

Understanding Fear of Crime

An analysis of the individual and contextual factors contributing to today's fear of crime in the Netherlands

Bachelor Thesis

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Abstract

The purpose of this study is to answer the question which factors are of influence on peoples' fear of crime in the Netherlands. Fear of crime has individual as well as socio-economic implications, which is why it is considered important to research this phenomenon. Since a lot of research has been done on the individual factors relating to fear of crime, but not that much on the contextual factors, both are included in this study. The research was based on several items from the Netherlands Longitudinal Lifecourse Study (NELLS), a recent survey covering multiple topics such as social capital, family relationships, religious attitudes, perceptions of the neighbourhood etc. Statistical regression analysis was performed to analyse the data. The results show that women are more afraid of crime than men, so are people with a lower income, those who have been a previous victim of crime and those who perceive more disorder. On the contextual level, the more crime in a neighbourhood, the higher the fear of crime in this neighbourhood. When social ties are strong and the socio-economic status of a neighbourhood is high, fear of crime levels are low. In a neighbourhood where the ethnic and racial composition is diverse, people are more afraid of crime than in a more homogeneous neighbourhood. These findings contribute to an overall understanding of fear of crime and give implications for future research and policy directions.

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1. Introduction

"The only thing we have to fear, is 'the culture of fear' itself". This often cited quote by Frank Furedi (2007) refers to how modern day life is being ruled by uncertainty and fear for basically everything.

Perhaps, fear of crime is one of those fears that Furedi speaks about. Fear of crime refers to one of the most salient results in crime research: peoples' perception of the risk of becoming a victim to crime exceeds the actual risk of becoming a victim to crime (Mythen, 2014). This overestimation in risk includes emotion, vulnerability, risk perception and environmental perception with regard to crime (Jackson, 2005), and is influenced by many factors.

Fear of crime has multiple negative consequences for the individual but also for the wider community. For the individual, negative effects of fear of crime relate to psychological reactions. This includes distrust of others, anxiety, alienation and depression. Related to this are behavioural adaptations, such as adopting protective or avoidance behaviours in response to crime fears (Doran & Burgess, 2012b). The same authors point out the wide-ranging effects of fear of crime on society. The general idea is that people withdraw from areas that are perceived as unsafe, which reduces the amount of informal social control and in turn leads to additional crime and disorder. This process also has negative effects on local businesses and the housing market in the affected neighbourhood. Adopting security measures such as extra locks, weapons, CCTV surveillance systems and additional public policing incur costs to the individual and to governments. All these effects are an example of what we call the "Thomas theorem". W.I. Thomas (1928) said that "If men define situations as real, they are real in their consequences" (p. 572), which means that peoples' behaviour in a certain situation follows from the way they interpret this situation. So if a certain neighbourhood is perceived as dangerous, people will avoid this neighbourhood.

This paper will focus on the fear of crime in the Netherlands. The reason for this is that crime and fear of crime receive a lot of attention by Dutch state actors, such as politicians and policy makers, and by the Dutch media (Vanderveen, 2011). This means that fear of crime is a phenomenon very present in peoples' daily lives, even though it might be more of an unconscious rather than a conscious phenomenon.

In this paper, several factors are studied that may contribute to the fear of crime in the Netherlands. A distinction is made between individual factors and contextual factors, since perception of crime can depend on a person's demographics and perceptions, but the

neighbourhood this person lives in is very important to consider as well (Scarborough et al., 2010; Felson & Boba, 2010). Therefore the research question will be:

> *Which factors, on an individual and contextual level, are important in explaining the fear of crime in the Netherlands?*

In the next part, theories focussing on the relevant factors are being discussed and are followed by the hypotheses deriving from them. Second, the dataset, variables and methodology used will be explained. Third, an overview of results will be given. Lastly, the research question will be answered, an analysis of the theories and hypotheses will be given to see if they work the way that is proposed and the limitations of this study will be discussed.

2. Theory and Hypotheses

In this section, several theories will be discussed that are relevant for the present study. The decision to research the factors present in this study was based on the theories provided by Doran and Burgess (2012a). Like was said before, fear of crime has negative consequences for the individual and for the wider community. Moreover, individual characteristics as well as characteristics of the environment someone lives in, can be of influence on the way people look at this environment. Therefore, it is important that a distinction is being made between the individual and the contextual level of the wider community. For each factor, the theory and hypotheses are discussed separately, starting with the individual level factors, followed by the contextual level factors.

2.1 Individual level factors

A study of the literature has shown that there are several factors on an individual level that are of relevance in explaining fear of crime. These factors are physical and social vulnerabilities, previous criminal victimization, and perceived disorder. However, for some of these factors there are no consistent findings about the relationship between them and fear of crime. Therefore, in this study, the factors are put together to provide some more clarity.

2.1.1 Physical and Social Vulnerabilities

The vulnerabilities hypothesis (Doran & Burgess, 2012a) states that peoples' fear of crime is dependent on the perception of their own vulnerability to criminal victimization. This vulnerability is determined by exposure to risk, loss of control, and the seriousness of the consequences. A distinction can be made between physical and social vulnerabilities. Physical vulnerabilities refer to how one thinks he or she is able to cope physically with an attack. Social vulnerabilities refer to how one's position in society can expose one to threat and how well one can cope with this. In this study, gender and age are used to indicate physical vulnerability, and socio-economic status is used to refer to social vulnerability.

Previous results for gender are quite consistent. In general, females have a higher fear of crime than males (Abdullah et al., 2014; Scarborough et al., 2010; Visser et al., 2013). However, for some crimes – break in, sexual assault and attack by a knife, club or gun – the difference in fear of crime between men and women is bigger than for other crimes (LaGrange & Ferraro, 1989). The hypothesis will be:

Hypothesis 1: Females have a higher level of fear of crime than males.

The findings for age are very inconsistent. While some studies find that the elderly are more fearful of crime than the young (Abdullah et al., 2014; Visser et al., 2013; Covington & Taylor, 1991), others find lower levels of fear of crime in the elderly (LaGrange & Ferraro, 1989; Acierno et al., 2004). A third stream of research states that age is not a significant predictor of fear of crime at all (Scarborough et al., 2010). Cook & Fox (2011) propose that this indicates a more complex relationship between age and fear of crime that also incorporates factors like risk, vulnerability and cultural context. For the purpose of this study, we will hold on to the vulnerabilities hypothesis and hypothesize that:

Hypothesis 2: Older people are more fearful of crime than are younger people.

With regard to socio-economic status, the idea is that people need appropriate socio-economic resources, such as a majority status or a high income, to prevent becoming a victim, defend themselves, and recover from an attack. Boldis et al. (2018) confirm this by showing that those who are socially disadvantaged, have higher levels of fear of crime. The results of this study also indicate that the higher-income women show slightly more fear of crime than the middle-income women. The reason for this might be that those who are best-off have the most to lose in terms of property. However, in this study, the ability to deal with an attack is deemed more important. To indicate socio-economic status the focus will be on income. Therefore, it is hypothesized that:

Hypothesis 3: People with a higher income have lower levels of fear of crime than people with a lower income.

2.1.2 Previous Criminal Victimization

With regard to previous criminal victimization, there are two relevant theories: the direct victimization hypothesis and the indirect victimization hypothesis (Doran & Burgess, 2012a). The direct victimization hypothesis says that people who have been a victim of a crime are more sensitive to risk. After the crime, they have a new sense of their personal vulnerability, which leads to more fear of crime and becoming a victim again. However, this sensitivity is reduced with the passing of time due to developing coping mechanisms. Russo and Roccato (2010)

show that recent direct victimization has a greater effect on fear of crime than victimization that has happened in the distant past, because of the developing of these coping mechanisms. Visser et al. (2013) confirm that victims of previous crime show more fear of crime than do non-victims. Therefore it is hypothesized that:

Hypothesis 4: Recent victimization increases fear of crime.

The indirect victimization hypothesis states that people can experience victimization and the accompanying emotions indirectly from hearing about others' crime encounters. The information about these crimes are obtained through the media and interpersonal communication. Mesch (2000) suggests that there are many more people who know about victimization through their networks, than there are people who are victimized directly. Because indirect victimization is much more widespread, it has a greater effect on fear of crime than direct victimization. However, due to constraints in the available data, unfortunately it will not be possible to research indirect victimization in this study.

2.1.3 Perceived Disorder in the Community

To explain why perceived disorder in the community is a relevant factor in fear of crime, the disorder/incivilities hypothesis is important (Doran & Burgess, 2012a). This hypothesis focuses on social and physical characteristics of an environment. Perceived signs of disorder or incivilities show a lack of order in a neighbourhood and indicate a breakdown of social controls and might show underlying crime and criminal threat. An example of this is the "broken-windows theory" (Kelling & Wilson, 1982). The idea is that if a window is broken, more windows will be broken. This broken window is a sign of a lack of social control which increases opportunity for disorder and crime. When these signs of disorder are perceived more, it is likely that peoples' fear of crime will increase. Wyant (2008) confirms this hypothesis by concluding that on the individual level, perceived incivilities are predictive of fear of crime. It is hypothesized that:

Hypothesis 5: The more someone perceives disorder in the community, the higher his or her fear of crime level is.

2.2 Contextual level factors

Scarborough et al. (2010) have pointed out the wealth of empirical findings on individual factors relating to fear of crime. However, according to them, the importance of the context in which people live has been underemphasized. Building on the idea that our social environment is of notable influence on us (Eze, 2016), on previous research and on the theories provided by Doran and Burgess (2012a), the next four contextual factors are being discussed in relation to fear of crime: actual crime rates, social cohesion, neighbourhood heterogeneity, and socio-economic status of the neighbourhood.

2.2.1 Crime rates

Actual crime rates are an important factor in explaining fear of crime. Visser et al. (2013) show that in countries with a higher crime level, people experience higher levels of fear of crime. Criminal opportunity theory – also called risk of victimization theory – helps explain this relationship. The theories are based on the routine activities hypothesis by Cohen and Felson (1979) which says that there are three conditions needed for a crime to happen: the presence of a motivated offender, the presence of a suitable target, and the absence of capable guardians. This means that offenders assess their environment in order to establish the right conditions to commit their crime. Likewise, potential victims also assess their environment to define the places and times that are risky and threatening. This means that places where and times when crimes happen are perceived as more risky and threatening by potential victims. As such, risk of victimization theory helps explain the distribution of fear of crime (Doran & Burgess, 2012a). It is hypothesized that:

> Hypothesis 6: Fear of crime levels will be higher in neighbourhoods with higher crime rates.

2.2.2 Social cohesion

Social cohesion in a neighbourhood refers to the social ties in a neighbourhood. This is seen in the amount of contact people have with their neighbours and the extent of their trust in their neighbours.

The relationship between social cohesion and fear of crime is explained by the social disorganization hypothesis (Doran & Burgess, 2012a). The social disorganization hypothesis focuses on the destruction of social control. This means that the community is not able to maintain public order and keep residents from violating social norms. This in turn can lead to

increased crime. Peoples' perceptions of this destruction of social control will increase their levels of fear of crime. Characteristics of social disorganization are weak local friendships, low organizational participation, social mistrust, and unsupervised youths on the streets. Boessen et al. (2017) suggest that if there are higher levels of social cohesion in a neighbourhood, then people have more local social ties. Because of this they probably have more familiarity and trust with their neighbours and this might function as a support network. All of this can be associated with less fear of crime. Abdullah et al. (2013) confirm this by showing that "high perceived cohesion is associated with a low perceived fear of crime" (p. 13). The hypothesis will be:

> Hypothesis 7: In neighbourhoods in which there are high levels of social cohesion, the fear of crime levels will be low.

2.2.3 Neighbourhood heterogeneity

Neighbourhood heterogeneity refers to the ethnic and racial composition of a neighbourhood. The more heterogeneous a neighbourhood is, the more people with different backgrounds live in this neighbourhood. A part of the social disorganization hypothesis talks about the influx of immigrants in a neighbourhood or community (Doran & Burgess, 2012a). The idea is that local residents are afraid that the new residents of a different ethnic or racial background do not know how to assimilate to the existing values in the community. Moreover, immigrants and racial minorities are often associated with crime and delinquency (Hooghe & Vroome, 2014). The same study confirms this idea by showing that ethnic diversity of a neighbourhood is positively correlated to fear of crime. Therefore, it is hypothesized that:

> Hypothesis 8: Levels of fear of crime are higher in more heterogeneous neighbourhoods.

2.2.4 Socio-economic status of the neighbourhood

Socio-economic status refers to the social class of a person or group. Since people with a similar social class often cluster together in the same neighbourhood (Osborne, Ziersch & Baum, 2011), it could be stated that certain neighbourhoods have a lower socio-economic status than others. Given that people who live in neighbourhoods with a low socio-economic status view their neighbourhoods more negatively than people who live in neighbourhoods with a high-economic

status (Mackenbach et al., 2016), it could be concluded that those people may also be more afraid of crime. The hypothesis will be:

> Hypothesis 9: Neighbourhoods with a lower socio-economic status will have higher levels of fear of crime.

3. Operationalization

3.1 Dataset

For this study, the Netherlands Longitudinal Lifecourse Study (NELLS) is used. This survey consists of multiple topics, such as social capital, what people do in their free time, family relationships, attitudes towards religion and people with different backgrounds, socio-economic status, delinquency and victimization etc. It is focused specifically on the Netherlands and includes items on almost all factors relevant for this study. The data was collected in two waves. The fieldwork – face-to-face interviews and self-completion questionnaires – for the first wave was done between December 2008 and May 2010 and had 5312 respondents from across the country. These respondents were then asked if they would want to participate in the second wave. This resulted in 4456 respondents for the second wave, which was done between February 2013 and December 2013. In this study, the data collected in the first wave is used, because some of the items relevant to this study were not asked again in the second wave.

3.2 Variables

3.2.1 Dependent Variable

The dependent variable in this study is fear of crime. It is measured by the question whether respondents ever feel unsafe in their neighbourhood. The answer scores range from 1 to 4. A score of 1 on this item means that respondents never feel unsafe, 2 means they rarely feel unsafe, 3 means they sometimes feel unsafe, and a score of 4 means that they often feel unsafe. Table 1 shows the frequencies and percentages of the dependent variable fear of crime.

Table 1

Do you ever feel unsafe in your neighbourhood? (N=5312)

	Frequencies	Percent
Never	3,889	73.2
Rarely	747	14.1
Sometimes	580	10.9
Often	96	1.8

Source: NELLS Wave 1 (2010)

3.2.2 Independent Individual Variables

On an individual level there are three major areas studied. These are vulnerabilities, divided into physical and social vulnerabilities, previous criminal victimization, and perceptions of the neighbourhood, in particular in relation to disorder.

To indicate physical vulnerabilities, age and gender items are used, and to indicate social vulnerabilities, income is used. The sample consisted of 47.2% women and 52.8% men. Respondents' age ranges from 14 to 49 with an average of 31 years. There were sixteen income categories ranging from less than €150 per month to more than €7,000 per month. Because of the high number of missing data for income (598), for the purpose of this study, means imputation was used to assign the average income to the respondents who did not answer this question. For these respondents a dummy variable was created so it was possible to compare them to the respondents who did answer the question. In this way, the sample becoming too small is being prevented.

The item relating to previous direct criminal victimization exists of six sub-questions that ask if certain things – a break in; damage to property; wallet, phone or purse got stolen; a mugging; threat of the use of violence; and the actual use of violence – happened to the respondents in the past 12 months. These sub-questions are recoded into two indicators for previous criminal victimization, one indicates property crime, and the other indicates violent crime, since the mechanisms operating for different types of crime might be different (Alper & Chappell, 2012). They were recoded in such a way that if respondents answered yes to at least one of the three items that can be categorized as property crime, they were included as being previously victimized of a property crime. The same goes for violent crime.

The item that is used to indicate perceived disorder in the community asks respondents in seven sub-questions if they think certain things – smudging of walls and buildings, disturbances by youth groups, damage or destruction of public places, noise, litter on the streets, nuisance through alcohol and drugs, and disruptive traffic behaviour – happens in their neighbourhood. The response categories ranged from 1 to 3, in which 1 means respondents thought it never happens, 2 means they thought it sometimes happens, and 3 means they thought it always happens. A common factor analysis was performed to determine which of those sub-questions correlated to each other the best. Table 2 shows these correlations. The items or sub-questions with a correlation higher than 0.5 were recoded into one indicator for perceived disorder in the community. A score of 1 indicates that respondents did not perceive any disorder, 2 means they perceived some disorder, and 3 means that respondents perceived a lot of disorder.

Table 2

Factor Matrix for Perceived Disorder

Item	Factor: perceived disorder
Disturbances by youth groups	0.712
Damage or destruction to public places	0.694
Smudging of walls and buildings	0.613
Nuisance through alcohol and drugs	0.594
Noise	0.569
Litter on the street	0.472
Disruptive traffic behaviour	0.443
Extraction Method: Principal Axis Factoring	
Cronbach α: 0.774	

Table 3 shows the descriptive statistics of the individual level variables.

Table 3

Descriptive Statistics Independent Individual Variables (N=5312)

	Min.	Max.	Mean	SD
Age	14	49	31.30	9.017
Gender (Male=0)	0	1	0.528	0.499
Income	1	16	6.108	2.906
Property Victimization (yes=1)	0	1	0.178	0.383
Violent Victimization (yes=1)	0	1	0.093	0.290
Perceived Disorder	1	3	1.422	0.435

3.2.3 Independent Context Variables

On a contextual level there are four major areas studied: crime rates, social cohesion, neighbourhood heterogeneity, and socio-economic status of the neighbourhood. It was considered important to research context variables as well since they might indicate that there are broader, structural factors influencing the people in a society (Scarborough et al., 2010).

The data for these variables were measured in 260 neighbourhoods, or districts, across the Netherlands.

To measure the crime rates of a neighbourhood, the data on previous victimization was aggregated to the neighbourhood level so it would provide data on the crimes that had been committed in that neighbourhood in the previous 12 months[1]. Again, a distinction was made between victimization of a property crime and victimization of a violent crime.

Social cohesion was defined as the social ties people have in their neighbourhood. This includes the contact people have with their neighbours and their amount of trust in their neighbours. Therefore, two items, whether people know each other in their neighbourhood and whether people in their neighbourhood can be trusted, are combined into one indicator for social cohesion. Response categories ranged from 1 to 4 and initially these were coded in such a way that 1 means "absolutely", 2 means "a little", 3 means "not really", and 4 means "not at all". However, the response categories for the social cohesion variable were reverse coded so that a higher score means that there is more social cohesion.

Neighbourhood heterogeneity refers to the number of people with a different racial or ethnic background living in a neighbourhood. The more different groups living in a neighbourhood, the more heterogeneous this neighbourhood is. The item used to indicate neighbourhood heterogeneity is one that measures the percentage of people with a non-Western ethnicity in a neighbourhood. This includes, mostly, people with a Moroccan, Antillean, Aruban, Surinamese or Turkish ethnic background.

Socio-economic status of a neighbourhood is measured by the number of people who receive unemployment benefits per 1000 individuals in the age of 15-64. The more unemployed people in a neighbourhood, the lower the socio-economic status of this neighbourhood.

Table 4 shows the descriptive statistics of the independent variables on the contextual level. There are three districts that had missing values on at least one of the variables, so these were deleted from the analyses.

[1] It would have been interesting to use data on actual crime rates in a neighbourhood, however, in the present study, it was not possible to identify the precise districts in which the data was collected, so it was not possible to get the right data on crime rates for the right districts.

Table 4

Descriptive Statistics Independent Context Variables (N=257)

	Min.	Max.	Mean	SD
Property Crime (%)	0	100	16.74	14.408
Violent Crime (%)	0	100	10.84	16.292
Social Cohesion	2.31	4	3.296	0.363
Neighbourhood Heterogeneity (%)	0	85	14.179	15.049
Socio-economic Status (unemployment per 1000 people)	0	42	18.389	7.070

Since the maximum value for neighbourhood heterogeneity is really high, it was deemed necessary to check for outliers. The boxplot created[2] suggested three outliers for which the value was higher than 70. A quick regression performed both including the outliers and excluding them showed almost no difference in the results, thus it was decided to leave the outliers in to prevent the sample from becoming too small.

3.3 Methodology

To get an initial idea of the relationships between the individual level independent variables and fear of crime, the analyses were started with correlations. However, some of the independent variables are categorical, therefore it is better to perform an independent t-test instead of correlations. To get a more nuanced view of the relationships, bivariate linear regressions, followed by multivariate linear regressions were performed. This way, it is possible to see how the independent variables relate to each other and to the dependent variable, and how much these variables explain in the variance of the fear of crime variable.

The information needed to study the variables on a contextual level was initially measured on an individual level so the data had to be aggregated to get to neighbourhood means. This was also done for the data on fear of crime to get the average fear of crime for each neighbourhood. Because of missing values for three of the districts, the rest of the analyses were performed with the data on 257 districts. Then, correlations were performed, followed by bivariate- and multivariate linear regressions.

The program IBM SPSS Statistics 25 was used to perform all statistical analyses.

[2] The boxplot is included in Appendix 1

4. Results

4.1 Individual level

Table 5 shows the correlations between the continuous independent variables on an individual level – age, income and perceived disorder – and the dependent variable fear of crime. Table 6 shows the results of the independent samples t-test performed for the categorical independent variables gender and previous victimization. The correlation between age and fear of crime is negative, but very small and not significant ($p > 0.05$). It can be concluded that age is not a relevant predictor of fear of crime. The average fear of crime for gender shows that females have slightly higher fear of crime levels than males. This difference is statistically significant ($p < 0.001$). For income, the correlation is negative, which means, the higher someone's income, the lower the fear of crime levels. This correlation is significant ($p < 0.001$).

For previous victimization a distinction was made between property crime and violent crime. The independent samples t-test shows that for both, the respondents who have been a victim of crime, have on average, a higher level of fear of crime. This difference in fear of crime is bigger for victims of property crime than for victims of violent crime. Both correlations are significant ($p < 0.001$ and $p < 0.05$ respectively).

The correlation between perceived disorder and fear of crime is positive and quite strong. This means that the more someone perceives disorder in their neighbourhood, the higher their fear of crime levels. This correlation is also statistically significant ($p < 0.001$).

Table 7 shows the results of the regression analysis performed for the individual level variables on fear of crime. Model 1 includes the physical vulnerabilities, age and gender. It shows again that age is not a significant variable ($p > 0.05$) in explaining fear of crime. This means that hypothesis 2 should be rejected. Gender is quite a strong and statistically significant variable ($p < 0.001$). Women have on average a higher level of fear of crime than men, which confirms hypothesis 1. Model 2 includes income and the dummy variable that was created to control for the missing data on income. For income it shows that the relationship is negative and significant, which means that the higher someone's income, the lower their fear of crime levels. The result for the missing income variables is not significant, which means that there is no specific reason why some respondents filled in this survey question and why others did not. These missing values are random. With this, hypothesis 3 is confirmed. Model 3 includes previous victimization of property crime and violent crime and confirms the previous result that being a victim of a property crime has a bigger and more significant influence on fear of crime

than being a victim of a violent crime does. This does mean that hypothesis 4 is confirmed. Model 4 shows a strong, positive and significant relationship between perceived disorder and fear of crime, confirming hypothesis 5. It also explains most of the variance in fear of crime. In model 5, all individual level variables are added together. A very interesting finding is that in this model age becomes significant ($p < 0.001$). This might mean that age is not a predictor of fear of crime in itself, but could rather be influencing some of the other independent variables.[3] Being a victim of a violent crime remains nonsignificant. All variables together explain 14.7% of the variance in fear of crime. This indicates that there are much more factors that play a role in why some people are more afraid of crime than others.

Table 5

Correlations Independent Individual Variables with Fear of Crime (N=5312)

	Fear of Crime
Age	-0.001
Income	-0.068***
Perceived Disorder	0.333***

***p < 0.001

Table 6

Results of Independent Samples t-test

		Fear of crime
Gender	Male	1.280
	Female	1.532
	t	-12.449***
Previous Property Victimization	No	1.385
	Yes	1.543
	t	-5.315***
Previous Violent Victimization	No	1.407
	Yes	1.472
	t	-1.757*

*p < 0.05
*** p < 0.001

[3] Correlations between age and other independent variables were performed to check this. The results, shown in Appendix 2, indicate that, indeed, those correlations exist and are the strongest between age and income.

Table 7
Results of Regression Analysis on Fear of Crime on an Individual Level (N=5312)

	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	1.025***	1.521***	1.384***	0.591***	0.118*
	(0.000)	(0.024)	(0.012)	(0.033)	(0.058)
Age	0.000				0.006***
	(0.001)				(0.001)
Gender	0.251***				0.263***
	(0.020)				(0.019)
Income		-0.018***			-0.018***
		(0.004)			(0.004)
Missing Income		-0.010			-0.023
		(0.033)			(0.030)
Property Victimization			0.155***		0.108***
			(0.028)		(0.026)
Violent Victimization			0.018		0.004
			(0.037)		(0.034)
Perceived Disorder				0.578***	0.567***
				(0.022)	(0.022)
R Square	0.028	0.005	0.006	0.111	0.147

*p < 0.05
***p < 0.001

4.2 Contextual level

Table 8 shows the correlations between the independent variables on a contextual level and the dependent variable fear of crime. Just like on the individual level, there is a difference in results between property crime and violent crime. The occurrence of property crime in the neighbourhood has a positive and significant ($p < 0.001$) correlation with fear of crime. This means that the more property crime is occurring, the higher the level of fear of crime. For violent crime this correlation is, surprisingly, negative, which would mean that the more violent crime is occurring, the lower fear of crime levels are. However, this correlation is not significant ($p > 0.05$) so this result cannot be generalized to the whole country.

Social cohesion correlates negatively and quite strongly with fear of crime. It shows that if social cohesion in a neighbourhood is strong, fear of crime will be low. This correlation is statistically significant ($p < 0.001$).

Neighbourhood heterogeneity has a strong, positive and significant ($p < 0.001$) correlation with fear of crime as well. Thus, in neighbourhoods where the percentage of people with different ethnic backgrounds is high, fear of crime is high.

The socio-economic status of a neighbourhood, or in this case, unemployment, is correlated to fear of crime as well. The results tell us that the more unemployment in a

neighbourhood, the higher the fear of crime level. This also means that if a neighbourhood has a lower socio-economic status, fear of crime will be higher. The relationship is statistically significant ($p < 0.001$).

Table 9 shows the results of the bivariate and multivariate linear regressions on the contextual level. Model 1 confirms the previous results that there is a difference in the relationship between property crime and violent crime with fear of crime and that violent crime is not a significant predictor of fear of crime. With this, hypothesis 6 has been partly confirmed. The occurrence of crime in a neighbourhood explains the least of the variance in fear of crime of the contextual level variables. Model 2 includes social cohesion and shows again that the more social cohesion in a neighbourhood, the less fear of crime. This confirms hypothesis 7. Model 3 shows the relationship between neighbourhood heterogeneity and fear of crime. Again, it explains that the more people of a different ethnic and racial background living in a neighbourhood, the more people in this neighbourhood are afraid of crime. Neighbourhood heterogeneity explains the most of the variance in fear of crime of the contextual level variables. Hypothesis 8 is confirmed. Model 4 includes socio-economic status – in this case unemployment – and shows that the more unemployment in a neighbourhood, the higher fear of crime levels. With this hypothesis 9 is confirmed. In Model 5 all variables are added together. There is no real surprising change in this model which means the relationships between the independent variables and the dependent variable fear of crime remain the same. The model also does not indicate that the independent variables have some sort of influence on each other. Model 5 explains 31.1% of the total variance in fear of crime, which is more than half of what the individual variables explain.

Table 8
Correlations Independent Context Variables with Fear of Crime (N=257)

	Fear of Crime
Property Crime	0.215***
Violent Crime	-0.026
Social Cohesion	-0.433***
Neighbourhood Heterogeneity	0.442***
Socio-economic Status (unemployment)	0.276***

***p < 0.001

Table 9

Results of Regression Analysis on Fear of Crime on a Contextual Level

	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	1.300***	2.627***	1.237***	1.141***	1.809***
	(0.031)	(0.165)	(0.025)	(0.054)	(0.196)
Property Crime	0.508***				0.303*
	(0.138)				(0.121)
Violent Crime	-0.140				-0.009
	(0.122)				(0.106)
Social Cohesion		-0.381***			-0.218***
		(0.050)			(0.053)
Neighbourhood			0.009***		0.006***
Heterogeneity			(0.001)		(0.001)
Socio-economic				0.012***	0.008***
Status				(0.003)	(0.002)
(unemployment)					
R Square	0.051	0.188	0.196	0.076	0.311

*p < 0.05

***p < 0.001

5. Discussion and Limitations

Since fear of crime has several negative consequences for the individual and for the wider community, it is important that this phenomenon is studied. This study has attempted to research several factors that might have a relationship with fear of crime, while distinguishing between the individual and the contextual level. It was considered important to study both since on the individual level there is still some inconsistency in the literature and the context effects have been studied less often. The latter point is quite surprising, considering the result that the contextual variables in this study explained more of the variance in fear of crime than did the individual variables, suggesting the contextual level might be more influential. Of the nine hypotheses proposed, seven have been completely confirmed. Women are on average more afraid of crime than men. The higher someone's income, the lower his or her levels of fear of crime. Having been a victim of crime before, in the past 12 months, is also associated with higher levels of fear of crime, although this relationship is stronger for property victimization than for violent victimization. Perceiving more disorder is correlated with higher levels of fear of crime. The more social cohesion and homogeneity in a neighbourhood, the lower fear of crime levels are. In neighbourhoods where socio-economic status is low, people will be more afraid of crime. The hypothesis stating that older people are more afraid of crime than younger people was rejected and the hypothesis that said that the more crime occurred in a neighbourhood, the higher the level of fear of crime, was only confirmed for property crime.

The results suggest that the vulnerabilities hypothesis is partly true. Both in the case of gender and wealth, the ones who are considered more vulnerable – women, those with a lower income, and neighbourhoods with more unemployment – are more afraid of crime than those who are less vulnerable. This does not hold for age. Relating to the direct victimization hypothesis, the results show that, indeed, people who have been a victim of crime before, in the past 12 months, are more afraid of crime. The disorder/incivilities hypothesis states that perceived signs of disorder are indicative of a lack of order and a breakdown of social control, which might relate to underlying crime. The results suggest that this is indeed the case and that people who perceive more disorder are also more afraid of crime. Where there is more crime, there is also more fear, confirming the idea that places where and times when crimes happen are perceived as more risky. However, it becomes a bit more complex when a distinction is made between property crime and violent crime. The results that in neighbourhoods where social cohesion is stronger, fear of crime is lower, confirm the social disorganization hypothesis.

In those communities where social ties are weak, there is not a lot of social control and it becomes easier to violate social norms. People also have a weaker social support network. Another part of the social disorganization hypothesis is related to immigrants, often associated with crime and delinquency. When there are more immigrants – or people with a different ethnic or racial background – living in a neighbourhood, the fear of crime in this neighbourhood is higher. Perhaps, also because people tend to be sceptical of those who are different.

Because of the negative consequences of fear of crime discussed earlier, it is important that this fear of crime is addressed. However, as table 1 showed, people in the Netherlands are not that afraid of crime. About three thirds of the respondents reported they never felt unsafe. Still, the results of the present study might be of interest to the development of strategies aimed at reducing fear. A focus could be laid on the improvement of social cohesion, by for example, implementing programmes that bring neighbours more into contact with each other. In neighbourhoods where a lot of people with different ethnic and racial backgrounds are living, this could also be positive. Since it was shown that in these neighbourhoods fear of crime is higher, and following Allport's Intergroup Contact Hypothesis (Pettigrew & Tropp, 2005), it might help to actually bring people into contact and reduce stereotypes. Perceived disorder had quite a strong effect on fear of crime as well, so it would be beneficial if disorder and incivilities in a neighbourhood are reduced. This could include the fixing of broken down buildings or giving youth groups places to hang out so they will not cause disturbances. Income and unemployment is significantly related to fear of crime as well, which would mean that addressing economic disadvantages could be beneficial. Next to this, crime control remains important in both reducing fear of crime and making the neighbourhood a safer place.

A few limitations have been encountered in this study, mostly having to do with imperfect measurement. First of all, the fear of crime indicator used is not perfect, for two reasons. Ferraro (1995) explains that fear of crime consists of two dimensions: the affective dimension and the cognitive dimension. The affective dimension refers to feelings of fear, while the cognitive dimension refers to perceptions of crime and assessment of risks. The question: "Do you ever feel unsafe in your neighbourhood" might be measuring perception and assessment of risk instead of both this perception and feelings of fear. Visser et al. (2010), for example, show that education and income have a negative effect on feelings of unsafety (the cognitive dimension), but do not affect fear of crime (the affective dimension). Including more factors in an indicator for fear of crime will provide a more nuanced view of fear of crime. Perhaps, the amount of people indicating that they are afraid will also increase, making the research more interesting and relevant for policy implications. Future research can address this.

The second reason why the fear of crime indicator used here is not perfect, is that it is essential to distinguish between different fears of different types of crimes (Alper & Chappell, 2012). For example, women might be more afraid of crimes such as assault and rape than of having their car stolen. Having only one indicator for fear of crime will not show these differences, although they might be very interesting to research. Next to this, the maximum age of the respondents was 49. This leaves out quite a big group of society. Therefore, it does not measure how the elderly view fear of crime and it is harder to conclude how the relationship between age and fear of crime looks.

Secondly, there was no information on indirect victimization. Mesch (2000) explains that because more people know about crime through the media and their networks than that there are people who have been actually victimized, indirect victimization is much more widespread and might also have a bigger impact than direct victimization. An example of this is the influence of terrorist attacks. The number of events as well as casualties is relatively small, however, the media pay a lot of attention to it. Much more than to, for example, robberies. For these reasons it might have been interesting to research the effect of indirect victimization next to the effect of direct victimization. For future research it might also be interesting to look into the difference in fear of crime between recent victims and people who have been victimized in the distant past. The reason for this is the development of coping mechanisms over time, which might influence the way previous victims feel about crime and how sensitive to risk they are (Russo & Roccato, 2010).

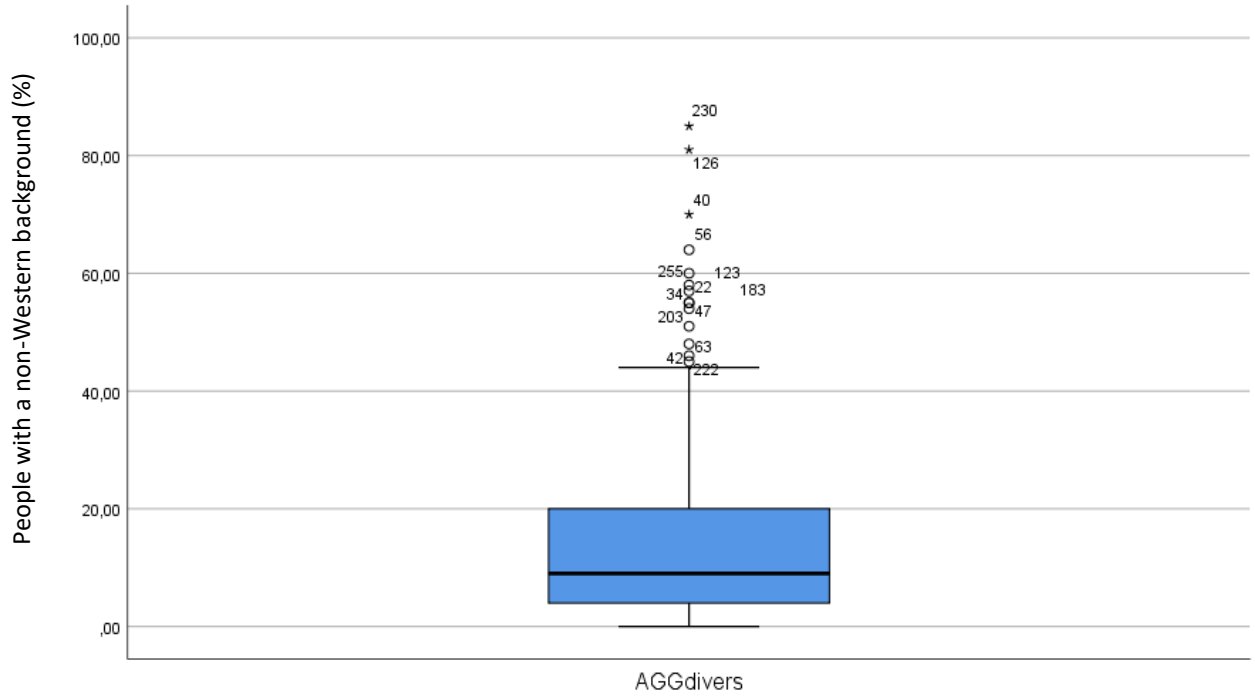
Lastly, the way crime rates was measured is not ideal. The item used for this variable only includes a limited amount of crimes that can happen. The data on actual crime rates collected by the Centraal Bureau voor de Statistiek (CBS) is much more specific and inclusive. Some examples of crimes that are not included in the NELLS item but are in the CBS data are stalking, discrimination, fraud, animal abuse, drug crimes etc. It would have been interesting to use this data, however, like stated before, that was not possible in the current study. The use of this measurement, however, did provide the very surprising result that the occurrence of violent crime was not significantly correlated with fear of crime, which might be counter-intuitive. Future research could possibly shed more light on this.

To conclude, gender, income, previous victimization and perceived disorder help explain fear of crime on the individual level, with perceived disorder being the strongest and most relevant factor. On the contextual level, the occurrence of property crime, social cohesion, neighbourhood heterogeneity and socio-economic status help explain fear of crime. Here, social cohesion and neighbourhood heterogeneity are the most relevant.

From this and previous research it becomes pretty clear that fear of crime is a complicated concept that involves much more and that has a much bigger impact on us and our surroundings than we might actually realize.

Appendix

Appendix 1



The boxplot shows the percentage of people with a non-Western background living in each neighbourhood. The three neighbourhoods indicated with a star (with district codes 40, 126 and 230) are considered outliers.

Appendix 2

Correlations Independent Variables with Age (N=5312)

	Age
Income	0.526***
Property Victimization	-0.028*
Violent Victimization	-0.103***
Perceived Disorder	-0.087***

*p < 0.05
***p < 0.001

The table shows that there is a significant correlation between age and the other independent variables. The one between age and income is the strongest. This means that older respondents have a higher income than younger respondents. It should be noted here that in the sample the maximum age was 49. If the sample also included older people, the correlation might have been different, since in retirement, income is often much lower. The other three correlations are negative, which means that the older respondents are victimized less and perceive less disorder in their neighbourhood.

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