.107	-.151	.023	
Sat. with Police (POLICE)	-.010	-.004	--	
Neigh Sat. (SOMESAT)	.048	.014	--	
Victim of Crime (VICTIM)	.061	.023	--	
Crime Rate (CRATE)	-.225	-.098	.011	
Neigh Disorder (HIDISOR)	.571	.228	.051	

Finally, V26 (-.139) has a weak effect on TOTAL. This finding suggests that younger people are more likely to worry about becoming the victim of these types of crimes than older people. This finding is consistent with the theoretical model guiding this research. That is, that because some younger people are vulnerable as manifest by physical, social and economic conditions, they are more likely to worry about being victimized.

Although this model is significant, the nine predictors do not account for a majority of the variance in the dependent variable. Using a composite variable limits the analysis because one of the dependent variables may be pulling respondents away from the average response. This appears to be the case with

sexual assault. However, this overall model does serve as a benchmark for the following analysis, permitting an evaluation of the usefulness of different measures of fear of crime. This first regression, using TOTAL, indicates the value and potential limitations of using a single, general model of fear of crime. Although significant, the amount of variance explained by the model is not high indicating that the model is not very useful, or alternatively, that the method of measurement requires retooling. The remainder of this section will provide some information on the merits of measuring fear of specific crimes.

V100: FEAR THAT A THIEF WILL BREAK INTO YOUR HOME

This regression equation considers the strength of gender, age, household income, education, police, neighbourhood incivilities, neighbourhood satisfaction, previous victimization and perception of neighbourhood crime rate in predicting worry that a thief will break into your home when you are away. It is assumed that all of the variables will have an effect on the dependent variables.

Table 4.2 displays the unstandardized regression coefficients (B) and intercept, the standardized regression coefficients (*b*), sr^2 , and R , R^2 and R^2_{adj} with all variables in the equation.

When all variables are entered into the equation, $R^2 = .07$ ($R^2_{adj} = .06$). The value for R^2 is extremely low indicating that these nine independent variables account for virtually none of the variance in predicting which residents

are fearful of a thief entering their home. Of the 7% of the variance explained, more than half (.041) is accounted for by the three significant predictors.

Table 4.2: Multiple Regression of 9 Independent Variables on Fear that a Thief will Break into Your Home While You are Away				
Variables	B	b	sr²	
Age (V26)	-.001	-.055	--	R ² = .07
Gender (WOMEN)	.641	.100	.010	R ² _{adj} = .06
Household Income (v272)	.006	.119	.013	R = .26
Education (V265)	-.091	-.047	--	F(9,992) = 7.824
Sat. with Police(POLICE)	-.007	-.001	--	p < .0001
Neigh Sat. (SOMESAT)	.539	.058	--	Intercept = 4.589
Victim of Crime (VICTIM)	.046	.119	--	sr ² (sig) = .041
Crime Rate (CRATE)	-.592	-.093	--	sr ² (total) = .029
Neigh Disorder(HIDISOR)	.989	.143	.018	

Although the overall model is not significant, consideration of the standardized regression coefficients reveal three significant predictors. WOMEN (.100) produces a weak effect on this measure of fear. This suggests that women are somewhat more likely than men to report being fearful of a thief breaking into their home. The coefficient for V272 (.119) also has generated a weak effect on this dependent variable, indicating that people with higher incomes are more likely to report fear of having their home burglarized. The

higher value (.143) for HIDISOR implies that people who perceive that neighbourhood disorder is a problem are more likely than respondents who are not at all concerned about neighbourhood disorder to be worried about becoming the victim of this type of crime. These findings correspond to research results of Skogan (1990) and Lewis and Salem (1981).

CRATE (-.093) approaches significance in this model. This suggests that people who perceive an increase in their neighbourhood crime rate are more likely to be worried about break and enter than those people who perceive a stable or declining crime rate.

This multiple regression analysis indicates that women, people who are concerned about neighbourhood disorder and people with higher incomes may be more likely to report being concerned about having their home burglarized.

V101: FEAR THAT YOU WILL BE MUGGED BY SOMEONE WITH A WEAPON

This regression equation considers the strength of the independent variables in predicting the respondent's fear of being mugged. The equation tests the significance of gender, age, household income, education, satisfaction with police, perception of neighbourhood incivilities, satisfaction with neighbourhood, perception of crime rate and previous victimization on fear that you will be mugged by someone with a weapon.

Table 4.3 displays the unstandardized regression coefficients (B) and

intercept, the standardized regression coefficients (b), sr^2 , and R , R^2 and R^2_{adj} with all variables in the equation.

When all variables are entered into the equation, $R^2 = .13$ ($R^2_{adj} = .12$). The value for R^2 is rather low indicating that these nine independent variables account for little of the variance in predicting which residents are fearful of being mugged by someone with a weapon. More than three-quarters (.10) of the variance is explained by the three significant predictors.

An examination of the standardized regression coefficients reveals three variables which generate significant effects. HIDISOR (.239) produces a moderate effect, implying that people who perceive that neighbourhood disorder is a problem are more likely than respondents who are not at all concerned about neighbourhood disorder to be worried about becoming the victim of this type of crime.

WOMEN (.171) produces a moderate effect, suggesting that women are more likely to report being worried about being robbed by someone wielding a weapon than men. This is consistent with the theoretical model which argues that women, as vulnerable people in society, will be more likely to express concerns about victimization.

V265 (-.136) generates a weak negative effect indicating that people with lower levels of education report being fearful of mugging.

V26 (-.063) approaches significance in this model. This value suggests that younger people are more likely than older people to be afraid of being

mugged.

Table 4.3: Multiple Regression of 9 Independent Variables on Fear that Someone With a Weapon Will Steal Something From You				
Variables	B	b	sr²	
Age (V26)	-.012	-.063	--	R ² =.13
Gender (WOMEN)	1.073	.171	.032	R ² _{adj} =.12
Household Income (v272)	.023	.050	--	R=.362
Education (v265)	-.260	-.136	.019	F(9,992) = 16.592
Sat. with Police (POLICE)	.139	.019	--	p<.0001
Neigh Sat. (SOMESAT)	.098	.011	--	Intercept = 4.218
Victim of Crime (VICTIM)	.174	.024	--	sr ² (sig) = .10
Crime Rate (CRATE)	-.375	-.060	--	sr ² (total) = .03
Neigh Disorder (HIDISOR)	1.630	.239	.052	

Although this model is significant, it does not account for much variance. Overall, this model indicates that women, people with lower levels of education and people concerned about neighbourhood disorder are significant predictors. Age also approaches significance indicating that younger people may be more likely to report worry about being mugged. However, given the substantial amount of variance contributed by the significant predictors, it is evident that the full complement of variables is not necessary to produce a significant and useful model.

V102: FEAR THAT YOU WILL HAVE YOUR COAT STOLEN WHEN UNATTENDED

In this equation, the significance of the set of independent variables on fear that you will have your coat stolen will be tested. The independent variables include age, gender, household income, education, satisfaction with police, perception of neighbourhood crime rate, satisfaction with your neighbourhood, perception of neighbourhood incivilities and previous victimization experience. It is expected that all of these variables will affect the dependent variable to produce a significant model that predicts which Winnipeggers are worried about having their coat stolen.

Table 4.4 displays the unstandardized regression coefficients (B) and intercept, the standardized regression coefficients (*b*), sr^2 , and R , R^2 and R^2_{adj} with all variables in the equation.

When all variables are entered into the equation, $R^2 = .10$ ($R^2_{adj} = .10$) indicating that the nine independent variables account for virtually none of the variance in predicting which residents are fearful of someone stealing their coat when left unattended. Values for the squared partial correlations (sr^2) define the source of the variance; more than half (.065) of the variance is contributed by the significant predictors with the rest (.035) jointly contributed by the complete set of variables.

Table 4.4: Multiple Regression of 9 Independent Variables on Fear that Someone will Steal Your Coat When Left Unattended				
Variables	B	b	sr²	
Age (V26)	-.036	-.175	.030	R ² = .10
Gender (WOMEN)	.122	.018	—	R ² _{adj} = .10
Household Income (v272)	-.008	-.016	—	R = .322
Education (V265)	-.122	-.059	—	F (9,992) = 12.765
Sat. with Police (POLICE)	.032	.004	—	p < .0001
Neigh Sat. (SOMESAT)	-.474	-.048	—	Intercept = 6.499
Victim of Crime (VICTIM)	.569	.072	—	sr ² (sig) = .065
Crime Rate (CRATE)	-.743	-.110	.012	sr ² (total) = .035
Neigh Disorder (HIDISOR)	1.173	.159	.023	

Considering the standardized regression coefficients, V26, CRATE and HIDISOR produce significant effects. CRATE (-.110) produces a moderate effect on this measure of fear suggesting that people who perceive an increase in their neighbourhood crime rate are more likely to be worried about having their coat stolen than those people who perceive a stable or declining crime rate.

The moderate value (.159) for HIDISOR implies that people who perceive that neighbourhood disorder is a problem may be more likely than respondents who are not at all concerned about neighbourhood disorder to be worried about becoming the victim of this type of crime.

V26 (-.175) also produces a moderate positive effect on fear, indicating

that younger people are more likely to be concerned with having their coat stolen than older people. These findings are not surprising considering that younger people and people who live in lower-income neighbourhoods with physical disorder are more likely to frequent environments, such as bars and restaurants where coat security is limited.

This multiple regression analysis indicates that younger people, people concerned with neighbourhood disorder and people who perceive an increase in their neighbourhood crime rate are most likely to be concerned about having their coat stolen when it has been left somewhere unattended. The values for the squared partial correlations indicate that this model is useful, that is, the joint contribution of variance is significant.

V103: FEAR THAT YOU WILL BE CHEATED/CONNED OUT OF YOUR MONEY

The equation for V103 tests the effects of age, gender, household income, education, perception of neighbourhood crime rate, satisfaction with neighbourhood, perception of neighbourhood incivilities, previous victimization experience and satisfaction with police service on predicting the respondent's fear of being cheated/conned out of a large sum of money. It is assumed that all of the variables will account for some of the variance in the model.

Table 4.5 displays the unstandardized regression coefficients (B) and intercept, the standardized regression coefficients (b), sr^2 , and R , R^2 and R^2_{adj}

with all variables in the equation.

Table 4.5: Multiple Regression of 9 Independent Variables on Fear that You will be Cheated/Conned Out of a Large Sum of Money				
Variables	B	b	sr ²	
Age (V26)	-.021	-.106	.011	R ² = .09
Gender (WOMEN)	.060	.009	--	R ² _{adj} = .08
Household Income (v272)	.013	.026	--	R = .299
Education (V265)	-.297	-.149	.022	F (9,992) = 10.804
Sat. with Police (POLICE)	.005	.001	--	p < .0001
Neigh Sat. (SOMESAT)	.251	.027	--	Intercept = 4.447
Victim of Crime (VICTIM)	-.110	-.015	--	sr ² (sig) = .066
Crime Rate (CRATE)	-.382	-.059	--	sr ² (total) = .023
Neigh Disorder (HIDISOR)	1.374	.194	.033	

When all variables are entered into the equation, $R^2 = .09$ ($R^2_{adj} = .08$).

The value for R^2 is extremely low indicating that the nine independent variables account for virtually none of the variance in predicting which residents are fearful of being cheated/conned out of money. Of the 9% of the variance explained, two-thirds (.066) is contributed by the three significant predictors. The rest (.023) results from a joint contribution by all nine independent variables.

Considering the standardized regression coefficients, HIDISOR, V265 and V26 produce significant effects. HIDISOR (.194) produces a moderate effect,

suggesting that people who perceive neighbourhood disorder as a problem are more likely to be worried about being cheat/conned out of money than those people who do not believe that neighbourhood disorder is a problem.

V26 (-.106) also produces a moderate effect on the dependent variable. This suggests that younger people are more likely to worry about being cheated/conned out of their money than older people.

Finally, V265 (-.149) generates a moderate effect indicating that people with lower levels of education are more likely to report fear of being cheated or conned out of money.

With cautious interpretation of the findings, this multiple regression analysis suggests that people who report a high level of concern about neighbourhood disorder, people with lower levels of education and younger people are most likely to be concerned about being conned or cheated out of money.

V104: FEAR THAT YOU WILL BE SEXUALLY ASSAULTED

The final regression equation tests the significance of age, household income, education, perception of neighbourhood crime rate, satisfaction with police service, perception of neighbourhood incivilities, satisfaction with neighbourhood and previous victimization in predicting fear of sexual assault. As explained in Chapter III, in order to achieve a normal distribution of residuals,

men have been excluded from this analysis.

Table 4.6 displays the unstandardized regression coefficients (B) and intercept, the standardized regression coefficients (b), sr^2 , and R , R^2 and R^2_{adj} with all variables in the equation.

Table 4.6: Multiple Regression of 8 Independent Variables on Fear that You Will Be the Victim of Sexual Assault				
Variables	B	b	sr^2	
Age (V26)	-.051	-.261	.063	$R^2 = .12$
Household Income (v272)	.030	.057	—	$R^2_{adj} = .11$
Education (V265)	-.186	-.087	—	$R = .350$
Sat. with Police (POLICE)	-.146	-.019	—	$F(8, 515) = 8.974$
Neigh Sat. (SOMESAT)	-.097	-.010	—	$p < .0001$
Victim of Crime (VICTIM)	.081	.010	—	Intercept = 7.339
Crime Rate (CRATE)	-.253	-.038	—	$sr^2(\text{sig}) = .089$
Neigh Disorder (HIDISOR)	1.209	.167	.026	$sr^2(\text{total}) = .031$

When all variables are entered into the equation, $R^2 = .12$ ($R^2_{adj} = .11$). The value for R^2 is rather low indicating that the eight independent variables account for little of the variance in predicting which women are worried about being sexually assaulted. In deconstructing the variance, 74% (.089) is accounted for by two significant variables. The remainder (.031) has been jointly contributed by the set of predictor variables.

An examination of the standardized regression coefficients indicates that two of the independent variables produce significant effects. V26 produces a strong effect (-.261) on this measure of fear indicating that younger women are more worried about becoming the victim of sexual assault than older women. This resonates with the social climate that badgers young women about personal security. By contrast, older women are less likely to have received such messages and initially were socialized in a context that tolerated or even encouraged the victimization of women.(Stanko 1990)

HIDISOR produces a moderate effect (.167) on the dependent variable. This value suggests that women who perceive neighbourhood disorder to be a problem are also concerned about being sexually assaulted. This is consistent with research conducted by Pain (1996), Covington and Taylor (1991), Baumer (1985) and Lewis and Salem (1981).

V265 (-.087) approaches significance. This indicates that women with lower levels of education are more likely to report fear of sexual assault.

This multiple regression analysis indicates that younger women and women who are worried about neighbourhood disorder are most likely to be concerned about sexual assault. However, the small amount of shared variance indicates that all of the variables in this model do not significantly contribute to predicting which women worry about becoming the victim of sexual assault.

The multiple regression equations for each dependent variable reveal a

consistent pattern of significance for the vulnerability variables age and gender, and the socio-economic status indicators of household income and education. Unfortunately, the total of variance explained by these models is quite low relative to the composite dependent variable model and to other models generated in social science research. Despite the low values for r^2 , the findings do provide useful information on significant predictors. As a result, asking one general question about fear of crime, followed by subsequent questions which offer different situations is a useful methodological improvement to asking only one general question or asking only specific questions.

The path analysis model should yield additional information on the strength of the multiple regression findings by identifying indirect effects that each variable exerts on fear of crime.

PATH ANALYSIS

Path analysis is an effective method to calculate direct and indirect effects of an independent variable on the dependent variable. Through this method, the avenues an independent variable takes to affecting the depending variable may be identified. Of particular interest to this research project is identifying and evaluating the degree to which vulnerability transmits through the other independent variables to affect fear of crime levels. Recalling Chapter III, vulnerability is manifest in age, gender and socio-economic status. Thus, in

order to test the theory that vulnerability affects fear of crime, the effects of the vulnerability variables on each independent variable as well as the dependent variable TOTAL will be measured. Techniques developed by Alwin and Hauser (1975) permit the calculation of all direct and indirect effects in this recursive model. To simplify the path analysis, TOTAL, the composite measure for fear of crime, will serve as the dependent variable.

The total, direct and indirect effects of the independent variables on TOTAL are presented in Table 4.7. A cursory glance at the figures indicates that very little of the effects of age, gender or socio-economic status (household income and education) are transmitted through other variables to affect fear of crime. Because the effect of spuriousness on the variables was quite small, perhaps due to the sample size, only the direct and indirect effects will be discussed.

None of the variables, including those reflecting vulnerability, exhibit a substantial indirect effect on TOTAL. Determining the percentage of the total effect mediated by indirect effects, achieved by dividing the indirect effects by the sum of the direct and indirect effects, may yield further information.

Table 4:7: Total, Indirect and Direct Effects of the Predetermined Variables on the Dependent Variable TOTAL									
Pre-determined Variable	Total Effect	Indirect Effects via							Direct Effects
		Hh Inc	Educat	Hidisor	Police	Victim	Somesat	Crate	
Age	-.244	.02	.003	-.06	.005	.001	.007	-.02	-.166
Hh Inc	-.153	—	—	-.05	-.005	.001	-.02	.02	-.056
Education	-.158	-.01	—	-.02	-.005	.003	-.015	-.023	-.150
Gender	.309	.007	.006	.014	—	.003	.003	.016	.259
Hidisor	.363	—	—	—	.006	—	.03	.036	.288
Victim	.117	—	—	—	.009	—	—	.037	.071
Crate	-.250	—	—	—	—	—	-.064	—	-.186
Police	.057	—	—	—	—	—	—	—	.057
Somesat	.099	—	—	—	—	—	—	—	.099

Age has an indirect effect of -.04, a direct effect of -.166 and a total effect of -.244. Considering all possible paths, close to one-quarter of the effect of age on fear of crime is mediated through V272, V265, Hidisor, Police, Victim, Somesat and Crate. In particular, the largest portion of the effect is contributed through Hidisor. This indicates that younger people are more likely to perceive neighbourhood disorder and of these young people, those who perceive neighbourhood disorder are more likely to worry about becoming the victim of a crime.

For education, the total effect (-.158) is subdivided into -.07 for indirect and -.150 for direct effects on TOTAL. More than 30% of its effect on fear of crime is mediated through V272, Police, Somesat and Crate. The strongest path

is though Hidisor. Although the path coefficients are low, this result suggests that people with a low socio-economic status are more likely to perceive neighbourhood disorder, and those who perceive neighbourhood disorder are more likely to worry about becoming the victim of a crime.

Income has a total effect of $-.153$, a direct effect of $-.056$ and an indirect effect of $-.054$. Examining all paths, almost half of the effect of income on fear of crime is mediated through HIDISOR, POLICE, VICTIM, SOMESAT and CRATE. Virtually all of the effect is contributed through HIDISOR. This suggests that people with lower incomes are more likely to report problems with neighbourhood disorder and those who report neighbourhood disorder are more likely to worry about being victimized.

Finally, gender has $.309$ in total effects, $.05$ in indirect effects and $.259$ in direct effects. This distribution indicates that only 16% of the effect of gender on fear of crime is mediated through V272, V265, Hidisor, Police, Victim, Somesat and Crate. The largest indirect effect is mediated through Crate.

Despite the seemingly large percentages, the suppressor effects for age, household income, education and gender are quite small, thereby producing very little influence in the ultimate outcome of the model. The remaining contextual variables produced even smaller effects.

In table 4.8, the total, direct and indirect effects of age, socio-economic status and gender on the other independent variables is evaluated. Relative to the effects on TOTAL, the vulnerability variables mediate through independent

Table 4:8 Total, Indirect and Direct Effects of the Predetermined Variables on Hidisor, Hhld Income, Education, Police, Victim and Somesat

Dependent Variable	Pre-determined Variable	Total Effect	Indirect Effects via					Direct Effects
			HhInc	Educat	Hidisor	Victim	Crate	
Hidisor	Age	-.199	.005	.008	--	--	--	-.218
	Gender	.047	.021	.002	--	--	--	.024
	Hhld Inc	-.169	--	--	--	--	--	-.169
	Education	-.082	-.034	--	--	--	--	-.048
Hh Inc	Age	-.06	--	-.03	--	--	--	-.027
	Gender	-.13	--	-.01	--	--	--	-.120
	Education	.204	--	--	--	--	--	.204
Educat	Age	-.161	--	--	--	--	--	-.161
	Gender	-.042	--	--	--	--	--	-.042
Police	Age	-.096	.002	.012	-.02	-.02	--	-.066
	Hhld Inc	-.044	--	--	-.016	--	--	-.078
	Education	-.093	.016	--	-.005	.005	--	-.074
	Gender	.009	.005	.003	.003	-.008	--	.001
	Hidisor	.114	--	--	--	--	--	.114
	Victim	.159	--	--	--	--	--	.159
Victim	Age	-.155	-.005	-.005	--	--	--	-.149
	Hhld Inc	.020	--	--	--	--	--	.020
	Education	.036	.004	--	--	--	--	.032
	Gender	-.051	.004	-.001	--	--	--	-.048
Somesat	Age	-.073	.004	.011	.005	--	-.02	-.014
	Hhld Inc	-.233	--	--	-.049	--	-.019	-.165
	Education	-.147	-.03	--	-.024	--	-.02	-.069
	Gender	.037	.021	.003	.014	--	.014	-.015
	Hidisor	.324	--	--	--	--	.032	.292
	Crate	-.163	--	--	--	--	--	-.163

variables to affect other independent variables.

By treating each independent variable as the dependent variable and then generating the zero-order correlation coefficients, the strength of the effects of age, gender and socio-economic status may be obtained.

Considering Hidisor as the dependent variable, age has a total effect value of $-.199$, direct effects of $-.218$ and indirect effects of $.013$. Almost two-thirds of the effect of age on Hidisor is mediated through Education. This indicates that younger people are more likely to have a lower level of education, and those with a lower socio-economic status are more likely to perceive neighbourhood disorder as a problem. Education only directly affects Hidisor with a total effect of $-.082$. This indicates that people with a lower education may be more likely to perceive neighbourhood disorder as a problem than those people with a higher education. Gender affects Hidisor directly with an effect of $.047$ and indirectly through V272 at $.02$. The indirect effect represents almost half of the total effect of gender on Hidisor. Although the overall effect is small, the figure suggests that women are slightly more likely to have a higher household income and those with higher household income are more likely to perceive neighbourhood disorder as a problem.

Age, household income, education and gender are also mediated through several independent variables to affect perception of police. Age has a total effect of $-.096$, an indirect effect of $-.026$, and a direct effect of $-.066$. Age travels through V265, V272, Hidisor and Victim. The largest indirect effect for

age is through Victim. Fully one-fifth of the total effect of age is mediated through Victim. This demonstrates that younger people are more likely to be victimized directly or indirectly through interactions with other people and that people who have been victimized are less likely to express satisfaction with their police service.

For V265, the total effects (-.093) are comprised of both indirect effects, mediated through V272 (.016), HIDISOR (-.005) and VICTIM (.005) and direct effects (-.074) affecting Police. Almost 20% of the total effect is mediated through V272. This indicates that people with lower levels of education are more likely to report a lower household income and those who report low household income are less likely to be satisfied with police services. Given the relative size of the effect, the reliability of this conclusion is limited.

Household income is mediated through Hidisor (-.016) to affect satisfaction with police services. Close to 20% of household income on police travels through perception of neighbourhood disorder.

The total (-.009), indirect (-.007) and direct (-.001) effects for gender are also considerably weak. Similar to education, the strongest mediated effect travels through V272.

Age, education, household income, and gender also indirectly affect neighbourhood satisfaction. Age has a total effect of -.073, no total indirect effect and a direct effect of -.014. It has paths through V265, V272, Hidisor and Crate. The strongest indirect effect travels through CRATE with a value of -.002.

This indicates that younger people are more likely to perceive an increasing neighbourhood crime rate as a problem and those who perceive an increasing neighbourhood crime rate are less likely to report being satisfied with their neighbourhood as a place to live.

For V265, the total effect (-.147), indirect (-.074) and direct (-.069) effects are all more substantial than the ones for V26. Close to one-quarter of the total effects of V265 on Somesat pass through Hidisor. This indicates that those with a lower level of education are more likely to report neighbourhood disorder and those who report neighbourhood disorder are more likely to be unsatisfied with their neighbourhood as a place to live.

Gender produces a total effect of .037, a direct effect of .052 and a total indirect effect of -.01 on Somesat. The strongest effect (.021) travels through household income. This path suggests that women may be more likely to have a higher household income and those with a higher household income are more likely to report neighbourhood satisfaction. This result is consistent with the general findings in the literature on neighbourhood attachment and satisfaction.

Household income has a total direct effect of -.233, a direct effect of -.165 and an indirect effect of -.068 on neighbourhood satisfaction. The strongest effect (-.05) is mediated through HIDISOR, indicating that people with a lower household income are more likely to perceive neighbourhood disorder and those people who perceive neighbourhood disorder are more likely to report neighbourhood dissatisfaction.

The results of this path analysis indicate that the variables reflecting vulnerability, that is age, the socio-economic status indicators of household income and education, and gender, do not produce significant indirect effects. Although it is possible to speculate on the indirect effects from the results of the path coefficients, the values of the effects are so small as to preclude any definitive conclusion about the strength and validity of vulnerability in determining fear of crime.

CHAPTER V: DISCUSSION

As indicated in the statement of the problem section, this research project contains several aims. The central hypothesis of the research argues that the concept of vulnerability, expressed through age, gender and socio-economic status, both directly and indirectly affects fear of crime. In addition, the applicability of fear of crime predictors commonly included in the international literature has been evaluated within a Canadian context through multiple regression and path analysis procedures. New measurement techniques for both dependent and independent variables have been included in the Winnipeg Area Study. The usefulness of these techniques in advancing fear of crime research has been demonstrated. Finally, the theory that fear of sexual assault leads to heightened fear of other crimes has been tested.

In this chapter, the findings from the previous results chapter will be discussed and summarized according to their impact on the study of fear of crime in Canada. The research aims outlined above will be evaluated within this context.

TESTING THE HYPOTHESIS

In order to accept or reject the vulnerability hypothesis, the multiple regression equations and path analysis results must be examined, paying

particular attention to age, gender and the socio-economic status indicators of household income and education. Multiple regression focuses on the direct relationships between independent variables and the dependent variable and provides the amount of variance explained by the set of independent predictors.

MULTIPLE REGRESSION

Results for TOTAL, the composite dependent variable for fear of crime, indicate that nearly one-fifth of the variance is explained by the combination of age, gender, household income, education, neighbourhood disorder, previous victimization experience, perception of police service, neighbourhood satisfaction and perception of neighbourhood crime rate. Gender presents a strong influence and neighbourhood disorder generates a moderate influence on the total amount of explained variance. Age, education and perception of neighbourhood crime rate, although weak, also account for some of the explained variance in this model. Household income does not offer a significant contribution to explaining the composite measure for fear of crime.

Close to half of the variance accounting for fear of having your home robbed while you are away is explained by gender, household income and neighbourhood disorder. Despite the significance of these variables, the overall explanatory value of this model is not significant.

For fear that someone with a weapon will take something from you by

force, virtually all of the variance is explained by the following predictors; gender, education and perception of neighbourhood disorder. Examining the specific contributions of variables, perception of neighbourhood disorder and gender produce a significant effect on the dependent variable. Education yields a weak effect. Although age approaches significance, its value is low.

One-third of the variance for fear of having your coat stolen when left somewhere unattended is explained by the full group of predictors. Age produces a moderate effect, indicating that younger people are more worried about having their coat stolen than older people. Both perception of crime rate and perception of neighbourhood disorder also generate a moderate effect on the dependent variable. However, neither gender nor the socio-economic status indicators of household income and education are significant independent predictors of fear, although they do contribute to the overall model.

Almost one-quarter of the variance for fear of being cheated or conned out of a large sum of money is explained by the entire set of predictors. Age, education and perception of neighbourhood disorder are all significant predictors, indicating that younger people, people with lower levels of education and people concerned about neighbourhood disorder may be more likely to report being worried about this type of crime. Gender and household income failed to offer meaningful contributions to the dependent variable.

Close to three-quarters of the variance accounting for fear of sexual assault is determined by two significant predictors, age and perception of

neighbourhood disorder. Age produces a strong effect whereas neighbourhood disorder generates a moderate effect. Gender is an intricate factor in this model. As indicated in the methodology chapter, including men and women produced a non-linear relationship. Women are much more likely to report fear of sexual assault than men. Age is also a significant factor in accounting for the variance in the model. This indicates that younger women report being more worried about becoming the victim of sexual assault than older women. The socio-economic status indicators of household income and education do not have a strong independent effect on fear of being sexually assaulted.

Considering the direct effects of age, gender, household income and education on the varied measures of fear of crime, it is evident that all four variables, combined with the remaining independent variables, contribute to the overall amount of explained variance and in several cases are significant independent predictors. Gender is the most significant of the vulnerability variables, figuring prominently in the dependent variables; TOTAL, fear of a thief breaking into your home while you are away, fear of someone taking something from you by force and fear of becoming the victim of sexual assault. Age provides a significant contribution to fear of being cheated/conned out of a large sum of money, fear of becoming the victim of sexual assault and the composite measure for fear of crime (TOTAL). The socio-economic status indicator, education, presents a significant contribution to the variance in all models except for fear of a thief breaking into your home while you are away and fear of having

your coat stolen when left somewhere unattended. Household income only offers a significant contribution to fear of a thief breaking into your home while you are away and fear of someone taking something from you by force.

The results of the multiple regression analysis indicate that only some of the variables have a direct effect on fear of crime with specific types of crime. Also evident, is that the socio-economic status indicator household income offers a negligible contribution in determining an individual's level of fear of crime. Fear of having your coat stolen, fear of being cheated/conned out of money and fear of sexual assault appear to be universal across income levels for Winnipeg residents. Despite the variation of significant effects, the vulnerability hypothesis does gain support from the results generated for fear of being sexually assaulted, fear of being cheated or conned out of a large sum of money, fear that someone will take something from you by force, fear of having your coat stolen when left somewhere unattended and TOTAL, the composite measure for fear of crime. Consequently, vulnerability does appear to directly influence fear of crime.

In order to determine whether the hypothesis should be accepted or rejected, the indirect effects must also be considered. Examining the results of the path analysis will determine whether vulnerability indirectly affects fear of crime levels.

PATH ANALYSIS

The path analysis failed to generate strong effects for any of the independent variables. However, the paths taken by the vulnerability variables to fear of crime do reveal several interesting indirect effects. Almost half of the effect of household income on fear of crime is mediated through neighbourhood disorder, satisfaction with police service, neighbourhood satisfaction, neighbourhood crime rate and previous victimization. Virtually all of this indirect effect is directed through neighbourhood disorder, indicating that people with a lower socio-economic status perceive higher neighbourhood disorder than people with a higher socio-economic status. Although not a strong effect, this high percentage suggests that household income, while not directly affecting fear of crime, may indirectly affect the dependent variable.

More than thirty percent of the effect of education on fear of crime is mediated through household income, perception of neighbourhood disorder, satisfaction with police service, satisfaction with neighbourhood and perception of neighbourhood crime rate. The strongest path is through neighbourhood disorder indicating that people with a lower level of education are more likely to report neighbourhood disorder.

Almost one-quarter of the effect of age is mediated through household income, education, neighbourhood disorder, satisfaction with police service, previous victimization experience, neighbourhood satisfaction and perception of

neighbourhood crime rate. Of this indirect effect, the greatest percentage is directed through neighbourhood disorder. This path suggests that young people may be more likely to perceive neighbourhood disorder than are older people.

Finally, about fifteen percent of the effect of gender is mediated through household income, education, neighbourhood disorder, satisfaction with police service, previous victimization experience, neighbourhood satisfaction and perception of neighbourhood crime rate. Thus, the effects of gender on fear of crime remain largely direct.

Because none of the effects are significant, the results of the path analysis do not offer support for accepting the vulnerability hypothesis. However, the pattern formed by the weak paths confirm the need for further study. The examination of the multiple regression and path analysis results indicate that as stated the hypothesis positing that vulnerability, expressed through gender, age and socio-economic status, directly and indirectly affects fear of crime cannot be accepted. With specific types of fear, the hypothesis may be true, however other predictors have also demonstrated their usefulness in the fear of crime model. The fact that age, gender, education and household income are significant indicates the applicability of these predictors in fear of crime research as well as the need for further study.

APPLICABILITY OF PREDICTORS

Aside from the vulnerability variables, other variables have been highlighted in the international literature. Neighbourhood disorder, previous victimization experience, perception of police service, neighbourhood satisfaction and perception of neighbourhood crime rate constitute the major variables most commonly included in the fear of crime literature. Inspection of the effects of the variables on each of the specific dependent variables will reveal the applicability of these international predictors within a Canadian framework.

Only two of these internationally accepted variables proved a significant predictor. Neighbourhood disorder, a composite measure based on five separate indicators, was significant in all of the regression equations except for fear of sexual assault. This suggests that physical, environment-related characteristics are important in determining fear of crime. Perception of neighbourhood crime rate generated mild effects for the composite measure of fear and the specific measure, fear of a thief breaking into your home while you are away. Not surprisingly, people who perceive an increasing neighbourhood crime rate are also concerned about leaving their home unprotected.

The other independent variables, neighbourhood satisfaction, perception of police service and previous victimization were not significant predictors in any of the six separate regression equations. Accordingly, based on this research

project, only neighbourhood incivilities and perception of neighbourhood crime rate are appropriate measures for the Canadian context.

UTILIZATION OF NEW MEASURES

Several measures new to the study of fear of crime have been incorporated into this research project. Of particular importance, is the way in which fear of crime, as the dependent variable has been defined and measured. Previous studies have focused on "fear of walking alone at night" as the accepted measure. In this research project, a variety of types of crime, reflecting personal and property crimes, have been measured on a ten point scale ranging from not at all worried to very worried. Differences in variance explained through the use of one composite measure and separate measures results in more accurate measures of fear. This research project indicates that fear of crime is not generically applicable to all types of crime; people express differential levels of fear according to the type of offence. Winnipeggers appear most fearful of having their home burglarized and becoming the victim of sexual assault. By contrast, fear of being cheated or conned out of money generated a low degree of worry for respondents.

The second area where new measurements have been employed is in measuring independent variables. Perception of neighbourhood disorder has been frequently cited in the literature as an influential variable but has rarely been probed with meaningful questions. In the 1994 Winnipeg Area Study, respondents were

given five types of neighbourhood disorder and asked to rate each separately using a scale from not at all a problem (0) to a big problem (10). Although these new measures provide a more valid assessment of neighbourhood disorder, very few respondents in this particular sample reported living in areas with high disorder. As a result, the five indicators were combined to create a single variable for neighbourhood disorder. This measure is useful for contextualizing neighbourhood disorder for respondents. It remains a valid and useful way in which to measure disorder.

The results produced by this research indicate the merit in including these multidimensional measures of fear and neighbourhood disorder in future research.

EVALUATING CRIME SPECIFIC FEAR OF CRIME

The final aim of this research project is to evaluate the crime specific theory. This theory suggests that fear of crime among women is largely influenced and determined by fear of sexual assault. If this theory is true, there should be a similar and significant amount of shared variance across all six models. Although the amount of variance explained is fairly consistent across the models, the overall explanatory value of these models, at less than 10% is extremely low. This prevents drawing any concrete conclusions about the relationship between fear of sexual assault and overall levels of fear of crime. Although there may be a relationship between variables that predict fear of crime and fear of other types of

crime, fear of sexual assault does not exclusively determine the level of fear. It may be argued that worry and fear about the general domain of personal violence more accurately reflects the relationship between fear of sexual assault and overall fear of crime.

Results of this research project refute the crime specific theory of fear of crime. Separating the relationship between the general fear of personal violence and the specific fear of sexual assault represents a complicated undertaking that at a minimum requires a more intricate conceptual model. Based on the model developed for this research project, the theory that women's fear of sexual assault largely determines their overall fear of crime has not been substantiated.

This chapter has summarized the aims and results of the research project. Indeed, vulnerability does directly affect fear of specific types of crime. However, the vulnerability hypothesis was not supported by the path analysis and the multiple regression analysis indicated that other variables also contribute to fear of crime. Only two of the variables generally cited in international fear of crime literature were significant predictors. This suggests that international research cannot simply be applied to the Canadian context. Because Winnipeg is a smaller Canadian city, with particular geographic distinctions, it is possible that these international variables would be relevant to other Canadian jurisdictions. A national survey would provide the data necessary to evaluate the predictors used in international fear of crime research.

CONCLUSION

This research project has broadened the field of fear of crime research by testing the vulnerability hypothesis using multivariate analysis within a Canadian context, incorporating more relevant measures of fear of crime and neighbourhood disorder, as well as testing the applicability of international predictors and the crime-specific theory of fear of crime. Results indicate that age and gender but not socio-economic status directly affect fear of crime levels across property and personal type crimes. None of the vulnerability variables produce significant indirect paths. Internationally recognized predictors, perception of neighbourhood disorder and perception of neighbourhood crime rate do appear to influence fear of crime levels in Canada. The other indicators, including previous victimization experience, neighbourhood attachment and perception of police service have not proven influential with this data set. Also rejected is the crime specific theory of fear of crime.

Further research using a series of offences to gauge fear of crime is necessary. A national fear of crime survey would be useful to identify regional trends as well as the national picture. Because the level of fear of crime in a community can be affected by the media, these results may not be applicable to other areas of the country. The substantial media focus on youth gangs and other localized types of "crime waves" suggest that findings in Winnipeg may not be generalized to similar sized cities across the country. It may also be argued that the

social context during which the survey was conducted makes the results time specific. Longitudinal studies are required to determine the trend in fear of crime levels. Future research must incorporate more relevant and robust measures of fear of crime as well as tracking the role of the media in trumpeting the relatively rare number of random acts of violence. A study of national crime reporting revealed that although 83% of the murder victims in 1996 were killed by a spouse or acquaintance, the national television networks, CBC and CTV, consistently covered the minority of random murders.(Hess 1996)

The variation in fear of crime levels demands a multidimensional approach to encourage personal safety within a community. Different people and social groups in Winnipeg may require a combination of social services, police intervention and community assistance. In publishing safety tips for Winnipeggers, the Winnipeg Police Service has chosen to acknowledge fear of strangers in public places. (See Appendix D) According to feminist criminology, this approach ignores the realities of interpersonal violence. A useful fear of crime strategy requires increased attention toward reducing violent crime, particularly in the private sphere. Offering self-defence courses for women will not eliminate fear of crime because it does not address the situations and contexts within which women are victimized. Stanko (1995) outlines the requirements for meaningful crime prevention and fear of crime reduction: "society must confront head-on the responsibility that men bear for family violence, and crime prevention must be more broadly conceptualized to encompass the provision of safety in relationships structured by transport, housing,

occupations, schools, and other institutions"(10). Essential to this new orientation is a movement away from blaming the victim. A personal safety strategy that focuses on risk avoidance places the responsibility and ultimately the blame for victimization on the victim and not the perpetrator. A more useful approach demands the participation of all citizens with the recognition that "the fact that women are not always successful in their avoidance strategies is a commentary on men's violence, not women's failures"(Stanko,1995:57).

Perpetuating the status quo will ensure that fear of crime persists. In order to ensure personal safety for all Winnipeggers, including Winnipeg's most vulnerable residents, meaningful social reorganization is required. The Winnipeg Police Service and related crime prevention agencies and community groups may not be able to effect social change but can revise the personal safety and crime prevention policies in Winnipeg. Although the scope and orientation of the necessary revisions cannot be drawn conclusively from this research project, this investigation has come closer to identifying the groups in Winnipeg who report fear of crime and has increased the necessity of further research. In the interim, guided by the work of feminist criminology theorists, some alternatives can be explored. Acknowledging the prevalence and legitimacy of interpersonal violence in society is the essential first step to addressing fear of crime and shaping new approaches to securing personal safety within the Winnipeg community.

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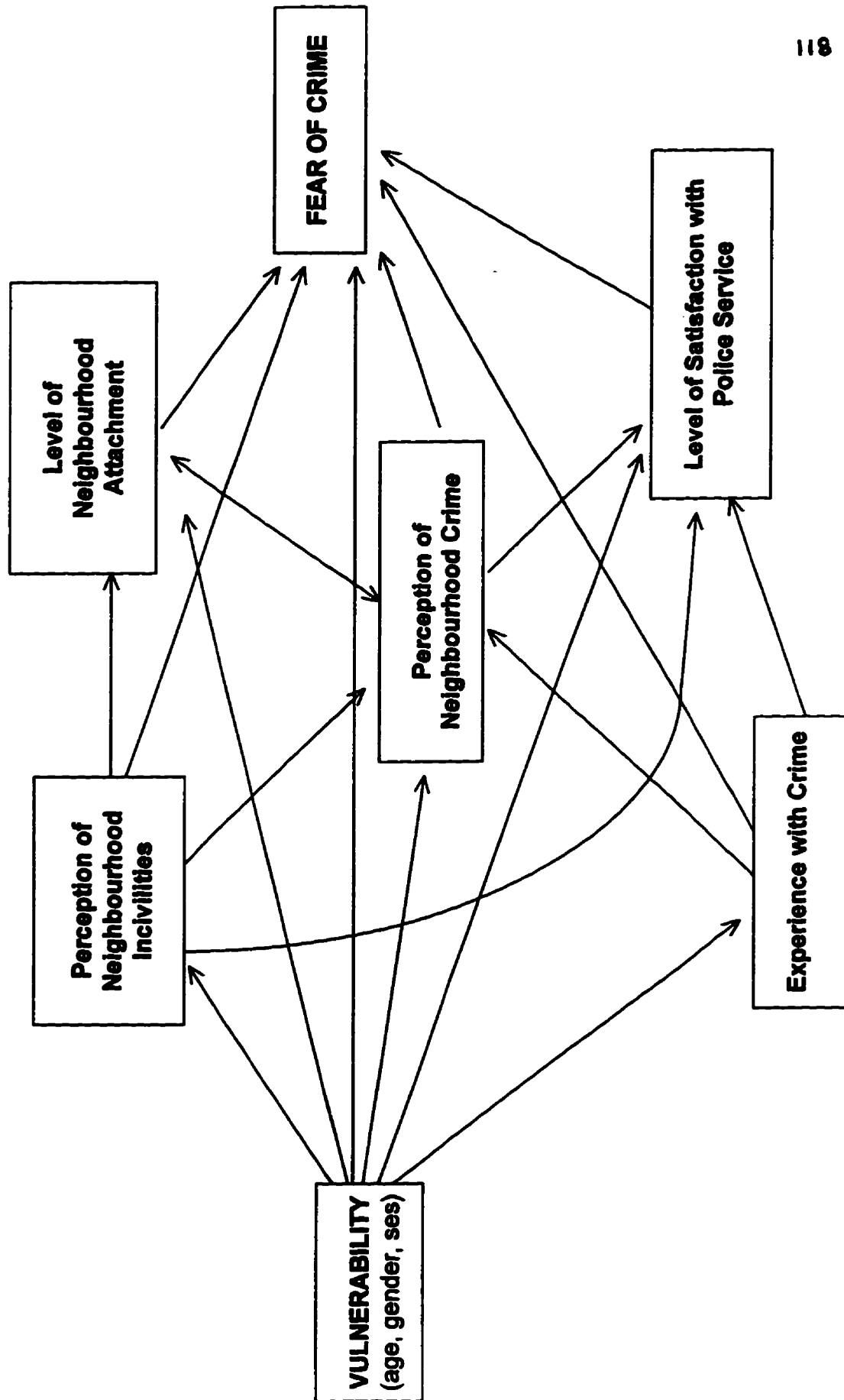
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APPENDIX A
CONCEPTUAL FRAMEWORK



APPENDIX B

QUESTION FROM THE 1994 WINNIPEG AREA STUDY

3. Now a list of the members of this household. To make it easier, I'm going to ask for the first name of each member.
(START WITH RESPONDENT ON LINE 1)

RELATIONSHIP TO RESPONDENT

01 RSPDNT
02 SPOUSE/COMPANION
03 SON
04 DAUGHTER
05 MOTHER
06 FATHER
07 SIBLING
08 RELATIVE
09 FRIEND
10 OTHER
99 NA
00 NR

SEX

1 MALE
2 FEMALE

FIRST NAME

AGE

RELATIONSHIP TO RESPONDENT

For the next question, please answer on a scale of "1" to "7" where "1" is Very dissatisfied and "7" is Very satisfied. If you feel that your response is between Very dissatisfied and Very satisfied you would put yourself somewhere from "2" to "6". For example, a "4" means that you are just as satisfied as you are dissatisfied. Here is the first question...

7. How satisfied are you with your neighbourhood as a place to live?

Very Dissatisfied							Very Satisfied	DK
1	2	3	4	5	6	7	8	

NOW SOME QUESTIONS ABOUT CRIME AND POLICING

18. Compared to TWO years ago, would you say that crime in your NEIGHBOURHOOD has: (READ)

Increased.....	3
Remained the same, OR.....	2
Decreased.....	1
DK.....	8

20. How satisfied or dissatisfied are you with the level of police service in Winnipeg? Are you... (READ)

Very satisfied.....	4
Somewhat satisfied.....	3
Somewhat dissatisfied.....	2
Very dissatisfied.....	1
DK.....	8

21. Have you or any member of your household been a victim of a crime in the last year?

Yes.....	1
No.....	2 (GO TO 23)
DK.....	8 (GO TO 23)

24. At one time or another most of us have experienced fear and worried about becoming the victim of a crime. I will read you a list of different types of crime. I would like you to indicate how much you worry about becoming the victim of each type of crime in your everyday life. The scale goes from zero to 10. If you never worry at all then you would say "zero" for that crime. If you worry a great deal then you would say "10". You may choose any number between "0" and "10" which best describes how much fear and worry you feel about that crime.

How much do you worry about the possibility that...
(REPEAT FOR EACH ITEM)

- a. a thief will break into your home while you are away.

NEVER												WORRY A GREAT
WORRY												DEAL
DK												
0	1	2	3	4	5	6	7	8	9	10	88	

- b. someone will use a weapon to take something from you by force.

NEVER												WORRY A GREAT
WORRY												DEAL
DK												
0	1	2	3	4	5	6	7	8	9	10	88	

- c. someone will steal your coat, when you have left it somewhere unattended.

NEVER												WORRY A GREAT
WORRY												DEAL
DK												
0	1	2	3	4	5	6	7	8	9	10	88	

- d. someone will cheat or con you out of a large amount of your money.

NEVER												WORRY A GREAT
WORRY												DEAL
DK												
0	1	2	3	4	5	6	7	8	9	10	88	

e. someone will sexually assault you.

NEVER											WORRY A GREAT	
WORRY											DEAL	DK
0	1	2	3	4	5	6	7	8	9	10	88	

25. Now I will read a list of things that some people have said are problems in their neighbourhoods. I would like you to indicate how much of a problem you think each of these is for the residents of your neighbourhood. The scale goes from zero to 10. If you think it is NOT AT ALL a problem then you would say "zero". If you think it is a BIG problem then you would say "10". You may choose any number between "0" and "10" which best describes how much of a problem it is.

How much of a problem in your neighbourhood are...
(REPEAT FOR EACH ITEM)

a. misbehaving juveniles?

NOT A											A BIG	
PROBLEM											PROBLEM	DK
0	1	2	3	4	5	6	7	8	9	10	88	

b. people loitering on the streets?

NOT A											A BIG	
PROBLEM											PROBLEM	DK
0	1	2	3	4	5	6	7	8	9	10	88	

c. noisy neighbours?

NOT A											A BIG	
PROBLEM											PROBLEM	DK
0	1	2	3	4	5	6	7	8	9	10	88	

d. run-down buildings and houses?

NOT A											A BIG	
PROBLEM											PROBLEM	DK
0	1	2	3	4	5	6	7	8	9	10	88	

e. drug or alcohol abuse?

NOT A PROBLEM										A BIG PROBLEM		DK
0	1	2	3	4	5	6	7	8	9	10	88	

NEXT, CONSIDERING EDUCATION...

108. What is your highest level of education (this includes complete and incomplete)? (CIRCLE CATEGORY BELOW)

Respd

No schooling..... 01

Elementary School

Incomplete..... 02

Complete..... 03

Junior High School

Incomplete..... 04

Complete..... 05

High School

Incomplete..... 06

Complete (GED)..... 07

Non-University (Voc/Tech, Nursing Schools)

Incomplete..... 08

Complete..... 09

University

Incomplete..... 10

Diploma/Certificate (e.g. Hygienists)..... 11

Bachelor's Degree..... 12

Professional Degree..... 13

(Vets, Drs., Dentists, Lawyers)

Master's Degree..... 14

Doctorate..... 15

12. What is the total income of all the members of this household for this past year before taxes and deductions?

(CIRCLE THE CORRESPONDING CATEGORY NUMBER.)

Under \$ 6,000	01	36,000 - 37,999	17
6,000 - 7,999	02	38,000 - 39,999	18
8,000 - 9,999	03	40,000 - 44,999	19
10,000 - 11,999 ...	04	45,000 - 49,999	20
12,000 - 13,999 ...	05	50,000 - 54,999	21
14,000 - 15,999 ...	06	55,000 - 59,999	22
16,000 - 17,999 ...	07	60,000 - 64,999	23
18,000 - 19,999 ...	08	65,000 - 69,999	24
20,000 - 21,999 ...	09	70,000 - 74,999	25
22,000 - 23,999 ...	10	75,000 - 79,999	26
24,000 - 25,999 ...	11	80,000 - 84,999	27
26,000 - 27,999 ...	12	85,000 - 89,999	28
28,000 - 29,999 ...	13	90,000 - 94,999	29
30,000 - 31,999 ...	14	95,000 - 99,999	30
32,000 - 33,999 ...	15	100,000+	31
34,000 - 35,999 ...	16	DK	98
		NR	99

APPENDIX C: DIFFERENCE OF PROPORTIONS TEST FOR THE DEPENDENT VARIABLES

Association Between	Pearson	Spearman	N1	N2	Weighted Average of Proportions	1 - Weighted Average	Standard Error	Z Score
v26 & v100	-0.089	-0.042	956	1001	-0.64940	1.64940	0.01114	4.2208
v272 & v100	0.071	0.063	658	1001	0.06659	0.93341	0.01251	0.6434
v265 & v100	-0.055	-0.054	1000	1001	-0.05451	1.05451	0.01015	0.0887
v26 & v101	-0.108	-0.121	956	996	-0.11100	1.11100	0.01422	1.4107
v272 & v101	-0.057	-0.056	658	996	-0.05619	1.05619	0.01157	0.0726
v26 & v102	-0.228	-0.237	956	993	-0.23247	1.23247	0.01914	0.4310
v272 & v102	-0.066	-0.077	658	993	-0.07020	1.07020	0.01284	0.5070
V26 & v103	-0.131	-0.147	956	997	-0.13933	1.13933	0.01568	1.049
v272 & v103	-0.056	-0.048	658	997	-0.05122	1.05122	0.01107	0.727
v26 & v104	-0.303	-0.271	956	523	-0.29144	1.29144	0.02472	1.295
v272 & v104	0.047	0.034	658	523	0.04106	0.95894	0.01162	1.058

**APPENDIX C (CONT'D):
DIFFERENCE OF PROPORTIONS TEST FOR THE INDEPENDENT VARIABLES**

Association Between	Pearson	Spearman	N1	N2	Weighted Average of Proportions	1 - Weighted Average	Standard Error	Z Score
v26 & v105	-0.231	-0.227	956	984	-0.022885	1.22885	0.01908	0.20912
v272 & v105	-0.084	-0.081	658	984	-0.08223	1.08223	0.01383	0.21692
v26 & v106	-0.174	-0.184	956	993	-0.17929	1.17929	0.01738	0.56041
v272 & v106	-0.159	-0.145	658	993	-0.15057	1.15057	0.01798	0.80645
v26 & v107	-0.192	-0.209	956	1000	-0.20035	1.20035	0.01811	0.92877
v272 & v107	-0.212	-0.187	658	1000	-0.19839	1.19839	0.02002	1.44106
v26 & v108	-0.146	-0.173	956	1000	-0.16005	1.16005	0.01658	1.60796
v272 & v108	-0.196	-0.181	658	1000	-0.18702	1.18702	0.01957	0.72458
v26 & v109	-0.227	-0.269	956	935	-0.24780	1.24780	0.01986	2.13444
v272 & v109	-0.241	-0.191	658	935	-0.21155	1.21155	0.02078	2.41771
265 & v109	-0.017	-0.032	1000	935	-0.02398	1.02398	0.00696	2.18534

