

“How safe do you feel in  
your own  
neighbourhood?”

A closer look at the fear of crime of individuals living in neighbourhoods in  
Roosendaal

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## **“How safe do you feel in your own neighbourhood?”**

A closer look at the fear of crime of individuals living in neighbourhoods in Roosendaal.

Albergen, September 2011

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## Summary

In recent years, fear of crime is increasingly seen and defined as a social problem. More and more people see and recognize it as a problem within and for society. Fear of crime is incompatible with their values, such as safety and liveability, and people worry about the negative consequences of fear of crime for themselves and for society. Yet, fear of crime is not a ‘new’ problem that occurs in today’s society. From the ’70 and ’80 of the previous century, the media reported about this phenomena and the government developed public policies aimed at increasing the sense of security of people. Their main focus was on reducing the crime rates in society, because they saw crime as the explanatory variable of fear of crime. The higher the crime rates, the more insecure people feel themselves. This line of reasoning is now somewhat tempered. Crime is no longer seen as the only explanatory variable that affects the fear of crime of people. Also other variables are seen as a possible cause for the increasing levels of fear of crime in society. In this study – in the form of a case study – is the fear of crime tested of individuals living in the municipality of Roosendaal. There is looked at the role of three possible explanatory variables: personal characteristics, disorder, and crime. The main question in this study is:

***How can we explain the fear of crime of individuals living in neighbourhoods in Roosendaal with personal characteristics, context characteristics (referring to disorder), and crime?***

This question is answered based on a literature review and a multilevel linear regression analysis.

The variable personal characteristics consist of four personal characteristics: age, gender, income, and nationality. According to the literature, these characteristics affect the sense of security of people. Some persons feel themselves more fearful compared to others in the same situation and/or neighbourhood. This is particularly true for the vulnerability groups in society: the elderly, women, the poorer, and people with a non-Western nationality. These groups have higher levels of fear of crime compared to youngsters, men, wealthier, and people with a Dutch nationality. However, this picture is not entirely consistent to the results of the analyses. The analysis shows that personal characteristics play a minor role in the explanation of fear of crime among individuals living in neighbourhoods in Roosendaal than that the literature suggested. Nationality is the only variable that has a direct effect on fear of crime. Neighbourhoods with a high percentage of people with a non-Western nationality have higher levels of fear of crime among their residents compared to the more indigenous neighbourhoods. The variables age and partly income (seen as high income) have a total effect on fear of crime. These variables affect the level of fear of crime in an indirect way; through immediate steps. The variables gender and income (seen as low income) do not affect the sense of security of individuals.

The variable disorder is in this study divided into two forms of disorder: physical disorder and social disorder. According to the literature, both kinds of disorder are negatively related

to fear of crime. An increase in disorder leads to higher levels of fear of crime of people. This reasoning is confirmed by the regression model, but there are differences between the role of physical disorder and social disorder. Physical disorder has only a total effect on the fear of crime of individuals, while social disorder has both a direct and total effect on the fear of crime. Social disorder has even the strongest effect on fear of crime. An increase of one unit social disorder will lead to a decrease of .377 unit's fear of crime.

Although the variable crime is seen as an old variable explaining the fear of crime, it still plays an important role in the declaration of fear of crime. The negative relationship between crime and fear of crime is therefore much debated in the literature. According to the literature, people living in neighbourhoods with higher crime rates are more anxious and fearful compared to people living in neighbourhoods with lower crime rates. This reasoning is confirmed by the regression model. An increase of one unit crime will lead to a decrease of .008 unit fear of crime. The variable crime has therefore both a direct effect as a total effect on the level of fear of crime of individuals.

Concluded, all variables play a role within the perception-building process of individuals. However, it should be noted that the variables contribute in different degrees to the explanation of fear of crime. The variables social disorder, crime, and nationality play the main role in the process. These variables have all a direct effect on the level of fear of crime of individuals. Although the other variables do not have a direct effect, yet they cannot be forgotten or be subordinated from the model.

## **Preface**

This report serves as the final assignment fulfilling the requirements for graduation as a Master of Science in Public Administration. It is the end product of four years study at the University of Twente, Enschede.

Completing my master thesis is something that I could not have done alone. I would therefore like to use this opportunity to thank everyone who helped me along this way. First of all I want to thank my first supervisor Prof. Dr. Ariana Need for giving me the opportunity to do my master thesis at the department of Social Risks and Safety Studies. I am grateful for her advice, critical feedback and insights to improve my thesis. Second, I want to thank Drs. Judith Bakker for her role as second supervisor. A special thanks for Dr. Lorena Montoya-Morales. For her patience, advice, and especially statistical help that has certainly improved my thesis. Thanks!

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# 1 Introduction

## 1.1. Background

Historically, safety is a hot item within society. Hence it is recurrent topic on both the public and political agenda. From the 70s and 80s of the last century, the media plays an increasingly important role in this process. The media reported extensively on the then current safety issues, the rising crime rates, and the violent crime offenses. Safety was also at that time considered as one of the main tasks of the government (Raad voor het Openbaar Bestuur, 2011). Their pivotal task was to make society safe and – even more important – to keep society safe. Public policies were designed to achieve these goals. The focus of these policies was on the crime in society. The rising crime rates were seen as the ultimate cause for the decrease in the sense of security among the citizens. Tackling the crime should therefore lead to a heightened (feeling of) security within the community. In the past decade, safety has become again a very important topic on the public and political agenda, especially after the terroristic attacks in 2001 and 2002 and the murders of Pim Fortuyn (2002) and Theo van Gogh (2004). The media reports increasingly about safety, crime, and events related to safety. A recent example is the shooting in a shopping centre in Alphen aan de Rijn (April 2011). In the days after this shooting, the media was dominated by the news about this event and the consequences of this shooting for the feeling of security in society. Through all these events, safety came again under the spotlights of the politicians. Safety is now included by default in the election programs of political parties and it is one of the core businesses of the government. Today’s public policies have several objectives. They are aimed to increase the security in society, to decrease the fear of crime among people, and to prevent and to punish the crime in society.

Yet there are some differences between the public policies forty years ago and the public policies nowadays. These differences are caused by social changes and to a shift in the way of thinking about security. First, citizens get a more central position within the process. Citizens attach more and more importance to safety nowadays. They find safety in some situations even more important than privacy (Schenk, 2005). This has ultimately led to more public pressure on the government. Citizens hold the government responsible for their safety and also their feeling of insecurity. They think the government should put the first step in realizing a safe living and working environment, because this is what the people want; a safe environment where their children can grow up. A second difference is the shift in focus from safety to insecurity. In today’s literature and research, insecurity is the central theme instead of safety (Boers, van Steeden & Bouttelier, 2008). There is more research into the question of why people feel themselves insecure than into the question of how safe someone feels in their own neighbourhood. The last development concerns the relationship between crime and safety. Where previously only crime was seen as a cause for the reduced safety in society, nowadays also other events in society were seen as a cause for the increased feeling of insecurity. Research has shown that *crime is no longer the only explanatory variable that affects the sense of (in)security*. Other variables are for example:

personal characteristics, earlier victimization experiences, and disorder (e.g. Oppelaar & Wittebrood, 2006; Skogan, 1990; Wilson & Kelling, 1982). These variables influence the fear of crime of individuals in their own way and to different degrees. For example disorder, Perkins and Taylor (1996) conclude that disorder affect the fear of people. Their research shows that an increase in disorder – both social as physical – will lead to an increase in the fear of crime. People feel less safe in neighbourhoods characterized by graffiti, litter, and loitering youngsters.

Today’s public policies are therefore not only just focused on reducing the crime rates in society, like the public policies of forty years ago. The public policies are also aimed to address the other possible causes of the sense of security. An example of such a ‘new’ public policy is the policy document ‘To a safer society’ (in Dutch: Naar een veiliger samenleving) of the Dutch government. This document is also created by the call from the citizens during the elections in 2002. The public dissatisfaction regarding the security level in society led to this policy. The goal was to make society safer and to reduce the crime rates with 20 to 25 per cent in eight years (TK 2002-2003, 28684, nr. 1). A safer society must be achieved by first addressing the crime in society, but also by improving the living environment of the citizens. Policy actions are: removing graffiti from public walls; tightening of alcohol- and drugs policies; more policemen on the streets; ability to stop and search; et cetera. These policy actions have been effective, because the crime rates have fallen in the recent decade. The goal (reduction of crime of 25% and reduction of disorder of 25%) (TK 2002-2003, 28684, nr. 1) is not yet fully achieved, but there is certainly visible progress in tackling the crime in society and this is due the effectiveness of the public policy. However, these developments are to a lesser extent reflected in the sense of security among people. A quarter of the population (23.7%) still feels unsafe in their own neighbourhood (TK 2009-2010, 28684, nr. 253). This is just a drop of about three per cent compared to the situation in 2002. The decreasing crime rates have also no major impact on people’s experiences regarding disorder. They still experience disorder as a common problem; a problem that occurs frequently within their own environment. So, the title of the policy document ‘To a safer society’ sounds nice, but it is really difficult to actually achieve this goal. The main goals are to be achieved, but changing people’s mind-sets is however a lot harder. People still see crime as a common problem and major problem for society, while this is – according to the actual figures – not true. This will eventually lead to the development of a reassurance gap. A reassurance gap points out that the crime is fallen down, but people’s perception has remained that crime is rising (Newburn & Reiner, 2007; Millie & Herrington, 2005). The emergence of a reassurance gap could have major consequences for society. Some consequences that may arise are: people are no longer at the streets, they avoid contact with strangers, and they do not longer trust the government and governmental institutions. This distrust in the government and in governmental institutions is perhaps the main concern of politicians and political parties, because public confidence is closely linked to political success and political failure. The government cannot perform well its duties without

the confidence and support of its citizens. Hence, public confidence is also seen as a precondition for the legitimacy of the government.

## **1.2. Aim of the study**

The feeling of insecurity – also called fear of crime – is therefore a big issue in today’s society. It is not just a crime related problem, but it can even be seen as a social problem. More and more people see fear of crime as a problem and recognize it as a problem for society. It complies also to the characteristics of a social problem. Rubington and Weinberg (2003) define a social problem as *“an alleged situation that is incompatible with the values of a significant number of people who agree that action is needed to alter the situation”*. First, fear of crime is incompatible with the values of citizens, such as safety and liveability. Citizens want to live in a safe neighbourhood without being frightened of becoming a victim of crime. Second, a significant number of people recognize fear of crime as a problem. More and more people worrying the fear of crime in society. This is also reflected in the high ranking of fear of crime on the public and political agenda. Third, people agree that action is needed to alter the situation. People agree that fear of crime entails negative consequences for themselves and for society and that action is needed to alter these consequences. Hence there is much research into the question what factors can reduce the fear of crime in society.

However, before these questions can be answered, the concept of fear of crime needed to be explained. Fear of crime is in fact a rather complex concept consisting of many explanatory factors. In this study, three of such explanatory variables are central. These variables are: personal characteristics, disorder, and crime. These factors affect the fear of crime of individuals in their own way. Research has shown that some groups in society are assumed to have higher levels of fear of crime compared to other groups in society. The so-called vulnerability categories in society are: the elderly, women, the poorer and ethnic minorities (Box et al., 1988; Toseland, 1982). These groups have a higher fear of crime compared to youngsters, men, the wealthier, and natives. Disorder also affects the fear of crime among people. The higher the degree of disorder (both social and physical disorder) in neighbourhoods, the higher the level of fear of crime among individuals living in these neighbourhoods (Hunter, 1978; Wilson & Kelling, 1982; Covington & Taylor, 1991). The influence of both factors will be explained in this study. Do these variables have a greater effect on fear of crime than crime has?

A case-study is used to give answers to these questions. The study has looked at the fear of crime of individuals living in neighbourhoods in Roosendaal in the period from 2003 to 2009. Choosing Roosendaal as unit of analysis was made based on the amount of neighbourhoods (in total 48 neighbourhoods) and the available data from the Buurtmonitor.

The main question is:

***How can we explain the fear of crime of individuals living in neighbourhoods in Roosendaal with personal characteristics, context characteristics (referring to disorder), and crime?***

The additional sub questions are:

1. What personal characteristics play a role within the development of fear of crime among individuals living in neighbourhoods in Roosendaal?
  - a. How is age related to the fear of crime?
  - b. How is sex related to the fear of crime?
  - c. How is income level related to the fear of crime?
  - d. How is nationality related to the fear of crime?
2. To what extent is disorder a meaningful indicator to explain fear of crime among individuals living in neighbourhoods in Roosendaal?
  - a. How is psychical disorder related to the fear of crime?
  - b. How is social disorder related to the fear of crime?
3. Do personal characteristics and disorder contribute to the fear of crime among persons living in neighbourhoods in Roosendaal?
4. To what extent is crime still a meaningful predictor of fear of crime?

### **1.3. Relevance of the study**

As mentioned earlier in this introduction, there is much research on the concept of fear of crime. Several researchers have studied the concept of fear of crime, the explanatory variables that can clarify the fear of crime of individuals, and/or the (possible) consequences of fear of crime for society. This study has also fear of crime as central topic. However, it is certainly not a reproduction of previous studies. It may have its own contribution to a better understanding of the concept of fear of crime, especially regarding a better understanding of the concept of fear of crime in the Netherlands. This is because the existing literature is mainly focused on the fear of crime of individuals living in the United States of America and/or the United Kingdom. The fear of crime of American individuals and Dutch individuals are, however, not comparable, particularly from the ethnic point of view. The literature shows that ethnic minorities experience higher levels of fear of crime than the ethnic majorities in society. The American literature refer hereby to the fear of crime of Hispanics and the Black people (Skogan & Maxfield, 1981) while these ethnic minorities do not play a big role within the Dutch society. There is relatively little Dutch research in the field of fear of crime. The literature that exists primarily focuses on framing the concept (Oppelaar & Wittebrood, 2006) and/or uncovering the relationships between fear of crime and some explanatory relationships (see for example: Keizer, Lindenberg & Steg, 2008). This study has thus both a social and a scientific relevance. It contributes to a better understanding of the

concept of fear of crime which in turn can contribute to a decrease in the level of fear of crime among individuals living in Dutch neighbourhoods.

#### **1.4. Structure of the report**

The remaining part of the report is organized as follows. Chapter two presents the theoretical framework. Within this framework, the concept of fear of crime is explained and also the role of the three explanatory variables is explored. Chapter three describes the used methodology. It clarifies in more depth the unit of analysis of the study and it operationalizes the dependent and independent variable(s). Chapter four presents the results of the analyses. It examines the role of personal characteristics, disorder and crime in the perception-building process related to fear of crime. Chapter five draws the conclusion and answers the main question of the study. In this chapter, also a discussion is presented. The discussion addresses the question: what consequences have the conclusion for the public sector?

# 2 THEORETICAL FRAMEWORK

*In this chapter, the theoretical framework is explored. Two concepts are within the heart of the framework. These concepts are fear of crime and disorder. The first part exists of a brief explanation of the concept of fear of crime and the perception-building process of fear of crime. What does it mean and what factors influence the fear of crime among people? The second part clarifies three determinants within this perception-building process: personal characteristics (age / gender / income / race), disorder, and crime.*

## 2.1. Fear of crime

People are increasingly worried about crime and feel themselves more and more insecure in their own environment. They stay off the streets at night and avoid unsafe places in their neighbourhood. Official figures represent these trends. The percentage of sense of insecurity among people has grown from 20.8% in 2000 to 27.6% in 2008 (CBS – Onveiligheidsgevoelens naar achtergrondkenmerken, 2009; CBS – Onveiligheidsbeleving, 2010). The perception of crime is part of a larger concept, namely: the fear of crime. Fear of crime is often an ill-defined concept. It has multiple meanings and scientists use it all in a different way; the way that is best for them. In this study, the following definition will be used: *“fear of crime is an emotional reaction of dread or anxiety to crime or symbols that a person associates with crime”* (Ferraro & LaGrange, 1987; de Savornin Lohman & van Hoek, 1993). Fear of crime consists of three components: (1) people’s concern about crime, (2) their assessment of personal risks of becoming a victim of crime, and (3) the perceived threat of crime in their neighbourhood (Ferraro & LaGrange, 1987; Skogan, 1997).

The first component focuses on people’s assessments of the extent to which crime is a serious problem for their community. It looks at the frequency and/or seriousness of the events and conditions for the environment. However, this is really subjective, because every person looks differently to crime and interpret it in a different way. The second condition contains people’s risk of becoming a crime victim. It includes public perceptions of the likelihood to become a victim. The last condition emphasizes the potential for harm that people feel crime holds for them. Fear-levels are high when they believe that something could happen to them (Skogan, 1997). These three components are often applied to distinguish between different aspects of fear of crime. However, these components are not the only factors explaining fear of crime. Skogan (1997) has defined another, fourth, component of fear of crime. He refers to the reactive response of fear of crime; things people do in response to crime. Examples of such acts are: people restrict their shopping to safer commercial areas; they fortify their homes against invasion; and avoid contact with strangers.

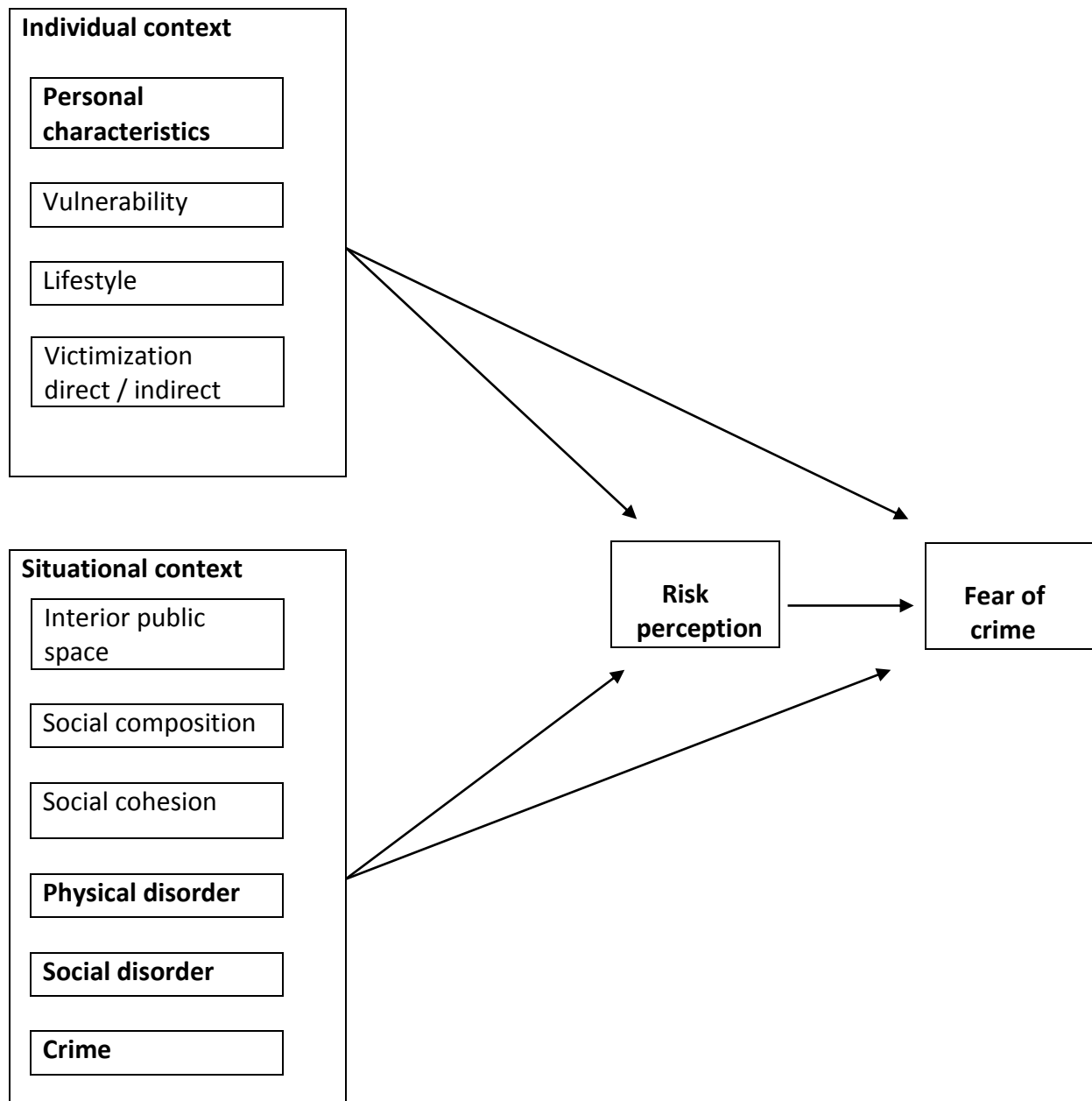
Even though the concept of fear of crime can be distinguished into three (or four) components, only one of these components is a valid indicator of fear of crime. This applies to the second component: the fear of becoming a crime victim. Fear of crime is therefore often defined as: *“the perceived risk of becoming a victim of crime”* (Vettenburg, 2002).

However, this definition is not used in this study, because of the narrow definition of the total concept of fear of crime. In this study, the definition of Ferraro and LaGrange (1987) is used to describe the fear of crime.

### **2.1.1. The perception-building process**

Fear of crime does not occur by itself. It is a process consisting of several determinants that influence the fear of crime among people. Oppelaar and Wittebrood (2006) have developed a model that reflects this perception-building process. They distinguish two clusters of determinants: the individual context and the situational context. The individual context includes personal characteristics that determine the fear of crime of the individual. You can think of age, gender, and earlier victim experiences. The situational context contains characteristics from the direct environment of the individual. Examples are the social composition of the neighbourhood and the perceived crime in the neighbourhood. The model of Oppelaar and Wittebrood corresponds to other models that have examined the perception-building process (Hale, 1996; Vanderveen, 2002; de Savornin Lohman & van Hoek, 1993).

Figure 2.1. represents the model of Oppelaar and Wittebrood (2006, p.42).



**Figure 2.1. A conceptual model of fear of crime by Oppelaar and Wittebrood**

All ten determinants affect fear of crime in their own way and in varying degrees. In this study, the focus is on the four bold variables: personal characteristics, physical disorder, social disorder, and crime. Because of time limits, it was decided to use a limited version of the model of Oppelaar and Wittebrood (2006). These four determinants are further explored in the next paragraphs.

### **2.1. The role of personal characteristics**

Fear of crime varies from person to person. Some persons feel themselves more fearful compared to others in the same situation and/or neighbourhood. Personal characteristics of the individual play thus an important role in the explanation of fear of crime among people. The literature has identified four groups in society who fall into the vulnerability category. These groups have higher fear-levels compared to other groups in society. These groups are:



the elderly, women, the poorer and ethnic minorities (Box et al., 1988; Toseland, 1982). Several studies indicate that the elderly, women, the poorer and ethnic minorities have a higher fear of crime compared to youngsters, men, wealthier, and white people in society (see for example: Hale, 1996; Skogan, 1987; Stanko, 1995; Warr, 1984). In this study, these socio-demographic variables have been studied. To what extent and how do these variables influence the fear of crime among people in Dutch neighbourhoods?

### **2.2.1. Age**

The first variable is age. Research has shown that the elderly are more anxious and fearful about crime than any other age group in society. 40 to 60 per cent of the elderly (> 60 years) indicate they feel very insecure in their own neighbourhood compared to 30 per cent of the youngsters between 15 and 25 years (CBS – Jeugdmonitor 2009). This is a remarkable fact, because the elderly are less likely to actually become a crime victim compared to the risk of youngsters. So, the fear of the elderly does not reflect the actual risk of becoming a victim. This phenomenon is known as the ‘victimization/fear paradox’ (Pain, 2001). This paradox refers to the finding that youngsters experience higher rates of victimization than the elderly, yet the elderly are more likely to admit to higher levels of fear of victimization.

There are many explanations that can clarify this phenomenon. Skogan (1987) has identified four reasons why older people are more fearful.

1. The elderly have fewer resources for coping with victimization and the consequences of crime. The underlying reason is that the elderly are poorer. Their family income is lower compared to other age groups in society. This makes it difficult for them to replace stolen items, pay for damages, and restore their lives.
2. The elderly are physically frailer. They often are not very agile and suffer disabilities that make it difficult to evade attackers or fend off those who might harass them.
3. The elderly are more likely to live alone, because their partner is deceased. They have no one to take care of them if they are hurt.
4. The elderly are living in public housing projects and are more tied to public transportation. This reduces their control over the security of their environment.

(Skogan, 1978, p.10)

The reasons identified by Skogan (1978) all related to the personal vulnerability of the elderly. The elderly are more vulnerable compared to other age groups in society. This applies to both the physical vulnerability as the social vulnerability. Physical vulnerability is defined as: *“openness to attack, powerlessness to resist attack, and exposure to traumatic physical and emotional consequences if attacked”* (Skogan & Maxfield, 1981). The physical vulnerability of the elderly is reflected in the fact that the elderly cannot defend themselves as well against crime than youngsters and they are less powerful. The second aspect of vulnerability is the social dimension. People are social vulnerable when they frequently exposed to the threat of victimization and when the social and economic consequences of

victimizations weigh more heavily upon them (Skogan & Maxfield, 1981). This dimension is often measured by two indicators: the actual risks faced by the population group and their resources for dealing with the consequences of crime. The social dimension in the case of the elderly is expressed in the smaller social networks and their lack of (financial) resources to deal with crime. The elderly are thus both physically as socially more vulnerable to become a victim of crime. Both dimensions contribute to a heightened fear of crime among the elderly. The elderly see themselves as powerless, defenceless, and helpless and this reinforces their image of themselves; the image of being easy victims.

Hypothesis 1:

**Neighbourhoods with a high percentage of the elderly have higher levels of fear of crime among their residents**

### **2.2.2. Gender**

The ‘victimization/fear paradox’ arises not only in the previous variable age. It also applies to the variable gender. Where women experience higher levels of fear of crime, men are more likely to actually become a crime victim (Covington & Taylor, 1991). This heightened anxiety among women is often attributed to two kinds of reasoning:

1. The (physical) vulnerability of women
2. Women are more often victims of interpersonal crime

Like the elderly, women are more vulnerable of becoming a victim of crime than men are. This vulnerability is, however, not related to both dimensions of vulnerability. The vulnerability of women is only related to the physical dimension. Women are more vulnerable to attack, because they are less able to defend themselves and they are less able to cope with victimization (Hale, 1996; Gilchrist et al., 1998). Because of their lesser physical strength, they overestimate the risks and consequences of being a crime victim. Gilchrist et al. (1998) also refer to the differences between women and men in their focus of their worries. Women refer to a wider range of situations, people and factors which inform their fears.

The second reasoning is that women are more often victims of interpersonal crime and domestic violence. Interpersonal crime is defined as crime inflicted by an individual or small group of individuals in the personal environment of the victim; places where she normally feels safe. It often involves an acquaintance of the victim, such as the partner, a friend, or colleague (Stanko, 1995). Examples are sexual assault, harassment and rape. These offenses have a major impact on the feeling of safety among women, because they know the offender and the crime takes place in their personal environment. Also other related sub criminal acts can contribute to a heightened fear of crime among women. These acts are not criminal and hence they are not reported to the police. However, these acts can influence the fear-level of women. It makes women scared and more fearful. Examples of such sub criminal acts are: being stared at the streets, whistled by construction workers, being touched, et cetera.

In the literature, sometimes a third explanation is given for the fact that women have a higher fear-level compared to men. Some studies also refer to the socialization of children (Morrongiello & Dawber, 2000, in: Fetchenhauer & Buunk, 2005). The socialization of children contributes to how they see the world in the future. The differences between the socializations of boys and girls can explain the difference between the fear-levels of men and women. In traditional households (e.g. families where the father is the breadwinner), boys learn to be assertive, risk taking, and fearless whereas girls learn to be submissive, risk avoiding, and fearful. However, in non-traditional households (e.g. families where the mother’s status is equal or higher than the father’s status – the father is no longer the breadwinner in the family) boys and girls learn both to be assertive, risk taking, fearless, and submissive (Fetchenhauer & Buunk, 2005). The differences between men and women are also represented and even reinforced by the media. Women are often depicted as vulnerable whereas men as fearless persons. However, it should be noted that the role of socialization is not widely embraced by other researcher. Some researchers agree with this reasoning and others do not. Fetchenhauer and Buunk (2005) show in their study that there is no significant relationship between fear of crime and the type of household in which a child has grown up.

Women have thus a higher fear of crime than men have. This fearfulness is not attributable to certain situations or times. Research has shown that women have a heightened fear in all conceivable situations and/or times, but their fear is highest in situations after dark. In response to this fact, programs are created with the aim to reduce this fear by reducing the darkness. A widely used project is the improvement of the street lighting systems in cities. Improved street lighting should reduce the crime in the neighbourhoods and simultaneously reduce the fear of crime. Street lighting may reduce the crime by improving visibility in the streets. People have a greater overview of the environment. They see what happens in the streets. This deters potential offenders by increasing the risks that they will be recognized or interrupted in the course of their activities (Farrington & Welsh, 2002). This affected simultaneously the fear of crime among people. People sense that a well-lit environment is less dangerous than one that is in dark (Farrington & Welsh, 2002). The improvement of the street lighting system will therefore reduce the fear of crime among people. People feel themselves safer in neighbourhoods with good lighting systems. This reduced fear of crime applies to both men and women. However, women are still more fearful than men (Painter, 1996).

Hypothesis 2:

**Neighbourhoods with a high percentage of women have higher levels of fear of crime among their residents**

### **2.2.3. Income**

A third demographic variable is income. The poor are considered as more fearful compared to those in the middle- or upper-class categories of society (Toseland, 1982). Poorer are more vulnerable, because they are likely to live in lower socioeconomic neighbourhoods.

Their residential environment affects in this way the social vulnerability of poorer people. As mentioned earlier, social vulnerability is measured by two aspects: (1) the actual risks of a population (the poorer) and (2) their resources dealing with the consequences of crime. Both aspects affect the high fear-level of people living in poverty. First, the actual risks of becoming a victim of crime are high in this target group. The poor live often in neighbourhoods with higher offender and offenses rates (Taylor & Hale, 1986). Therefore, their chance of becoming a victim is higher and they hear and experience more about crime (‘indirect victimization’). Second, people living in poverty have lesser resources to deal with the consequences of crime, because of their lower income and they have often no home contents insurance (Pantazis, 2000). They do not have the financial resources to replace stolen items and/or pay for damages in their houses and the consequences are not covered by insurance. In addition, the poorer also do not have the resources in response to crime or fear of crime. They cannot do something to prevent crime or reduce their fear of crime. They do not have enough money to buy a car or use a taxi. They are condemned to use public transport; places where usually everyone feels (more) insecure. They also do not have the money to install an electronic alarm in their house.

Hypothesis 3:

**Neighbourhoods with a high percentage of poorer have higher levels of fear of crime among their residents**

#### **2.2.4. Nationality**

A last variable that play a role within this study is the variable nationality. Literature, mainly American literature, has shown that ethnic minorities experience a higher level of fear of crime than ethnic majorities. Blacks and Hispanics have higher fear-levels compared to white community in the United States of America. The high fear-levels of ethnic minorities can be explained by looking at the social vulnerability of the minorities. The risks of victimization are higher in these population groups (Skogan & Maxfield, 1981). Blacks and Hispanics are more often victim of a crime and/or know somebody who is a victim. In addition, ethnic minorities have also often less resources and facilities to deal with the consequences of crime (Skogan & Maxfield, 1981). As just mentioned, this line of reasoning is most used in the American literature. However, also other Western countries identified this pattern. Studies in the UK show that ethnic minorities have also a heightened fear of crime compared to the ethnic majorities in the society (Pain, 2001). Pain (2001) indicates ethnic minorities as people with a colour. These groups in society are more often victim of a crime than white people. Oppelaar and Wittebrood (2006) recognize a similar picture for the Netherlands. The authors argue that non-Western immigrants have relatively a higher level of fear of crime compared to the indigenous groups in the Netherlands. Figures from the Police Monitor Population (in Dutch: PolitieMonitor Bevolking) show that 33 per cent of the non-Western immigrants feel sometimes insecure versus 25 per cent of the natives (Oppelaar & Wittebrood, 2006). The difference between immigrants and indigenous groups can also be explained on the basis of the neighbourhoods where the ethnic minorities live. Ethnic minorities live often in the

poorer and worse neighbourhoods of the city; the lower socioeconomic neighbourhoods where more crime occurs and with more disorder. The relationship between disorder and fear of crime will be explained in the next paragraph.

Hypothesis 4:

**Neighbourhoods with a high percentage of individuals with a non-Western nationality have higher levels of fear of crime among their residents**

Four demographic variables (age / gender / income / nationality) are explained. Demographic variables that are all to some extent related to fear of crime. However, the variables have all their own explanatory power; the degree to which they can explain fear of crime. Some of these variables are seen as strong predictors for fear of crime. This applies to age and gender. Age is even regarded as the single most important predictor of fear of crime (Toseland, 1982). Other variables do not have such a great explanatory power. These variables, such as income and to a lower degree nationality, appear to affect fear of crime in some studies, but not in others. These variables have often an explanatory value when they are seen in combination with other variables. In statistical terms called: total effect or interactions effects. Total effects consider a relationship between three or more variables. An example: women living in lower socioeconomic neighbourhoods are more fearful compared to women living in higher socioeconomic neighbourhoods.

In conclusion, crime is not evenly distributed throughout the society (Toseland, 1982). Some groups in society are more vulnerable for becoming a victim of crime than others in society. Persons who have a number of these demographic variables are particularly even more vulnerable. Hereby is often referred to the group elderly women in society (see for example: Toseland, 1982; Warr, 1984).

### **2.3. Disorder**

The second factor that is central in this study is disorder. Before the relationship between disorder and fear of crime will be discussed, the concept of disorder is defined.

The concepts of order and disorder are often used to describe neighbourhoods, where order is preferred to disorder. Everybody wants to live in clean, safe and quiet neighbourhood; places where people live according to the social norms of the society. Social norms prescribe how people should behave in relation to others or while passing through a community (Skogan, 1990). They ensure that people behave to the norms of a situation and that people act according their social role. These social norms are, most of the time, unwritten rules; everybody knows them and tries to act according the norms. However, some people do not (always) behave to the social norms of society. These people exhibit antisocial behaviour. Antisocial behaviour leads to a disrupted order and even to disorder in society. Skogan (1990) defines disorder as: *‘visible cues indicating a lack of order and social control in the community’*. Disorder shows a signal of a breakdown of the local social order in the neighbourhood. Examples of such a social breakdown are: people do not longer watch out for their neighbours; the unwillingness of residents to confront strangers or correct the

behaviour of strangers; intervene in a crime or call the police to report illegal activities (Sampson & Raudenbush, 1999).

Skogan (1990) distinguishes two dimensions of disorder: social disorder and physical disorder. Social disorder refers to signs that indicate a lack of social control in the community (Skogan, 1990, in: Ross & Mirowsky, 1999). It looks at the behaviour of individuals and the consequences of this (anti-social) behaviour. Social disorder is reflected in public drinking, street fights, drugs nuisance, prostitution, et cetera. Physical disorder refers to the overall physical appearance of a neighbourhood. It involves visual signs of negligence and unchecked decay, such as abandoned buildings, broken streetlights, vandalism and graffiti (Skogan, 1990; Ross & Mirowsky, 1999; Sampson & Raudenbush, 1999). Social disorder and physical disorder are, however, not two totally separated concepts. Both concepts can overlap each other and, therefore, some forms of disorder can be placed in both categories. Examples are graffiti and vandalism. Graffiti and vandalism can be seen as consequences of individual behaviour (‘social disorder’) and also as visual signs of decay of a neighbourhood (‘physical disorder’).

The above examples show that it is quite easy to come across examples of different types of disorder. However, this is not always the case. Some types of disorder are clear and widely accepted by others as forms of disorder. This applies to public drug use and vandalism. Everybody agrees that these kinds of disorder affect society (excluded the opinion of junkies). However, this does not apply to all forms of disorder. There is no consensus about all types of disorder. A good example of such a type of disorder is graffiti. Some people experience it as disorder while others defines it as a piece of art. Disorder is thus a really subjective concept. It is not a fixed concept and it varies from time, place and person. Every person experiences disorder in a different manner. It depends on how someone is looking at disorder and how he experiences disorder. What one citizen experiences as annoying and/or disturbing, is not the case for someone else (Pleysier & Deklerck, 2006). Therefore, disorder is measured by surveys among people. People were asked to what extent they experienced disorder in their neighbourhood and a researcher compared these statistics to compare the rates of disorder in neighbourhoods.

Disorder, but also the breakdown in social order, can have major consequences for the appearance of a neighbourhood. It may affect the image of a neighbourhood towards other people and strangers. People’s perception of a neighbourhood is shaped by what people actually see. A clean neighbourhood where buildings are in good repair and with low pollution is considered as a good neighbourhood to live in. Where at a neighbourhood characterized by abandoned houses and lots of litter is considered as a deprived area and nobody wants to live in such conditions. Disorder can have a negative and frightened effect on people, because many people see disorder in relation to crime. Disorder can therefore be seen as an important and meaningful indicator within the perception-building process of fear of crime.

## 2.4. The role of disorder

Research has shown that both the physical and the social dimension of disorder are a very important indicator to explain the level of fear of crime among people. Both dimensions heighten the fear of crime among people, although their effects are probably indirect via heightened perceived risk of crime (see for example: model by Oppelaar and Wittebrood; Ferraro, 1995). The incivility theory or incivilities thesis (Taylor, 1999) clarifies the relationship between disorder and fear of crime. They use the term ‘incivility’ to describe disorder in neighbourhoods. Incivilities are: *“social and physical conditions in a neighbourhood that are viewed as troublesome and potentially threatening by the people”* (Taylor, 1999). It corresponds to the definition of Skogan (1990) about social and physical disorder.

The incivility theory shows that disorder has a negative impact on the fear of crime among people (Hunter, 1978; Wilson & Kelling, 1982; Covington & Taylor, 1991). Neighbourhoods with more objectively observed social and physical incivilities have higher fear levels among people. People feel themselves threatened through the incivilities in their neighbourhood, such as broken street furniture, graffiti paintings, litter and garbage in the streets. Hunter (1978) concludes that disorder has even a greater impact on the fear of crime than the actual crime level in the neighbourhood. Physical incivilities are more frequently experienced and more ubiquitous in daily routines of people than crime actually do (Hunter, 1978). People come more in contact with, mostly, physical incivilities than that they have direct experiences with crime itself. People see and recognize graffiti paintings and vandalism daily, but they are not a crime victim every day. Therefore, the presence of the signs of incivilities is threatening to them and makes them more fearful compared to the role of crime in this perception-building process. Disorder has also an indirect effect on the fear of crime among people. Disorder can contribute to an increased level of crime in society and crime in turn contributes to an increased fear of crime. Research has shown that neighbourhoods with higher rates of disorder have also a higher crime level. Figure 2.2. gives a schematic and simplified overview of the process between disorder and crime.



**Figure 2.2. Schematic overview of relationship disorder and crime**

Disorder leads to a decrease in social order and even to a breakdown of social control in society. Order is a state of peace, safety, and observance of the law, while social control is an act of maintaining this order (Ross & Mirowsky, 1999). This social order is disturbed by the visible signs of incivilities. Vandalism, graffiti and litter in the streets communicate an image of disorder to the residents and visitors of a neighbourhood (Hunter, 1978; Skogan, 1986). This loss can be dedicated to two developments. First, social and mainly physical incivilities show the incompetence of residents and authorities to manage or preserve their neighbourhood. Residents and other organizations did not, and could not, intervene to regulate and enact norms of behaviour within the neighbourhood (Jackson, 2004, p.955). Second, external agencies of control are unwilling or incapable of doing so in the neighbourhood. Incivilities are a sign of the lack of collective efficacy. Residents and authorities have lost their immediate control over the community and the environment. They are no longer in the position to preserve order. They are unwilling or unable to intervene to prevent crime. This is reflected in various everyday events. Residents do not confront strangers; do not intervene in a crime, or call no longer the police when a crime is committed are a couple of such examples. A loss of social order leads subsequently to a higher amount of crime in the community. Potential offenders of crime assume that residents are indifferent to what goes on in their neighbourhood, because there is lesser social control. People are more likely to commit a crime when social control is reduced. So, minor incivilities can attract other (major) crime. Wilson and Kelling (1982) use the metaphor of a broken window to show this relationship between disorder and crime. They suggest that: *“if a window in a building is broken and is left unrepaired, all the rest of the windows will soon be broken”*. It attracts even other forms of crime. Homelessness will use the building as a place to sleep and junkies and drugs dealers will use it to deal in drugs. Disorder (*‘a broken window’*) will attract other crime (*‘drugs related issues’*). Several studies around the whole world support the Broken Windows theory. Sampson and Raudenbush (1999) conclude that neighbourhood incivilities in public spaces in Chicago predict police reports of robbery and homicide; a study in four cities in the United States of America (Atlanta, Baltimore, Chicago, Minneapolis-St. Paul) shows that disorder correlates with street crime rates (Taylor, 1999), and people are more likely to steal in a neighbourhood with more objective physical incivilities (Keizer, Lindenberg & Steg, 2008).

Disorder can thus be seen as a meaningful determinant within the perception-building process. Hence the following hypotheses:

Hypothesis 5:

**Neighbourhoods with a high degree of physical disorder have higher levels of fear of crime among their residents**

Hypothesis 6:

**Neighbourhoods with a high degree of social disorder also higher levels of fear of crime among their residents**



This world-wide support for the Broken Windows theory by Wilson and Kelling (1982) has led to the emergence of new theories and concepts based on this thinking. Concepts and theories that are mainly used by practitioners rather than by scientists. One of these new concepts is Crime Prevention Through Environmental Design (abbreviated: CPTED). This is a widely used concept to prevent crime through environmental design. According to supporters of CPTED, a proper design and effective use of the built environment can lead to a reduction in the fear and incidence of crime (Cozens, Saville & Hillier, 2005). Designing, organizing, and managing the public environment will reduce the crime rates in society. CPTED is focused on six fields: territoriality, surveillance, access control, image/maintenance, activity support, and target hardening. The fourth field (‘image/maintenance’) is similar to the ideas of the Broken Windows theory. According to CPTED, a positive image of the neighbourhood and positive signals to all users of the neighbourhood will contribute to a decline in crime in this neighbourhood (Cozens et al., 2005). Improvements within this field are: clean-up programs to remove graffiti from public buildings and rapid repair of vandalized equipment. The first strategy is known through the approach of John Giuliani, former mayor of the city of New York (from 1994 to 2001). He introduced the clean-up programs to remove graffiti from train cars and stations and in the subway system. In his view, removing graffiti (as a symptom of urban decay) should lead to reducing of the crime rates in the city. Other solutions that fit within the CPTED strategy are: natural surveillance, CCTV, better locks and bolts, and electronic alarms (Cozens et al., 2005).

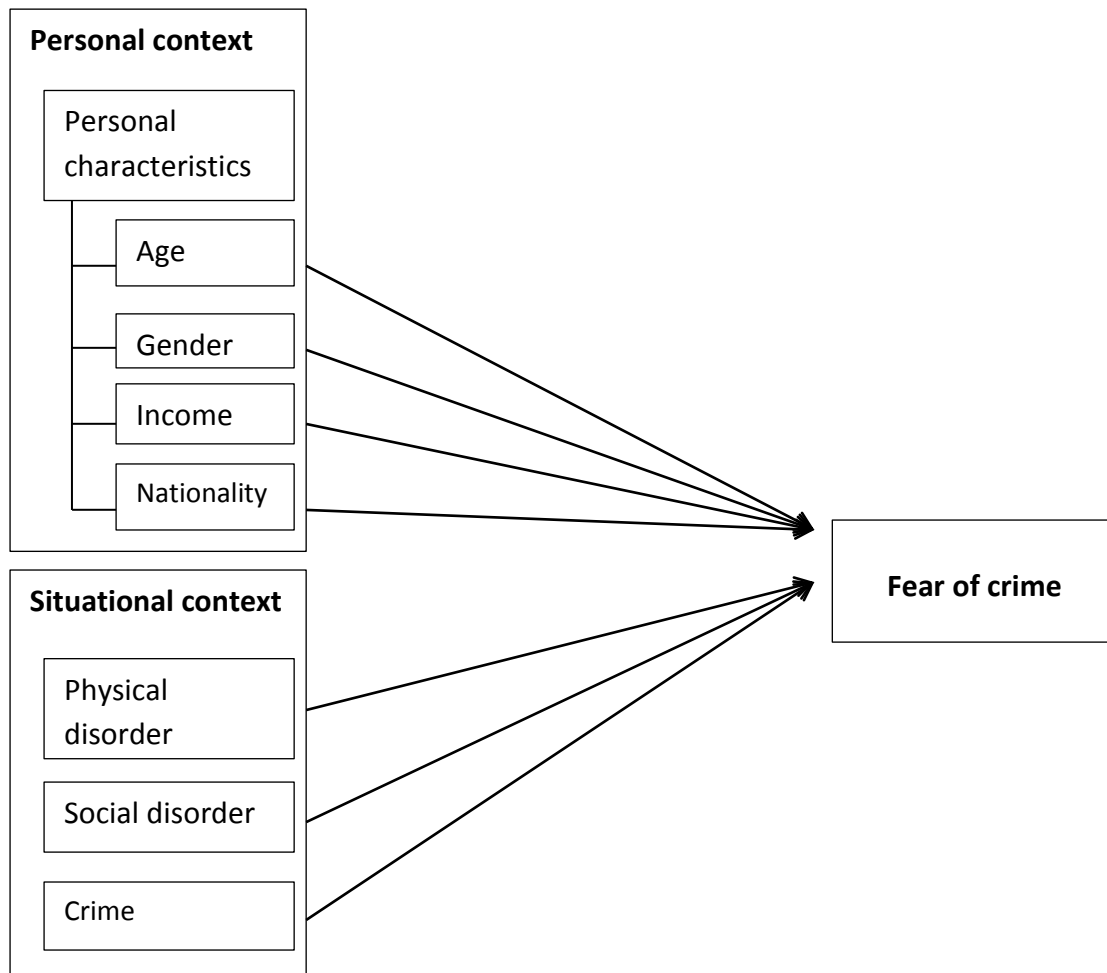
## **2.5. The role of crime**

In figure 2.2., disorder is not the only important link to define the fear of crime among people. Crime still plays a major role within this process. Crime contributes to an increased fear of crime. Residents living in neighbourhoods with higher crime rates are more fearful compared to residents living in neighbourhoods with lower crime rates (Skogan, 1986). This higher fearfulness cannot be attributed to the fact that these residents have a higher chance of becoming an actual crime victim compared to the chance of residents living in neighbourhoods with lower crime rates. But it is more likely that these residents are more often indirect victim of crime. People hear more often about crime via their local social contacts. People are faced with the victimizations of others. They get scared and feared of crime through the stories told by the local media, their neighbours, and their friends about their experiences with crime (Taylor & Hale, 1986). In addition, people know other people in their vicinity who have been victimized. Talking with neighbours about crime and knowing local victims appears to affect levels of fear and individual estimates of the risk of victimization (Skogan, 1986). In other words, local social contacts can enhance people’s anxiety of crime and being a crime victim. This line of reasoning is known as the indirect victimization theory/model (Taylor & Hale, 1986; Covington & Taylor, 1991).

Hypothesis 7:

**Neighbourhoods with higher crime rates have higher levels of fear of crime among their residents**

Crime should therefore certainly not be underestimated in the model. Hence crime is also one of the ten determinants in the perception-building model of Oppelaar and Wittebrood (2006). However, it is not said that crime is the best predictor of fear of crime. The other (social) determinants play also an important role within the process. Based on the theory and the hypotheses, a following model is drawn:



**Figure 2.3. Theoretical model**

**2.6. The development of a reassurance gap**

As indicated in the beginning of this chapter, the fear of crime has extremely increased in recent years. People feel themselves more and more insecure in their own neighbourhood and in society in general. This increased insecurity is remarkable, because police figures and official crime rates show a fall in the recorded crime in recent years. The total (recorded) crime is decreased from 1.328.909 million crimes in 2000 to 1.214.503 million crimes in 2007 (CBS – Geregistreeerde criminaliteit). This is a decline of more than one hundred thousand in seven years; about 1.2 per cent each year. The difference between objective safety (measured by official police records) and subjective safety (measured by fear of crime) is indicated as the reassurance gap. The reassurance gap points out that the crime is fallen

down, but people’s perception has remained that crime is rising (Newburn & Reiner, 2007; Millie & Herrington, 2005).

The development of a reassurance gap can have major consequences for people within the society, but also for society itself. First of all, people will act differently when they feel themselves insecure. They become more cautious in their actions. People avoid certain parts of the city and are no longer at the streets at night. However, a reassurance gap also affects the society in general. One of the most feared consequences is the loss of public confidence in society. Public confidence is the extent to which people can rely or belief they can rely on the government and other governmental institutions, such as municipalities and the police. The development of a reassurance gap can erode this public confidence (Jackson et al., 2009). People see the government and her institutions as representatives of the community values and morals. The government should represent and propagate these values and morals toward the society. The government is also judged on her performances. Good performances lead to an increased public confidence and poor performances lead to a decreased public confidence in society.

One of these public values is safety. The government, but to some extent also the police, must ensure a safe society; a society where everyone feels safe. A reassurance gap can disturb this ideal image. People experience more crime than actually is true and hence conclude that they live in an insecure neighbourhood or insecure society. People hold the government responsible for this fact, because they think the government fails in the performance of her duties. The government (but also other governmental institutions) do not perform well or at least do not perform to the expectations and high demands of the people. Jackson et al. (2009) refer in their article primarily to the expectations of the people towards the police. Their expectations are based on two main tasks of the police, namely: (1) the police should reduce the (total) crime in society, and (2) the police should defend the community values and the moral structures of society. The people believe the police do not meet these expectations. They find the police do not accomplish both tasks. They experience higher crime rates (while this is actually not the case) and they experience local issues that go against the community values, like young people hanging around and drinking in the streets. All these developments together have even greater consequences for society. It affects the public confidence, because people do not longer rely on the government and it even affects the legitimacy of the government, especially the output legitimacy. Output legitimacy is satisfied when the government delivers what people expect from it. People want the government and the government institutions to provide a safe environment, but the government (and police) cannot ensure this in people’s view. More people feared just (more) crime and think that there chance to become a victim has grown in the last years.

The government is, however, not blind for these worrying developments. They recognize the declining public confidence in society and decided that action was needed to stop these negative developments. In response, several policies are written. These policies can all be

seen under one umbrella term: (public) reassurance policing. The main goal of these policies is to regain the public trust in society and to restore the public confidence. Different methods should contribute to achieve these goals. One method is a better visibility of the government and especially the police in society. People see the police and they experience that the police really do something to the problems in society. Another method within the public reassurance is to focus on all components of the policy field. Nowadays, most policies are focused on one component; safety. However, safety management consists of several parts, including: fear of crime, confidence, and the experience of freedom (Eijsink Smeets, 2008). Reassurance policies should address all these issues.

Reassurance policies are nowadays mainly applied in the United Kingdom (Millie & Herrington, 2005; Jackson et al., 2009), but other (Western) countries showing increasing interest in this type of policy. Some countries have already experimented with this line of reasoning. In Rotterdam, they have introduced the ‘stadsmariniers’ (Eijsink Smeets, 2008; Tops et al., 2009). These stadsmariniers work in neighbourhoods where safety is threatened. They identify neighbourhood problems, analyse the situations, and determine what to do on the basis of the previous steps. In this way, the government is more involved in neighbourhood issues and people see that something happens to these problems. Evaluation of this project shows that the stadsmariniers were successful in their job. The safety is much improved in the neighbourhoods where stadsmariniers were active (Tops et al., 2009).

In this study, the potential consequences of a reassurance gap will not be considered, because of time limits of the study. However, it is important to be well aware of these consequences for the society. The government should identify them early and must develop policies to combat them. This shows once again the social relevance of this study.

# 3

## METHODOLOGY

*This chapter describes the methodology used in this study. In the first part of this chapter, the research design is discussed. The second part consists of the operationalization of the variables within this study. What do they exactly mean with regard to this study and how are they measured in the context of the study? The final part involves the data analyses.*

### 3.1. Unit of analysis

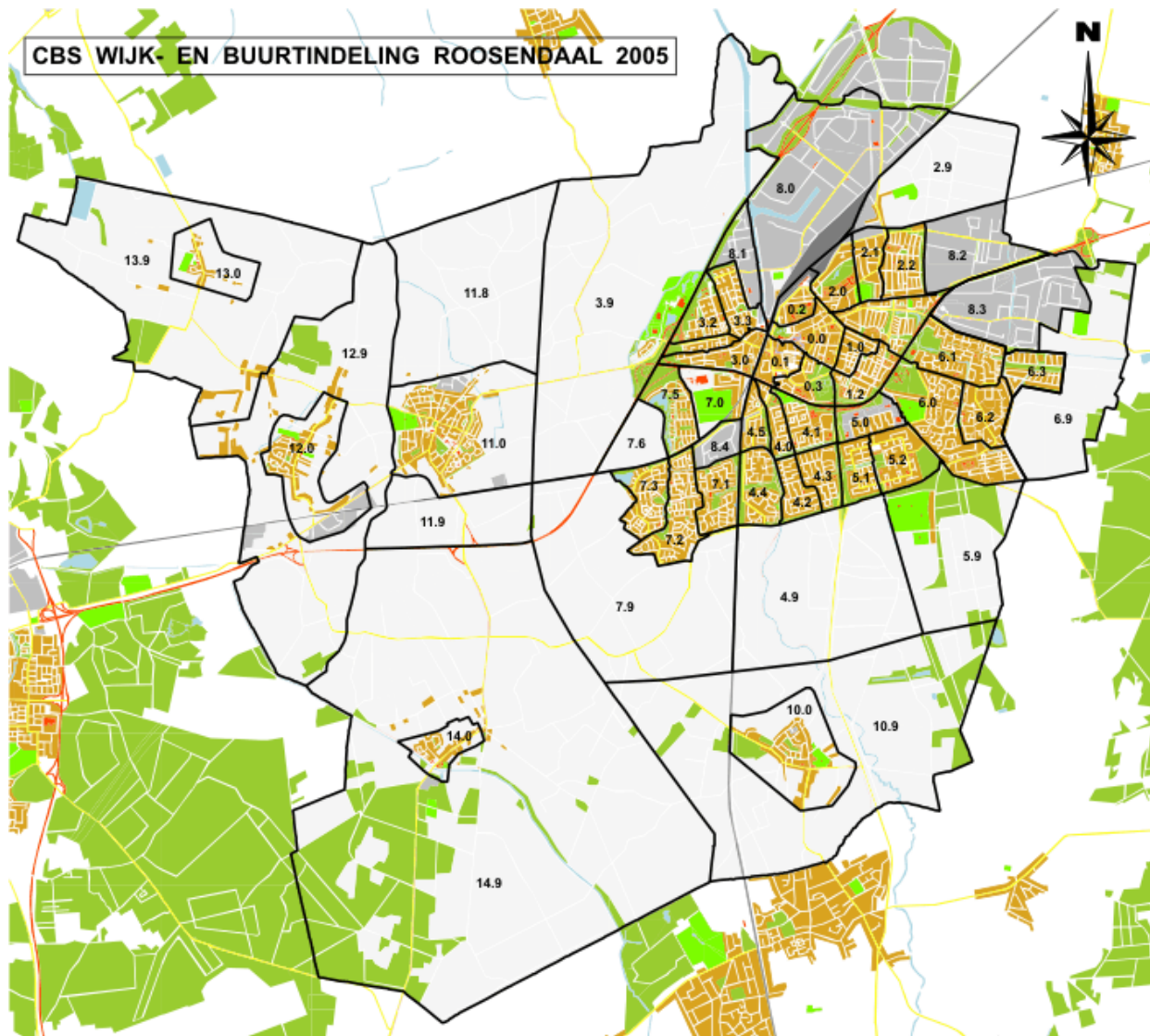
The goal of the study is to explore, describe, but mainly explain the concept of fear of crime. As we have seen in the theoretical framework, fear of crime is a very complex and complicated concept. A concept with many meanings and several variables which can affect the fear of crime among people. To get a better understanding of the concept, fear of crime is viewed in a smaller context using a case study. In this study, the fear of crime of individuals living in the municipality of Roosendaal is central. Therefore, this group can be seen as the unit of analysis, i.e. the major entity that is analysed within the study (Babbie, 2007). In much social research, the unit of analysis corresponds to the unit of observation, i.e. the units over which data is collected (Babbie, 2007). However, that is not the case within this study. The unit of analysis do not compare to the unit of observation. The unit of observation are the neighbourhoods<sup>1</sup> in Roosendaal, because the data is collected at neighbourhood level. The 48 neighbourhoods in Roosendaal (see figure 3.1. and annex 1) provide a (total) picture of the personal characteristics, the degree of disorder, the amount of observed crime, and of course the fear of crime of individuals living in these neighbourhoods. In the analysis, the neighbourhoods are clustered within 15 districts<sup>2</sup>. Before the choice of Roosendaal as the central municipality within the study will be declared, some information about the municipality of Roosendaal will be given.

Roosendaal is a city and municipality in the province of North Brabant in the Netherlands. It has 77.529 citizens and is therefore the sixth largest city in this province after: Eindhoven, Tilburg, Breda, 's-Hertogenbosch, and Helmond. The city of Roosendaal has a rich history dating back to the twelfth and thirteenth centuries. Even today, Roosendaal is still known for its railway station by its location on the railroad the Netherlands-Belgium, the candy of Redband, and the Liga cakes (Gemeente Roosendaal – een korte geschiedenis). The municipality of Roosendaal is, however, rather new. It is a relatively new municipality within the Netherlands, because of the reorganization in the municipal system in the Netherlands in 1997. From this year, the municipalities of Roosendaal, Nispen and Wouw are combined into one municipality: Roosendaal. The municipality of Roosendaal consists of six urban centres. These centres are ranked at size: Roosendaal (67.463 residents), Wouw (4.857), Heerle (1.840), Nispen (1.598), Wouwse Plantage (1.143), and Moerstraten (628). Figure 3.1.

<sup>1</sup> Neighbourhood is a part of a community, that from a construction standpoint of socio-economic structure homogeneously is defined

<sup>2</sup> District is a part of a community where some form of land use or cultivation predominates. For example: industrial, residential high-rise or low rise. A district consists of one of more neighbourhoods (CBS – begrippen)

gives an overview of the municipality of Roosendaal. The numbers in the figure refer to the 48 neighbourhoods in Roosendaal. The number 0 to 8 are neighbourhoods in the city of Roosendaal, 10 is Nispen, 11 refers to Wouw, 12 is Heerle, 13 corresponds to Moerstraten, and 14 is Wouwse Plantage. See annex 1 for a complete list of the neighbourhoods in Roosendaal.



**Figure 3.1. Roosendaal**

The choice of Roosendaal as unit of analysis is a well-considered decision. This decision is mainly based on the existence of the Buurtmonitor, a tool that collects data on neighbourhood level. Although several Dutch cities use this tool, Roosendaal has the most comprehensive dataset of all cities. First, the Buurtmonitor of Roosendaal collects data for a relatively high number of neighbourhoods, namely 48 neighbourhoods. Second, the Buurtmonitor Roosendaal uses proper definitions in their monitor. Other monitors do not meet these criteria. Some monitors collect data for more than 48 neighbourhoods, such as Rotterdam and Tilburg. However, these Buurtmonitoren do not collect all the data needed

to fulfil this study. They do not measure all variables and/or use poor definitions for the variables.

### **3.2. Data collection**

Different data is needed to answer the research questions. Two data sources are used to collect the data and to fulfil the study. These data sources are: (1) the Buurtmonitor and (2) the Central Statistics Office (in Dutch: Centraal Bureau voor de Statistiek, CBS). Both sources and the collected data will briefly discuss in the next paragraphs.

#### *1. The Buurtmonitor*

The Buurtmonitor is a tool that contains relevant information on different policy fields (including population structure, housing, education, safety, et cetera) at neighbourhood level for several cities and/or municipalities in the Netherlands and in Belgium. The data presented is obtained from existing data sets from the municipality and the police and from resident’s surveys. The Buurtmonitor includes both actual data about the current situation and historical data that can be used to identify and analyse neighbourhood developments of recent years. In this study, the historical data is used to outline a picture from the fear of crime of individuals living in neighbourhoods in the municipality of Roosendaal. The study uses data from 2003, 2005, 2007, and 2009.

Most data needed for the study is available in the Buurtmonitor. The following variables are shown within the Buurtmonitor Roosendaal: age, gender, race, physical disorder, social disorder, crime, and fear of crime. However, some of these data is incomplete. Some data is not available for all years and/or all neighbourhoods. One independent variable is not represented in the Buurtmonitor Roosendaal. This involves the (average) income level of the neighbourhood.

#### *2. The Central Statistics Office*

A second data source used is the data set of the Central Statistics Office. The Central Statistics Office is an institution which publishes statistical information on national level, but also on neighbourhood level. This contains information in different policy fields; from labour and social security to health and welfare and from security to education. The income level on neighbourhood level is also represented in the data set of the Central Statistics Office.

### **3.3. Operationalization of the variables**

There are four central variables within this study. These variables are: personal characteristics, disorder, crime, and fear of crime. These four variables are generally known, but to some extent also abstract. People have generally an idea about the meaning of the concepts, but do not know exactly what they mean in context with each other. Consequently, it is important to have clear definitions of the variables within this study. Research cannot be successfully fulfilled without clear definitions and delimitations of the key concepts of a study. In the following subparagraphs, the key variables of this study will be operationalized. The four variables will be defined and these definitions make them measurable quantities for the study.

### 3.3.1. Personal characteristics

The first key concept within the study is personal characteristics. This variable is not an isolated concept, but a concept consisting of several personal characteristics. In this study, the variable relates to four characteristics: age, gender, income, and nationality. These characteristics are seen as dichotomous variables. Dichotomous variables are variables with only two values or outcomes, such as yes and no or high and low. It is a deliberately choice to use only dichotomized variables. The main reason is that literature about fear of crime (in relation to personal characteristics) often is focused on small groups in society. They usually compare the fear of crime of two groups in society, such as a comparison between the fear of crime of young and old people or the fear of crime between men and women.

*Age.* The characteristic age relates to the age of individuals living in the neighbourhoods of Roosendaal. A distinction is made between two age groups in society: young and old. The value young refers to individuals aged between 20 and 59 years old. The value old refers to individuals older than 60 years. This distinction is based on earlier literature about fear of crime. Skogan (1978) concludes in his article “The fear of crime among the elderly” that individuals over 60 years have a greater fear of crime compared to the fear of crime of youngsters.

*Gender.* The characteristic gender consists of two values: men and women.

*Income.* The characteristic income concerns the earnings of individuals. This characteristic is dichotomized into two values: low income and high income. Definitions of the Central Statistics Office will be used to measure these variables. The Central Statistics Office defines the variable income as follows:

- *Low income* refers to the percentage of incomes less than or equal to the 40 percentage-point of the national income distribution
- *High income* refers to the percentage of incomes greater than or equal to the 80 percentage-point of the national income distribution  
(CBS – inkomen en bestedingen)

The income thresholds vary each year. This depends on annual economic developments, such as salary increases and inflation. The limits of the years, according to the CBS, are:

**Table 3.1. National income distribution, 2003-2009**

Year	Low income	High income
2003	≤ € 13.800	≥ € 24.200
2005	≤ € 13.900	≥ € 24.600
2007	≤ € 14.200	≥ € 25.200
2009	≤ € 25.100	≥ € 46.500

*Nationality.* The characteristic nationality concerns the nationality of the individual in the neighbourhood. This characteristic is divided into individuals with a Dutch nationality and



individuals with a non-Western nationality. Individuals with a Dutch nationality were born in the Netherlands and whose parents were born in the Netherlands. Individuals with a non-Western nationality were born in a country other than the Netherlands or other Western countries (such as Western European countries; USA; Canada; and Japan). This applies also to the mother country of the parents of the individual. This separation is based on the literature of Oppelaar and Wittebrood (2006). Both authors conclude that non-Western immigrants have relatively a higher level of fear of crime compared to indigenous individuals in the Netherlands.

### **3.3.2. Disorder and crime**

The second key concept is disorder. In this study, disorder is defined as: *‘visible cues indicating a lack of order and social control in the community’* (Skogan, 1990). A distinction is made between social and physical disorder. Social disorder looks at the consequences of individual behaviour, such as public drinking and drugs nuisance. Physical disorder refers to the physical appearance of neighbourhoods. Examples of physical disorder are vandalism and graffiti. Both dimensions are represented in this study and should be analysed in regard to the fear of crime of individuals living in neighbourhoods in the municipality of Roosendaal.

*Social disorder.* Social disorder is measured as a combined indicator in the Buurtmonitor of Roosendaal. This indicator consists of three types of social disorder: nuisance by youth, nuisance by local residents, and other nuisance from the neighbourhood. These three types are all caused by the behaviour of individuals and therefore typical examples of social disorder. The score shows to what extent these problems occur in the neighbourhoods. The higher the score, the higher the degree of social disorder in the neighbourhoods. The score ranges between zero (no social disorder) and ten (high social disorder).

*Physical disorder.* Physical disorder is measured in the Buurtmonitor as a combined score for four types of physical disorder, namely: graffiti on public walls and buildings, destruction of street furniture (e.g. bus shelters), litter, and dog poop. This score shows to what extent these four problems occur in neighbourhoods. The higher the score, the more physical disorder in the neighbourhoods. The score ranges between zero (no physical disorder) and ten (high physical disorder).

*Crime.* Crime relates to the objective crime rates within the neighbourhoods in the municipality of Roosendaal. It is measured as the relatively amount of recorded declarations to the amount per 100 households.

### **3.3.3. Fear of crime**

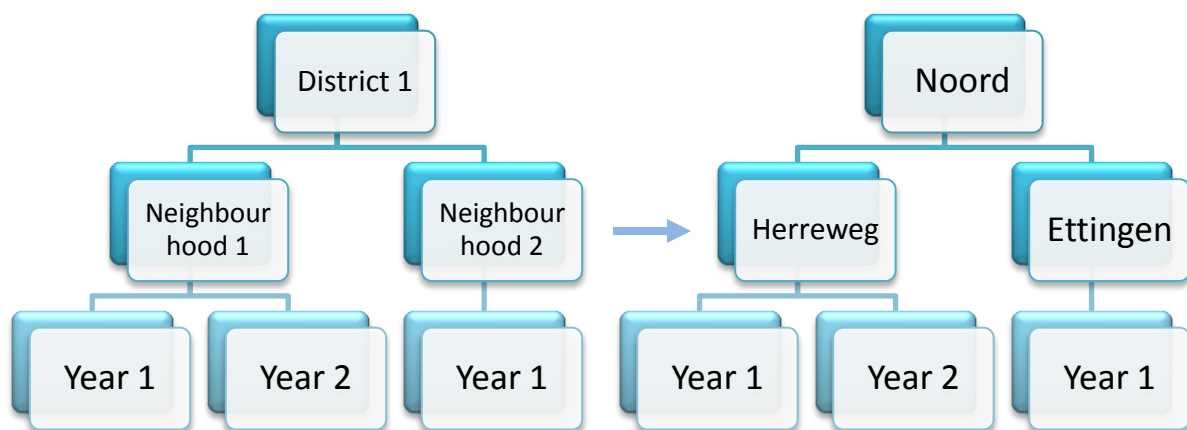
The fourth, and last, variable within this study is fear of crime. Fear of crime is defined as: *“an emotional reaction of dread or anxiety to crime or symbols that a person associates with crime”* (Ferraro & LaGrange, 1987; de Savornin Lohman & van Hoek, 1993). This is a comprehensive definition, but it is difficult to put into practice. How do you actually measure fear of crime? Hence, research uses other definitions to actually measure fear of crime. So do the Buurtmonitor Roosendaal. Fear of crime is in the Buurtmonitor measured as a grade.

A grade that people give for their feeling of security in their neighbourhood measured by the question: “How safe do you feel in your own neighbourhood?” The higher the grade, the more safe people feel themselves in their own neighbourhood.

### 3.4. Data analyses

The data from the Buurtmonitor Roosendaal will be analysed using the computer program STATA. This computer program is able to perform different statistical analyses that can help to answer the research questions in this study.

The statistical analysis used is a multilevel linear model. This model is a more complex form than other (simpler) regression models, like the conventional linear regression modelling. The main difference is the use of hierarchical data in multilevel linear modelling; hence this type of regression modelling is also often called hierarchical linear modelling. Hierarchical data means that variables are clustered or nested within other variables (Field, 2009). The lower level of variables fit within the higher levels. This principle is often explained by using an example about students in school. Students (layer 1) fit within a school class (layer 2) and in turn belong to a school (layer 3). This principle can also be fitted in this case study where three different layers can be distinguished. These layers are: (1) the year in which the data were collected ( $n = 4$ ), (2) the neighbourhoods ( $n = 48$ ), (3) the districts ( $n = 15$ ). See figure 3.2. for a simplified picture of the nested data.



**Figure 3.2. Hierarchical data; a theoretical and an applied picture**

*Comment: this is a very simplified version of the hierarchical data. The total picture should include all 15 districts, all 48 neighborhoods, and all years for each neighborhood.*

The multilevel linear model has several advantages over other regression models. Benefits that also occur within this study. These benefits are: the assumption of independence and the appearance of missing data. The first benefit implies that all residuals should be independent from each other. Normally, a lack of independence between cases will affect the resulting statistics in a negative way. However, this assumption does not apply to the multilevel linear modelling, because cases within one layer are more or less dependent from

each other. Or as Andy Field (2009) noted: “residuals will be correlated within the layers”. The second benefit is the appearance of missing data within the data set. Where missing data for any other type of regression modelling is a big problem, it is not for multilevel linear modelling. The not complete data set is therefore not such a big case in this study.

In this analysis, a bootstrapped multilevel linear model is used. This decision was made because the used data from the Buurtmonitor Roosendaal do not show a normal distribution (see Annex 2). The nonparametric test Kolmogorov – Smirnov test is used for testing the normality of the data taken from the Buurtmonitor Roosendaal. The KS – test shows that the variable fear of crime is not normally distributed ( $0.000 < 0.05$ ). Hence, the multilevel linear analysis in Stata is bootstrapped.

# 4

## ANALYSES AND RESULTS

*This chapter provides the analyses and results of the study. These analyses indicate whether crime is the only explanatory of fear of crime or whether other variables also affect the development of fear of crime among people. This directly leads to testing the hypotheses and to answering the sub questions presented in the introduction.*

### 4.1. Fear of crime explained

Crime has long been recognized as the only explanatory variable for fear of crime. It was assumed that the rising crime rates in society were the cause of the increasing fear of crime among citizens. Citizens would be afraid to be themselves a victim of crime or they knew people who have been victims of crime. This thinking has changed in the past twenty years. From this period, also other variables were suggested as a possible cause for the ever-increasing fear of crime. Two of these ‘new’ mentioned variables are personal characteristics and disorder. According to some scientists (Hunter, 1978; Wilson & Kelling, 1982; Skogan, 1978), these ‘new’ variables have even a greater explanatory value compared to the explanatory value of the ‘old’ variable crime. This study shows if this is indeed the case by using a multilevel regression analysis. The independent variables are gradually added in a multilevel regression analysis so that the explanatory value of all the variables gets visible. In this study, the multilevel regression analysis consists of four models. The four models tested are:

- Model 1: Personal characteristics <sup>3</sup>
- Model 2: Personal characteristics  
Physical disorder
- Model 3: Personal characteristics  
Physical disorder  
Social disorder
- Model 4: Personal characteristics  
Physical disorder  
Social disorder  
Crime

This sequence is a deliberate choice, because the emphasis of the study is on the ‘new’ explanatory variables personal characteristics and physical and social disorder. Do these variables have a greater explanatory and predictive value compared to the variable crime? And are these variables better predictors of fear of crime?

The results of the multilevel regression analysis are presented in table 2 ‘Fear of crime explained’.

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<sup>3</sup> The variable personal characteristics consists of the variables: men, age young, low income, high income, and Dutch nationality

**Table 4.1. Fear of crime explained**

	Model 1		Model 2		Model 3		Model 4	
Variables	Coeff	Std. Err.	Coeff.	Std. Err.	Coeff	Std. Err.	Coeff.	Std. Err.
Men	-.012	.026	-.027	.027	-.026	.024	.001	.024
Age Young	.011 *	.005	.014 **	.005	.010 *	.008	.006	.006
Low Income	.001	.004	.000	.004	-.001	.004	-.002	.004
High Income	.010 *	.005	.006	.005	.002	.006	.000	.006
Ethnicity NL	.028 ***	.004	.019 ***	.005	.011 *	.005	.011 *	.005
Physical disorder			-.172 **	.066	-.036	.067	-.048	.054
Social disorder					-.407 ***	.091	-.377 ***	.082
Crime							-.008 **	.003
Constant fixed	4.238 ***	1.013	6.244 ***	1.411	7.713 ***	1.349	6.922 ***	1.379
Constant Neighbourhood	.280	.0263	.247	.026	.203	.029	.154	.030
Constant Wijk	.205	1.045	.173	1.002	.131	.590	.130	.639
Wald chi2	76.87		143.71		226.07		344.78	
Prob > chi2	0.0000		0.0000		0.0000		0.0000	
Log likelihood test	67.68		49.21		42.21		31.85	
AIC / BIC	101.9423 / 128.608		89.8665 / 119.4949		57.44671 / 90.03801		49.26638 / 84.56609	

1. Number of observations Model 1 (n=143)      Model 2 (n=143)      Model 3 (n=143)      Model 4 (n=140)
2. Significance level
  - \* ≤ .05
  - \*\* ≤ .01
  - \*\*\* ≤ .001

Generally, there are a lot of similarities between the four models. Yet there are certainly also some differences between the models. The AIC- and BIC values are used to compare the four models and to find the best explanatory model. The AIC value and BIC value are both measures of the relative goodness of fit of a statistical model. They both measure to what extent the fitted values of the parameters are close to the true values. A lower AIC value (or BIC value) indicates a better fit. So, the rule is: the lower the AIC- and BIC value, the better the model. If we compare the AIC- and BIC values of the four models, the fourth model shows the lowest values. The fourth model has thus the greatest explanatory value for the dependent variable in the study, fear of crime. This model is therefore used in the further analysis of fear of crime. However, it should be noted that fear of crime is not explicitly measured in this study. Fear of crime is seen as the sense of security of people.

#### **4.2. Personal characteristics as an explanatory variable**

In this paragraph, the relationship between the independent variable personal characteristics and the dependent variable fear of crime is central. Personal characteristics consist of four variables: gender, age, income, and nationality. All four variables affect the fear of crime among people in society in their own way as we have seen in chapter 2. In the following sub paragraphs, these theory will be applied on our case study; the fear of crime of individuals living in neighbourhoods in Roosendaal. The hypotheses will be tested and this should result in the answering of the first research question: ***What personal characteristics play a role within the development of fear of crime among individuals living in neighbourhoods in Roosendaal?***

##### **4.2.1. Age**

The first personal characteristic is age. The theory indicates that the elderly (> 60 years) are more fearful of crime than youngsters (Skogan, 1978). The elderly are more vulnerable for crime compared other age groups in society. They are both more social and physical vulnerable as youngsters. They cannot defend themselves well against defenders and the social and economic consequences weigh more heavily upon them (Skogan & Maxfield, 1981). This lead to the following hypothesis (H.1.): *“Neighbourhoods with a high percentage of the elderly have higher levels of fear of crime among their residents”*. Will this hypothesis be confirmed? Do the elderly in Roosendaal indeed show a higher level of fear of crime compared to the fear of crime rates of youngsters? The question is: how is age related to fear of crime?

The statistical analysis shows that youngsters (20-59 years old) have 0.006 unit’s higher sense of security compared to the elderly in Roosendaal. However, this outcome is not significant ( $0.288 > 0.05$ ) which means that the hypothesis is not confirmed. In this respect, age is no significant predictor of the level of fear of crime of individuals living in Roosendaal. So, there is no direct effect. Yet, there is a total effect, because age is significant in the other three models; the models without the addition of crime to the multilevel regression model. Although the hypothesis is not confirmed, age is to some extent a meaningful predictor of fear of crime.

#### 4.2.2. Gender

The literature shows a remarkable relationship between gender and the fear of crime among people. Although men have a greater risk of becoming a victim of crime, women show a greater fear of crime (Covington & Taylor, 1991; Pain, 2001). Women experience higher fear rates in all conceivable situations and times compared to the fear of crime of men. This victimization/fear paradox has led to the hypothesis (H.2.): *“Neighbourhoods with a high percentage of women have higher levels of fear of crime among their residents”*. Is this picture also consistent to the situation in Roosendaal? Have women greater fear rates compared to the level of fear of crime of men? Or is the opposite true and have men a higher fear of crime? These responses will lead to answering the sub question: How is gender related to fear of crime?

The statistical model indicates a positive relationship between men and sense of security. Men have 0.001 units higher sense of security compared to the sense of security of women who live in neighbourhoods in Roosendaal. Yet there is no significant difference. This means that the hypothesis is not confirmed. Based on these analysed data, it cannot be concluded that neighbourhoods with a high percentage of women have also higher levels of fear of crime among their residents. Therefore, gender cannot be seen as a significant predictor of fear of crime. Although the analysis focuses on the fourth model, a noteworthy fact is the relationship between gender and fear of crime in the other three models. These models outline a different picture of the relationship between men and sense of security. In these three models, men have a lower sense of security compared to women. However, there is also no significant difference within these three models, so the conclusion remains the same. Gender is no significant predictor of fear of crime. Yet, some critical notes should be placed to this conclusion, because aggregated data is used to draw conclusions about individuals. So, there is a change on an ecological fallacy; a wrong conclusion. You cannot compare individuals (such as men and women) on a higher, aggregated level.

#### 4.2.3. Income

The variable income is the third personal characteristic that is explored in this study. Toseland (1982) indicates in his article that the poor have a greater fear of crime compared to people in the middle and/or upper classes in society. Their vulnerability manifests itself mainly in the fact that people living in poverty have no (or lesser) resources to deal with the consequences of crime (Pantazis, 2000). They have no financial resources to replace stolen items or pay for the damages. The hypothesis (H.3.) is: *“Neighbourhoods with a high percentage of poorer have higher levels of fear of crime among their residents”*. Do the poor really have higher levels of fear of crime? The relationship between income and fear of crime is measured in two ways. There is both looked at the variable ‘low income’ as the variable ‘high income’. These two findings should lead to the answering of the question: How is income related to fear of crime?

The analysis shows that an increase of the variable low income leads to a decrease of 0.002 unit’s sense of security. Simplified, an increasing poverty in the neighbourhoods will lead to

an increased fear of crime. People are more fearful when they have a lower income. However, the theory of Toseland (1982) and the above mentioned hypothesis are not supported because of no statistical significance. So, there is no direct effect and no total effect of low income on the fear of crime of individuals living in Roosendaal. This conclusion does not apply within the variable high income. Although there is no direct effect, there is a total effect of high income on fear of crime. The first model shows a little significant difference ( $\leq 0.05$ ) which means that an increase of the variable high income significantly leads to an increase of 0.010 units of sense of security of individuals. The research question can therefore be answered in two different ways. The variable low income is no significant predictor. It shows no direct or total effect. On the other hand, the variable high income can to some extent be seen as a significant predictor of fear of crime. Although there is no direct effect, there is a total effect in the first model; the model existing of the five personal characteristics. However, this significant difference is small.

#### **4.2.4. Nationality**

The last personal characteristic is nationality. The literature often distinguishes between the fearfulness of two groups in society: natives and immigrants. Natives are people with a Dutch nationality and immigrants are people with a non-Dutch nationality. In this study, the focus is on people with a Dutch nationality and people with a non-Western nationality. This last group has a higher level of fear of crime according to the literature (Skogan & Maxfield, 1981; Oppelaar & Wittebrood, 2006). Hence the hypothesis (H.4): *“Neighbourhoods with a high percentage of individuals with a non-Western nationality have higher levels of fear of crime among their residents”*. Is this also the case in our case study? Do neighbourhoods with a high percentage of immigrants also have higher levels of fear of crime among their residents? This should lead to answering the following question: How is nationality related to fear of crime?

The statistical model indicates that people with a Dutch nationality has a higher sense of security (0.011 units) than people with a non-Western nationality. This difference is statistically significant ( $0.035 < 0.05$ ). The hypothesis is confirmed. Neighbourhoods with more immigrants – in the sense of people with a non-Western nationality – have higher levels of fear of crime among their residents compared to more indigenous neighbourhoods. In addition, the variable nationality has also a total effect. The significance levels in the other three models are much stronger. So, it can be concluded that the variable nationality is a significant predictor of fear of crime. However, also in this case, it should be beware of the emergence of an ecological fallacy, because the analysis does not show which people in the neighbourhoods have a high level of fear of crime. It does not necessarily mean that individuals with a non-Western nationality have a higher level of fear of crime compared to individuals with a Dutch nationality. The hypothesis only indicates that neighbourhoods with a high percentage of individuals with a non-Western nationality have higher levels of fear of crime than indigenous neighbourhoods.



#### **4.2.5. Conclusion**

According to the literature, personal characteristics play an important role in the explanation of fear of crime among individuals due fear of crime is personal. Some people feel themselves more fearful compared to others in the same situation and/or time. Hence the literature has identified four groups in society who fall into the vulnerability category; groups that are more fearful compared to other groups in society. These groups are: the elderly, women, the poorer and ethnic minorities (Box et al., 1988; Toseland, 1982). Can these groups also be identified in Roosendaal? In other words, ***what personal characteristics play a role within the development of fear of crime among individuals living in neighbourhoods in Roosendaal?***

Although the literature suggests otherwise, the analysis shows that personal characteristics do not play a major role within the explanation of fear of crime among individuals living in neighbourhoods in Roosendaal. There are not many noticeably direct or total effects. The only direct effect is attributable to the variable nationality. The statistical analysis shows a significant difference ( $p < 0.05$ ) which means that the hypothesis is confirmed. It is proved that neighbourhoods with many non-Western immigrants have higher levels of fear of crime among their residents. The other personal characteristics have no direct effect on the level of fear of crime of individuals in Roosendaal. Some of these variables do have a total effect; an effect through intermediate steps in the model. This applies to the variables age and income, especially high income. These variables have to a lesser extent impact on the level of fear of crime of individuals in Roosendaal.

#### **4.3. Disorder as an explanatory variable**

A second indicator that can explain the fear of crime among people is disorder. Research has shown that neighbourhoods with more objectively observed social and physical disorder have higher levels of fear of crime among their residents. The litter and garbage on the streets, the broken street furniture, and street fights frighten people and make them scared. They feel unsafe in their own neighbourhood and they estimate their change of becoming a victim higher than people living in the safer neighbourhoods. But is this actually true? Have people living in neighbourhoods with more disorder also higher levels of fear of crime? The research question is: ***Is disorder a meaningful indicator to explain fear of crime among individuals living in neighbourhoods in Roosendaal?*** To answer this question, disorder is split up in physical disorder and social disorder. Both types of disorder will be further explored.

##### **4.3.1. Physical disorder**

Physical disorder plays a major role within the development of fear of crime according to Hunter (1978). He concludes that disorder has even a greater impact on the fear of crime than the actual crime level in the neighbourhood, because people experience physical disorder daily while they are not daily a crime victim. Therefore, the following hypothesis (H.5) was formulated: ***Neighbourhoods with a high degree of physical disorder have higher***

*levels of fear of crime among their residents*”. Is physical disorder really negative related to fear of crime? The question is: how is physical disorder related to fear of crime?

The statistical analysis shows that physical disorder has indeed a negative relationship with the sense of security of people. An increase in physical disorder leads to a decrease in the sense of security of people with 0.048 unit. People feel themselves more insecure in neighbourhoods with physical disorder, such as litter, graffiti paintings, and broken street furniture. However, the hypothesis is not confirmed because there is no statistical significance. It cannot be concluded that neighbourhoods with a high degree of physical disorder has also higher levels of fear of crime among their residents. So, physical disorder is, as well as most of the personal characteristics, no significant predictor of fear of crime. However, it should be noted that there is a total effect. The variable physical disorder has a statistical significance in the second model ( $p < 0.01$ ). Hence the conclusion must be somewhat mitigated, because physical disorder has to some (small) extent impact on the fear of crime of individuals in Roosendaal.

#### **4.3.2. Social disorder**

The story outlined above also applies to the variable social disorder. People feel themselves more insecure in neighbourhoods with more social disorder, such as drugs nuisance, street fights, and public drinking. People avoid these streets and neighbourhoods because they feel insecure and uncomfortable in these neighbourhoods. The hypothesis (H.6) is: *“Neighbourhoods with a high degree of social disorder have higher levels of fear of crime among their residents”*. Does this picture also appear in Roosendaal? Have neighbourhoods with relatively more social disorder also higher levels of fear of crime? In other words, how is social disorder related to fear of crime?

The analysis indicates that social disorder is negatively related to fear of crime. The higher the social disorder in neighbourhoods, the lower the sense of security among people. An increase of one unit social disorder will lead to a decrease of .377 unit sense of security. This difference is statistically significant ( $0.000 < 0.001$ ). It can be concluded that neighbourhoods with more social disorder has higher levels of fear of crime among their residents. Social disorder can thus be seen as a significant predictor of fear of crime, because it has a total effect. Social disorder has therefore the strongest effect on fear of crime compared to the four personal characteristics and physical disorder.

#### **4.3.3. Conclusion**

Disorder is one of the variables that is seen as a new variable that can explain the fear of crime of individuals. Disorder has even a greater explanatory value than other variables according to the literature (see for example: Hunter, 1978; Perkins and Taylor, 1996). In the preceding sections, it is examined if disorder also can explain the fear of crime of individuals living in neighbourhoods in Roosendaal. Hence the research question: ***To what extent is disorder a meaningful indicator to explain fear of crime among individuals living in neighbourhoods in Roosendaal?***

The previous sections show that disorder partially can be seen as a meaningful indicator of disorder. Disorder, in the sense of social disorder, is a very strong significant predictor of fear of crime. An increase in social disorder will lead to a decrease in sense of security among individuals. Individuals in Roosendaal feel themselves more insecure in neighbourhoods with lots of social disorder; neighbourhoods that are characterized by nuisance by youth, nuisance local residents, and other local related nuisance. Social disorder is even the strongest predictor of fear of crime as the statistical model shows. Neighbourhoods characterized by local decay, such as graffiti; litter; dog poop; and broken street furniture, have no significant effect ( $0.377 > 0.05$ ) on the sense of security of individuals living in Roosendaal. However, physical disorder has a total effect, because it shows a significance difference in the second model. In summary, on the one hand, disorder is a very strong predictor to explain fear of crime, especially when you see it in the light of social disorder. Physical disorder is to a lesser extent a meaningful predictor of fear of crime among individuals. It has no direct effect on the fear of crime, but it has a total effect.

#### **4.4. Personal characteristics and disorder**

The preceding sections have shown the role of personal characteristics and disorder in the development of fear of crime of individuals. The analysis shows that both variables do not play a major role within the total process or at least a lesser role than the literature suggests. The third research question *‘Do personal characteristics and disorder contribute to the fear of crime among persons living in neighbourhoods in Roosendaal?’* can therefore be answered succinctly.

The statistical analysis shows that personal characteristics and disorder do not have a significant contribution in the explanation of fear of crime among individuals in Roosendaal. Or at least not such a major role as the literature suggests. The only two variables that play a significant role in the perception-building of people are nationality and social disorder. Both variables have a statistically significance (respectively:  $p < 0.05$  and  $p < 0.001$ ) which means that they have a significant and direct effect on the development of fear of crime of individuals. The hypothesis four (H.4) and six (H.6) are therefore confirmed. Neighbourhoods with a high percentage of non-Western immigrants have relatively higher levels of fear of crime among their residents than indigenous neighbourhoods. The same applies to social disorder. Individuals living in neighbourhoods with much social disorder (consisting of nuisance) are more fearful than people living in ‘quiet’ neighbourhoods. Although these two variables have a direct effect on the level of fear of crime of individuals, there are some variables that have a total effect in the perception-building process. These variables are: age, income, and physical disorder. These variables show a significant difference in the three other models of the multilevel linear regression model. These variables affect the fear of crime of individuals through intermediated steps. Concluded, the variables nationality and social disorder play a meaningful role within the perception-building process of fear of crime. The variables age, high income, and physical disorder have to a lesser extent impact on the level of fear of crime of individuals living in Roosendaal. So, in order of the strongest

effect: social disorder ( $p < 0.001$ ), nationality ( $p < 0.05$ ), age, high income, physical disorder (a total effect), gender and low income (no direct or total effect).

#### 4.5. Crime as an explanatory variable

As just stated, the variables personal characteristics and disorder are not entirely able to explain the fear of crime among individuals in Roosendaal. Only nationality and social disorder has a direct effect which means that they have a direct effect on the fear of crime of individuals living in neighbourhoods in Roosendaal. However, so far in the explanation of the concept of fear of crime we have been forgotten another important variable: crime. Crime is long seen as the only explanatory variable of fear of crime. Before the '70s, fear of crime was declared by the incidence of crime. Their thinking was: the more crime in society, the more fear of crime among the people. Fear of crime was seen as the logical consequence of crime. People come into contact with crime in two ways; a direct and an indirect way. First, people are more likely of actually become a victim of crime because they live in a neighbourhood where crime is much. However, the literature shows that this point of reasoning is relatively rare. It is more likely that people become an indirect victim of crime because they hear more about crime from family, friends, and neighbours. People get scared through the stories they heard from their local social contacts and the media (Taylor & Hale, 1986; Skogan, 1986). The hypothesis is: *“Neighbourhoods with higher crime rates have higher levels of fear of crime among their residents”*. Is this line of reasoning obsolete by the advent of the new explanatory variables? Or can this thinking still be applied? The research question is: ***To what extent is crime still an important predictor of fear of crime?***

Crime is the last added variable in the multilevel regression analysis. The analysis shows that crime is negatively related to the sense of security of individuals in Roosendaal. An increase of one unit crime is equal to a decrease of 0.008 unit sense of security. This difference is statistically significant ( $0.006 < 0.01$ ) which means that the hypothesis is confirmed. It is indeed the case that individuals living in neighbourhoods with higher crime rates are more fearful. They are more scared of crime and they have higher levels of fear of crime compared to people who live in the relatively safer neighbourhoods. The analysis does not clarify the reasons why people are more fearful for crime. Therefore, no conclusions can be drawn about the extent to which the direct or indirect way are involved in the development of fear of crime among individuals in Roosendaal. It can be concluded that the thinking before the '70s is certainly not out-dated. It is still up to data. Crime does play a major and important role within the perception-building process of individuals and is therefore still an important predictor of the concept fear of crime. The analysis shows clearly that the role of crime should certainly be recognized. It is even a better predictor for fear of crime than the personal characteristics gender, age, and income and physical disorder.

The best predictors of crime – variables with a direct effect on fear of crime – are therefore (in order of strongest): social disorder ( $p < 0.001$ ), crime ( $p < 0.01$ ), and nationality ( $p < 0.05$ ). Figure 4.1. shows the effects of the variables using the theoretical model introduced in

chapter two. The bold lines correspond to the a direct effect of the variable on the fear of crime, the normal lines to a total effect, and a dotted line means no direct or total effect.

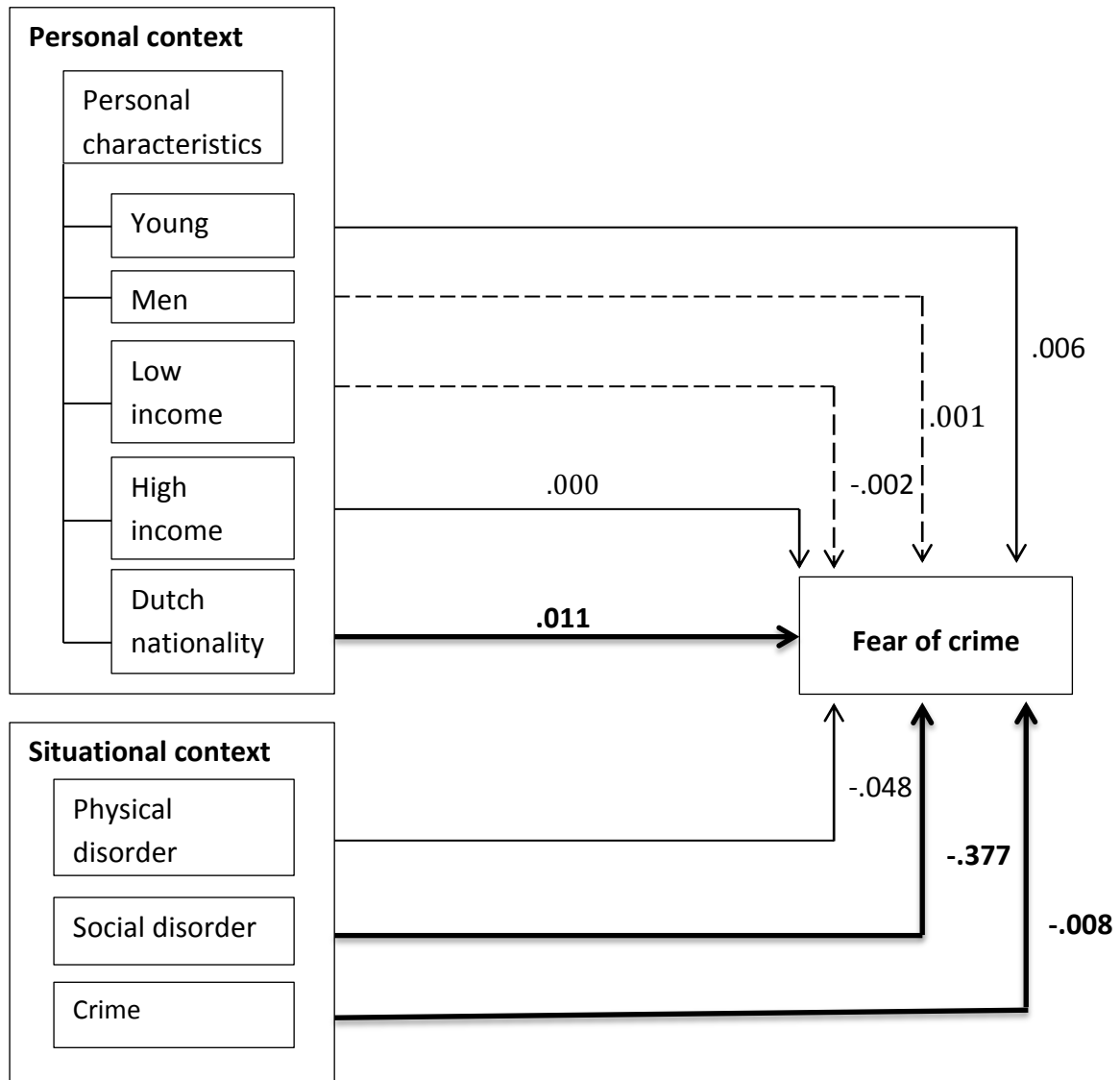


Figure 4.1. Theoretical model applied

# 5 Conclusion and discussion

*This final chapter is the concluding chapter of the study. It exists of two parts. The first part presents the overall conclusion and gives answer to the main research question presented in the introduction of the report. The second part consists of a brief discussion. It looks at the potential implications of the results for the public sector.*

## 5.1. Conclusion

This study has tried to build a bridge between two different ways of thinking about fear of crime; an ‘old’ way and a ‘new’ way of thinking. The ‘old’ mentality concerns the way of thinking before the ‘90 of the last century and is known from its emphasis on the variable crime. In these years, crime is seen as the only explanatory factor of fear of crime. The fear of crime of people is explained by the rising crime rates in society. People get scared and feared through the rising crime and the idea that everyone can be an easy victim of crime. This way of thinking is nuanced in the new way of thinking. Crime is no longer seen as the only explanatory variable of fear of crime. Also other variables contribute to the fear level of people. Examples of such ‘new’ explanatory variables are: the age of individuals, (earlier) victimization experiences, the social composition of the neighbourhood, disorder, et cetera (Skogan, 1990; Perkins & Taylor, 1996; Oppelaar & Wittebrood, 2006). In this study, three of such new mentioned variables are tested. These three variables are: personal characteristics (consisting of the variables: age, gender, income, and nationality), physical disorder, and social disorder. To what extent affect these variables the level of fear of crime of individuals? In addition, the study has looked at the role of the variable crime. Is crime still a meaningful indicator to explain the fear of crime nowadays? Using the multilevel linear regression model and the answers of the sub questions, the main research question can be answered. The main question is:

***How can we explain the fear of crime of individuals living in neighbourhoods in Roosendaal with personal characteristics, context characteristics (referring to disorder), and crime?***

### ***Personal characteristics***

As just mentioned, four personal characteristics are tested in this study. These personal characteristics are: age, gender, income, and nationality. According to the literature, these characteristics all contribute in their own way to the level of fear of crime among people. Hence some people are – or think they are – more fearful compared to others in society. This argument applies primarily to four groups in society; the so-called vulnerability groups: the elderly, women, the poorer, and individuals with a non-Western nationality (Box et al., 1988; Toseland, 1982). These groups are more fearful compared to youngsters, men, wealthier, and individuals with a Dutch nationality. However, the thinking in the literature does not always correspond to the reality. This is also the case within this study. The regression analysis shows that what is in the literature do not correspond to the situation in the neighbourhoods in Roosendaal. Some personal characteristics actually affect the fear of crime of individuals in Roosendaal and other characteristics do not play a role within the

whole process. The latter applies to the variable gender and partly also for the variable income. The variable gender plays no role in the perception-building process of individuals living in neighbourhoods in Roosendaal. The variable has no direct or total effect on the level of fear of crime. The same applies for the variable low income. This variable has also no direct or total effect on fear of crime. Other personal characteristics have a moderate role in the whole process. This applies to the variables high income and age. The regression analysis shows that these variables do not have a direct effect on fear of crime, but they have a total effect, which implies that they actually affect the fear of crime of individuals but through immediate steps. The last of the four personal characteristics is nationality. The variable nationality has both a direct effect as a total effect. The multilevel model indicates that neighbourhood with a high percentage of individuals with a non-Western nationality have higher levels of fear of crime among their residents. Hence the hypothesis (H.4) is confirmed ( $p < 0.05$ ). However, this does not mean that individuals with a non-Western nationality are necessarily more fearful than individuals with a Dutch nationality. It only says something about the level of fear of crime at neighbourhood level.

### ***Disorder***

Disorder is one of the new mentioned variables that can explain fear of crime. According to the literature, disorder – both physical as social disorder – has a negative impact on the fear of crime among people (Hunter, 1978; Wilson & Kelling, 1982; Covington & Taylor, 1991). The more disorder in society, the higher the fear of crime among people. People feel themselves threatened through the incivilities in their neighbourhood, such as broken street furniture, graffiti paintings, and youth nuisance. This argument is confirmed by the regression analysis. The analysis shows that disorder is a meaningful indicator of fear of crime although there is a distinction between physical disorder and social disorder. Physical disorder has no direct effect, but only a total effect on the fear of crime of individuals living in neighbourhoods in Roosendaal. Broken street furniture, litter on the streets, graffiti paintings on public walls, and dog poop have therefore no direct impact on how anxious people feel themselves. It affects the fear of crime only through immediate steps. This does not apply to the role of social disorder in the perception-building process of individuals. Social disorder has a direct impact on the fear of crime of individuals. The more youth nuisance, nuisance by local residents, and other nuisance from the neighbourhood, the more the more fearful individuals are. An increase of one unit social disorder even leads to a decrease of 0.377 units of sense of security. It is even the strongest effect on fear of crime compared to all other tested variables. The statistical significance ( $p < 0.001$ ) leads to confirming the hypothesis (H.6). Neighbourhoods with a high degree of social disorder have higher levels of fear of crime among their residents. Social disorder has in addition to this direct impact also a total effect on fear of crime among individuals.

### ***Crime***

Although crime is designated as an ‘old’ variable to explain fear of crime, it plays still an important role within the perception-building process of individuals. According to literature,

individuals living in neighbourhoods with higher crime rates are more fearful compared to individuals living in neighbourhoods with relatively lower crime rates (Skogan, 1986). This line of reasoning is confirmed by the multilevel regression model, because the variable crime has a direct effect on fear of crime of individuals. The analysis shows that an increase of one unit crime leads to a decrease in sense of security ( $p < 0.01$ ). The hypothesis (H.7) ‘neighbourhoods with higher crime rates have higher levels of fear of crime among their residents’ is therefore confirmed.

To return to the main question of the study, the analysis shows that all three variables are needed to explain the fear of crime of individuals living in neighbourhoods in Roosendaal. The variables contribute all in their own way and to varying degrees to the explanation of fear of crime. Some variables have a greater effect on the level of fear of crime, but none of these variables can be beaten in the analysis to clarify this social problem. The variable with the strongest effect is social disorder. Nuisance by youth and local residents has the greatest impact on the level of fear of crime. People are anxious through the noise and shouting of other people on the streets and in their neighbourhood. Social disorder has even a much stronger effect on the mood of people than physical disorder. Physical disorder does not play a major role in the perception-building process of people as the literature suggests and what many people think. The litter on the streets, dog poop on the sidewalk, and graffiti paintings on the public walls have influence on the level of fear of crime of people, but in an indirect way. Physical disorder has no direct effect on the fear of crime of individuals in Roosendaal. This does not apply to the variable crime. The variable crime, traditionally seen as the variable with the strongest explanatory power, shows that it still has a great impact on the fear of crime of individuals. High crime rates in the neighbourhood leads to a diminished sense of security among individuals. They are probably more fearful because they recognize more crime and they consider that they have a greater chance of actually become a crime victim than if they had lived in a neighbourhood with relatively lower crime rates. However, nothing can be said about the real reasons of this heightened fearfulness, because there is simply no research done to that question. The last variable that has a direct impact on the fear of crime of individuals is nationality, a component of the variable personal characteristics. The multilevel linear regression model indicates that neighbourhoods with a high percentage of individuals with a non-Western nationality have higher fear rates among their residents. However, this hypothesis says nothing about the fear rates of individuals with another nationality. It does not necessarily mean that individuals with a non-Western nationality have higher levels of fear of crime than individuals with a Dutch nationality. The other personal characteristics – age, gender, and income – do not have a direct effect on fear of crime. They do not directly affect the level of fear of crime of individuals in Roosendaal. However, the variable age and partly the variable income (referring to high income) have a total effect on fear of crime. They affect fear of crime in an indirect way; through immediate steps. Concluding, the variables social disorder, crime and nationality play the main role in the perception-building process of people. All



variables have a direct effect on the level of fear of crime of individuals. Although the other variables do not have a direct effect, yet they cannot be forgotten or be subordinated.

## 5.2. Discussion

As just mentioned, the conclusion of this study is not entirely consistent with the literature and the thinking of many organizations in the public sector. The literature often emphasizes the (explanatory) role of physical disorder and public organizations have adapted this line in reasoning in their approach to reduce the fear of crime among people. In the opinion of many, physical disorder has a major impact on the feeling of security of people and thus plays a major role in the perception-building process. Even greater and more important role than social disorder has. People get scared and fearful because of the frightening graffiti paintings on public walls, the abandoned bus shelters, the litter on the street, et cetera. The approach of many public organizations is therefore aimed to reduce the fear of crime by reducing and eliminating the physical disorder in society. Well known strategies are: clean-up programs to remove graffiti from public property (introduced by John Giuliani, former mayor of New York); rapid repair of vandalized equipment; information meetings; and preventive measures to diminish the amount of vandalism, such as the use of plexi glass instead of glass in bus shelters. These methods are also used in the aforementioned policy document ‘To a safer society’ (TK 2002-2003, 28684, nr. 1) of the Dutch government. Although these strategies are indeed useful to reduce the crime rates and simultaneously diminish the fear of crime of individuals, the government should also use other strategies to reach their objectives. It should have a focus on other possible events in society that may harm the fear of crime of individuals, especially with regard to the social disorder in the society. According to the results, social disorder has the strongest effect on the level of fear of crime of individuals. An increase in social disorder in the neighbourhood leads to the largest increase in fear of crime of individuals. It is therefore necessary that the government and other public organizations should focus on social disorder related events, such as: nuisance, loiterers, street fights, public drinking. Yes, there are several programs aimed at reducing the social disorder in the society and in neighbourhoods, but they are fewer than that there are programs combat the physical disorder in the streets. Examples of programs related to social disorder are: official youth meeting places (in Dutch: Jongeren OntmoetingsPlaatsen, JOP’s), street coaches, and mosquito systems. The latter program is widely used, but is also increasingly used in the Netherlands to combat loitering (more than 600 systems within 150 municipalities). The mosquito is a device that distributes a high frequency sound that only young people can hear. This high frequency sound is at some moment so annoying that youngsters should leave their meeting place (The Rhinegroup – Veiligheid).

The advice is therefore that the government, but also other public organizations, should not focus only on one part of the total problem. It should focus on all three pillars of the problem called fear of crime: physical disorder, social disorder, and crime. The latter two pillars can even better contribute to the solution than physical disorder can. The analyses

have shown that both social disorder and crime have a direct effect on the fear of crime of people. Cooperation between the different approaches, strategies, and programs will result in a faster progress towards the main objective of the government: a safe society. A society where everyone feels safe and that is characterized by low levels of fear of crime among their residents. A battle plan based on three different disciplines can have higher goals than a strategy based on one or two disciplines, as it is now often the case.

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## **Appendices**

### **Appendix 1 – Classification of the neighbourhoods**

### **Appendix 2 – SPSS output**



## Annex 1 Classification of the neighbourhoods

0.0. Centrum-oud	7.0. Hulsdonk
0.1. Centrum-nieuw	7.1. Tolberg-oost
0.2. Stationsbuurt	7.2. Tolberg-centrum
0.3. Vrouwenhof	7.3. Tolberg-west
	7.4. Weihoek-oost
1.0. Sint Josephbuurt	7.5. Weihoek-west
1.1. Fatima-Villapark	7.9. Haiink
1.2. Keijenburg	
	8.0. Borchwerf-noord
2.0. Parklaan-Hoogstraat	8.1. Borchwerf-zuid
2.1. Spoorstraat-Van Coothlaan	8.2. Majoppeveld-noord
2.2. Kalsdonk	8.3. Majoppeveld-zuid
2.9. Nieuwenberg	8.4. Vijfhuizenberg
3.0. Heerma v. Vossstraat-Molenbeek	10.0. Nispen-kern
3.1. Herreweg	10.9. Verspreide huizen Nispen
3.2. Ettingen	
3.9. Vroenhout	11.0. Wouw-kern
	11.8. Verspreide huizen Wouw-noord
4.0. Kroeven-noordwest	11.9. Verspreide huizen Wouw-zuid
4.1. Kroeven-noordoost	
4.2. Kroeven-zuidwest	12.0. Heerle-kern
4.3. Kroeven-zuidoost	12.9. Verspreide huizen Heerle
4.4. Minnebeek-Watermolen	
	13.0. Moerstraten-kern
5.0. Bovendonk	13.9. Verspreide huizen Moerstraten
5.1. Langdonk-west	
5.2. Langdonk-oost	14.0. Wouwse Plantage-kern
5.9. Langhoven	12.9. Verspreide huizen Wouwse Plantage
6.0. Kortendijk A	
6.1. Kortendijk C	
6.2. Kortendijk L	
6.3. Landerije	
6.9. Bakkersberg-Langendijk	

### *Comment*

*The above neighbourhoods are not all included in this study. Some are combined to one neighbourhood because of too few data. This applies to Langhoven, Bakkersberg-Langendijk, and Haiink. These three neighbourhoods are combined as neighbourhood: 8.9. Overig buitengebied. The same applies to the neighbourhoods Weihoek-oost and Weihoek-west (as follows: 7.5. Weihoek-oost); Borchwerf-noord and Borchwerf-zuid (as follows: 8.0. Borchwerf); and Majoppeveld-noord en Majoppeveld-zuid (as follows: 8.2. Majoppeveld)*

## Annex 2 SPSS output

### Descriptives

#### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
% men in neighborhood	190	41,0	56,7	49,426	2,8716	-,291	,176	,683	,351
% women in neighborhood	190	43,3	59,0	50,574	2,8716	,291	,176	,683	,351
% 20-59 years old	190	37,1	95,0	70,842	11,2339	-,689	,176	,778	,351
% > 60 years old	190	5,0	62,9	28,925	10,7967	,581	,176	,688	,351
% low income	165	5	67	40,02	8,445	-,721	,189	2,774	,376
% high income	150	5	77	20,65	9,475	1,853	,198	7,941	,394
% individuals with Dutch ethnicity	190	43	98	84,08	10,925	-1,552	,176	2,557	,351
% individuals with non western ethnicity	190	0	53	10,61	11,114	1,723	,176	3,082	,351
Crime rate	179	2,9	78,6	24,804	15,5876	1,237	,182	1,121	,361
Grade for the decay in neighborhood	179	1,3	6,8	4,052	1,1138	-,174	,182	-,614	,361
Grade for the nuisance in neighborhood	179	,3	4,2	2,273	,7643	,167	,182	-,356	,361
Fear of Crime	179	5,2	8,2	6,994	,6121	-,410	,182	-,337	,361
Valid N (listwise)	140								

### Kolmogorov - Smirnov test

#### Tests of Normality

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Fear of Crime	,101	179	,000	,978	179	,006

a. Lilliefors Significance Correction