

# **The effect of neighbourhood characteristics on the willingness to intervene**

**Examining the mediating effect of social cohesion**



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## Abstract

*The aim of this article is to investigate the relation between neighbourhood characteristics and the willingness of residents to intervene in deviant situations, and to explore what role social cohesion plays in this relation. Social Disorganization Theory (SDT) of Shaw and McKay (1942), and the concept of collective efficacy of Sampson et al. (1997) help understanding this. This cross-sectional study uses LISS-data, collected in 2010 and 2011, to test the hypotheses. The results indicate associations between disorder and social cohesion, and between social cohesion and willingness to intervene. The main relation between disorder and willingness to intervene misses. However, when the control variable satisfaction with police is left out the analysis, this relation becomes significant. This indicates an alternative mediating relationship, because it seems as if the main relation was suppressed by satisfaction with police in earlier analyses. In addition to this, the findings raise the question whether SDT is applicable in the Netherlands.*

**Keywords:** Neighbourhood characteristics, social disorganization, social cohesion, willingness to intervene.

## Introduction

The rapport 'Social cohesion in the neighbourhood' shows that relations among neighbours in the Netherlands are weak (SCP, 2008). Only 20 percent of the respondents named their neighbours as network members when they were asked about their social network. Relationships among neighbours are significantly less intensive as other kinds of relationships. People like and trust their neighbours less than other people in their social network, according to this research. The same rapport says that people feel safer in their neighbourhood if they trust their neighbours. The idea that residents in the neighbourhood would intervene in deviant situations correlates with the perceived safety. Furthermore, the research shows that social controls are important for guaranteeing collective goods, such as maintaining safety and order in the neighbourhood. This implies that there is a relation between the quality of the neighbourhood, how connected people feel in their neighbourhood, and how willing they are to participate in informal social controls. This research attempts to explore the nature of this relation.

Sampson *et al.* (1997) describe how the social and organizational characteristics of a neighbourhood can explain variations in crime rates. They argue that a great part of delinquency in a neighbourhood can be attributed to its ability to realize the common values of residents and the ability to maintain effective social controls. According to the authors social control is defined as the ability of a group to regulate its members according to the desired principles and to realize collective aims. One of these aims would be providing safety and public order in the neighbourhood, which merges with preventing crime. The willingness to intervene for the collective good depends on trust and solidarity between the residents. Hence, they say that

neighbourhood characteristics influence social cohesion, and social cohesion influences the participation in informal social control. Following these mechanisms, the question this research attempts to explore is ‘To what extent do the perceived social characteristics of a neighbourhood influence the willingness to intervene?’.

There are a few aspects on which this research contributes to the scientific field. Firstly, this study makes methodological progress. There has already been done some research into the nature of the relation between the characteristics in a neighbourhood and how willing residents are to intervene. However, most of these researches focus on crime rates, whereas this study focuses on informal social controls. Many researchers agree that low levels of informal social control is a key mechanism explaining the relation between structural neighbourhood characteristics and crime (Sampson & Groves, 1989; Bursik & Grasmick, 1993; Sampson *et al.*, 1997). Considering this, it seems relevant to explore the link between neighbourhood characteristics and residents’ willingness to intervene in deviant situations. Warner and Rountree (1997) find that social ties have different effects in different neighbourhoods. According to them, social ties can reduce assault rates in predominantly white neighbourhoods, but they have no effect in predominantly minority or racially mixed neighbourhoods. They also argue that communities with wider friendships and associational ties are likely to have a lot of informal social control. Hirschfield and Bowers (1997) describe in their research how the crime rates in disadvantaged areas are significantly lower when the level of social cohesion is high. According to them, social control is an important indicator of social cohesion. Highly cohesive areas are likely to have a high degree of social control. They claim that when social control increases in a neighbourhood, the levels of assault and robbery decrease. As mentioned before, Sampson *et al.* (1997) argue in their article how structural neighbourhood characteristics can influence the collective efficacy of that neighbourhood, implying social cohesion and social controls. Shaw and McKay (1942) describe a possible state of disorganization, where norms and values in a neighbourhood are absent or even contradicting. This state of disorganization provides an explanation for high crime rates in a neighbourhood, including low levels of social controls and social cohesion.

In addition to this, a lot of the research that has been done into the topic of neighbourhood characteristics and informal social controls is in American or British context. Multiple researches found a negative relation between neighbourhood characteristics and crime rates (Sampson & Groves, 1989; Kingston *et al.*, 2009; Lowenkamp *et al.*; 2003, Sun *et al.*; 2004). Other studies found a negative relation between neighbourhood characteristics and

collective efficacy (Sampson *et al.*, 1997; Wikström *et al.*, 2012; Sampson & Wikström, 2008). There is also found evidence for a positive relation between social cohesion and informal social controls (Warner & Rountree, 1997; Hirschfield & Bowers, 1997; Bursik, 1999). There has been done some research into this topic in the Netherlands as well. Little evidence was found for the Social Disorganization Theory, and the results of the different researches are not consistent with each other (Steenbek & Hipp, 2011; Wilsem *et al.*, 2006; Bruinsma *et al.*, 2013). This raises the question whether the theory is applicable in the Netherlands. This research is a innovative study that will be using data that is obtained in the Netherlands. As the results based on a theoretical framework may be generalizable in new areas, the results will complement already existing research on this field. This is the second aspect on which this thesis makes methodological progress.

High crime rates can have large effects on communities, which is why it is an important field of research. Steenbek and Hipp (2011) clarify in their article how structural neighbourhood characteristics cause disorder, but also describe how disorder in return influences social cohesion and therefore social controls. They claim that neighbourhood disorder results in residents moving out of the area, and thus causes residential instability. This leads to less people taking action to improve the quality and safety of the neighbourhood. A research of Taylor (1995) also describes how high crime rates are associated with residents moving out of the neighbourhood, which in turn causes higher burglary rates. Conklin (1973) argues how the presence of high crime rates has negative effects on a neighbourhood. Residents of high crime rate areas feel less safe, are less likely to trust others in the area and express less positive feelings for their community. This study investigates the nature of informal social controls, which is thus an important indicator for crime and delinquency rates, and is therefore of societal importance.

## **Theoretical framework**

### *Social Disorganization Theory*

Social Disorganization Theory (SDT), initiated by Shaw and McKay (1942), claims that structural neighbourhood characteristics influence variances in crime and delinquency. Shaw and McKay describe the possibility of a state of social disorganization in a neighbourhood in their work *Juvenile Delinquency and Urban Areas*. This concept has its roots in the social ecology, and therefore attempts to link ecological circumstances to social phenomena. Social disorganization is defined as “the inability of a community structure to realize the common

values of its residents and to maintain effective social controls” (Sampson & Groves, 1989). Empirically, the dimensions of social disorganization can be measured in terms of both the presence and interdependency of social networks, and in terms of how much control a community directs towards deviant situations. It forms a state where there is little or no sense of community belonging, relationships are fragile, levels of community surveillance are low, the level of informal social control is low, and social organizations are not efficacious (Shaw & McKay, 1942). Common goals are not achieved because the level of social solidarity is too weak in the neighbourhood to encourage people to cooperate to reach these goals. This results in an absence of conventional norms and moral values in the area, or even in contradictory and competing norms and values between the residents of this area. Conflict over scarce resources arises and so delinquency becomes a way of obtaining intimacy, income, and honour.

Steenbek and Hipp (2011) describe another state of disorganization. They call this disorder and describe it as a state, using the definition of Perkins and Taylor (1996), where the social and physical conditions in a neighbourhood are perceived as problematic and potentially threatening. Social disorder here includes troublesome behaviours in the neighbourhood, such as drinking in public, or people getting harassed or threatened on the street. Physical disorder is about the physical decline of the neighbourhood, such as vandalism and graffiti. These definitions thus link disorder to criminal activities on the street, where signs of disorder may even be a predictor of more serious crime. Disorder can be seen as the result of the structural neighbourhood characteristics described by Shaw and McKay (1942). These characteristics cause disorder, but disorder in turn feeds back onto the development and maintenance of social ties, and therefore the presence of informal social controls.

Shaw and McKay argue that the absence of community feeling and inability to maintain controls is the consequence of three structural factors, being residential mobility, ethnic heterogeneity and low socioeconomic status (Sampson & Groves, 1989). The idea behind SDT is that people in neighbourhoods with these characteristics are less capable of organizing themselves against threats, because the structural dimensions of social disorganization influence social cohesion and therefore informal social controls. The forming of ties takes time, which is why they cannot grow strong if the degree of residential mobility in an area is high. Ethnic heterogeneity impedes communication and interaction, and often comes with fear and mistrust. This causes that residents do not develop shared norms and values. Residents of communities with low SES participate lack resources and money, and therefore participate less in formal and voluntary organizations. As a result of this, these communities have a lower organizational basis than communities with high SES. Hence, they claim that if there are low

levels of informal social controls in a neighbourhood, it is likely that there are also high levels of structural disadvantage.

Furthermore, Shaw and McKay describe three levels of intervening dimensions of social disorganization (Sampson & Groves, 1989). The first dimension describes the way in which a community is capable of supervising and controlling teenage peer groups. Shaw and McKay claim that cohesive communities are better in controlling teenage behaviours, because cohesive communities have a higher level of supervision, and most gangs develop from unsupervised peer groups. The second intervening dimension is the presence of local friendship networks. If a community contains a lot of social networks, informal social control increases as residents are more inclined to intervene when they observe criminal behaviour and outsiders are recognized sooner. In addition to this, in case the network density is high, the constraint on deviant behaviour is greater within this network. The final dimension is the participation in local or voluntary organizations. The strength of links between these organizations determines how capable they are of defending their local interests. This is why institutional instability and the isolation of community institutions are structural factors which negatively influence the social organization of the neighbourhood.

#### *Evidence Social Disorganization Theory*

Sampson and Groves (1989) tested SDT in practice in their empirical research. They analysed data for 238 localities in Great Britain from a 1982 national survey and replicated this on an independent national sample of 300 British localities. Their results support the theory and show that variations in social disorganization transmit the influence of structural neighbourhood characteristics on criminal victimization and offending. Kingston *et al.* (2009) also find evidence for the theory in their research, using neighbourhood-level parent and youth data from 44 neighbourhoods in Denver. Lowenkamp *et al.* (2003) replicated the study of Sampson and Groves (1989), using data from the 1994 British Crime Survey (BCS). Their results also support the theory and show that local friendship networks, unsupervised peer groups, and organizational participation effectively mediate the relationship between structural characteristics and rates of criminal victimization. Sun *et al.* (2004) also replicated the study of Sampson and Groves (1989), and find that social disorganization variables are more effective in transmitting the effect of neighbourhood characteristics on assault than on robbery. They used data from 36 neighbourhoods in 7 U.S. cities.

SDT is also tested in the Netherlands, however not with consistent results. Steenbek and Hipp (2011) conducted a longitudinal research over 10 years in 74 neighbourhoods in Utrecht.

They found that social disorganization leads to less potential social controls, and more actual social controls, yet it did not facilitate social cohesion. The effects were mostly caused by residential instability. Van Wilsem *et al.* (2006) found support for communities with high residential instability and a high degree of ethnic heterogeneity having less social control, but did not find support for low SES having an effect. Bruinsma *et al.* (2013) tested the Social Disorganization Theory in the Netherlands, in 86 neighbourhoods in The Hague. However, they did not find evidence for this theory. According to their research, residential instability, heterogeneity of values, trust among neighbours and collective efficacy do not explain the variations in crime rates in different neighbourhoods. In addition to this, local friendship networks, the supervising of peer teenage groups and organizational participation are not correlated with crime. They even found that the higher the level of population density and level of urbanization is, the lower the crime rates are, which does not agree with the theory of Shaw and McKay. The only significant influence is ethnic heterogeneity. These studies raise the question whether SDT is applicable in the Netherlands.

Most of these studies focus on crime rates, however, as mentioned before, the level of informal social controls seems to be the mechanism linking neighbourhood characteristics to delinquency (Sampson & Groves, 1989; Bursik & Grasmick, 1993; Sampson *et al.*, 1997). Therefore, the studies are still relevant for the investigation into the willingness of residents to intervene in their neighbourhoods.

#### *Mediation by social cohesion*

Earlier research shows a positive relation between social cohesion and informal social control (Warner & Rountree, 1997; Hirschfield & Bowers, 1997; Bursik, 1999). As mentioned before, Sampson *et al.* (1997) define social control as the ability of a community to regulate its members according to the desired principles and its ability to reach the desired collective goals. Examples of informal social controls are the monitoring of spontaneous play groups among children, intervening to prevent youth hanging out on the street corner, and taking actions against deviant behaviours. Silver and Miller (2004) state how informal social control is of great importance for achieving low crime rates in a neighbourhood –using for example the researches of Sampson and Groves (1989) and Bursik (1988). In their article they cite Sampson and claim, using his statement, that informal social control rests on the assumption that public norms can only be complied if neighbours take responsibility for each other. Furthermore, they argue –using the paper of Bursik (1988)– that this type of control also relies on the neighbourhood its capacity to socialize and supervise youth in the neighbourhood. This taken together, Silver and Miller

define informal social control as the willingness of residents to take actions to prevent crime and deviant behaviour in the neighbourhood area, with an emphasis on actions to prevent deviant behaviour of the youth. This definition contains the willingness of people to intervene and is thus about how people say they would behave in deviant situations. However, informal social controls could also be about how people actual behave. This distinction is made for example by Steenbek and Hipp (2011) in their article. They divide social control into the potential for informal social control, which includes “feelings of responsibility for the neighbourhood”, and the actual social control behaviour, which includes “actual social control activity”. Because it seems that these two concepts highly correlate, this study chooses to follow the definition of Silver and Miller (2004), and takes willingness to intervene as social control.

Sampson *et al.* (1997) say social cohesion depends on mutual trust and solidarity among the residents within a community. Social cohesion is not explicitly defined in their article, but from this assertion it is assumable that this term is mostly about how connected people feel to each other in their community. When the rules are unclear, and people mistrust or fear each other, they are not likely of being willing to intervene in the neighbourhood. How Sampson and his colleagues see social cohesion, seems to agree with how Warner and Rountree (1997) see social cohesion as the amount of local social ties someone has in his or her neighbourhood. The term social cohesion largely overlaps with the term social capital, which refers to mutually reinforcing relations between interpersonal trust and civic engagement (Brehm & Rahn, 1997).

By introducing the term collective efficacy, Sampson *et al.* (1997) try to explain how social cohesion and informal social control cohere. In addition to this, they describe how key social characteristics can influence social organization in communities. According to them, collective efficacy is defined as the degree of social cohesion among neighbours combined with their willingness to intervene in order to pursue common goals and values. Certain structural social characteristics can reduce social cohesion, shared values and the informal social controls. A rapid change of population, which impedes the forming of strong ties, is an example of such a characteristic. Another factor that influences collective efficacy is the economic stratification by race and place. This stratification facilitates the isolation of lower income, ethnic minority, and single-parent residents, and therefore excludes them from sources of informal social control. In addition to this, the socioeconomic status can influence collective efficacy as well. The resource deprivation that accompanies a low SES causes alienation, exploitation and dependency. In short, Sampson *et al.* claim that structural factors as residential instability, immigration concentration and concentrated disadvantage negatively influence social controls, with a mediating effect of social cohesion. This greatly overlaps with the explanations offered



by SDT (Sampson & Groves, 1989). Sampson and his colleagues tested their statements empirically by conducting surveys in 343 neighbourhood clusters in Chicago and found that these factors indeed explained seventy percent of the variations in collective efficacy across neighbourhoods. Wikström *et al.* (2012) tested the relation between collective efficacy and crime rates in Peterborough in the United Kingdom and found that higher levels of collective efficacy decrease the presence of crime. Sampson and Wikström (2008) additionally found strong relationships between collective efficacy, concentrated disadvantage and violence rates in a comparing study in Stockholm and Chicago.

### *Hypotheses*

Using all literature about the concept of collective efficacy and SDT as described in this theoretical frame, the expected outcome of this research is that disorder, as a result of structural neighbourhood characteristics, influences social cohesion, and therefore the willingness of residents to intervene. For the testability of this research, the expected outcome is divided into four hypotheses. Firstly, SDT states that more disorder in a neighbourhood causes lower levels of informal social controls (Steenbek & Hipp, 2011). This leads to the following hypothesis:

*H1: The more socially disorganized a neighbourhood is, the less willing residents are to intervene when they notice something deviant.*

Secondly, neighbourhood disorder impedes the forming of social ties (Shaw & McKay, 1942; Sampson *et al.*, 1997; Sampson & Groves, 1989). Hypothesis 2 therefore includes:

*H2: The more socially disorganized a neighbourhood is, the less connected residents feel to each other.*

Taken into account that social cohesion fosters informal social controls (Shaw & McKay, 1942; Sampson *et al.*, 1997; Sampson & Groves, 1989), hypothesis 3 comes about:

*H3: The more connected residents feel to each other, the more willing they are to intervene when they notice something deviant.*

These three hypotheses taken together results in the last hypothesis:

*H4: The relation between social disorganization and willingness to intervene can partly be explained by the degree of social cohesion in a neighbourhood.*

## **Methods**

### *Data*

This research practices a secondary data-analysis as it uses a dataset instead of using self-collected data. The data used in this study is from different questionnaires from the Longitudinal

Internet Studies for the Social Sciences (LISS) panel, administered by CentERdata (Tilburg University, the Netherlands). The LISS panel is the core element of the project Measurement and Experimentation in the Social Sciences (MESS). It is financed by the Netherlands Organization for Scientific Research (NWO) and the Ministry of Education, Culture and Science (Kalmijn & Scherpenzeel, 2009). The data has been gathered since October 2007 and is still being collected. This causes that some questionnaires have been conducted many times now, and meanwhile already have 10 or 11 waves. The panel members fill in the same questionnaire every year, which consists of questions on subjects such as employment, education, income, values, *et cetera*. The panel members are selected through a randomized sample of households from a population register of the Central Statistical Office (CBS), where people without internet also are included. People who were not in the original sample cannot participate, so no self-selection is possible. The households are approached in a traditional way, namely by letter, call or home visit. Almost half of the households of the original sample, 48 percent, became panel member. The monthly response on the questionnaires lays between the 70 and 75 percent. Respondents are payed for each questionnaire they fill in.

The first questionnaire this study uses is called the Conventional and Computer Crime Victimization and consists of a study with three waves. This research uses the second wave, which is conducted in February 2010. The questionnaire focuses on experiences of digital crime victimization among the general public (Marchand, 2008). It has been submitted to 6692 households, of which 5751 households filled in the questionnaire completely. Within the households, one member above sixteen years old was randomly assigned to participate. The second questionnaire is called the Guardianship Survey and is about the three dimensions of active guardianship in a neighbourhood, which are availability, monitoring, and intervention practices (Marchand, 2011). This questionnaire is a single wave study, conducted in 2011 among 6778 households, of which 4793 fully completed the survey. The third needed questionnaire for this research is called the Background Variables and has been conducted since 2007. This study uses the wave of 2011. The questionnaire is a list with general background information of the respondents, which can be updated every month (Elshout, 2012). The questionnaire is completed by the household contact person only. The panel consists of approximately 4500 households, comprising 7000 individuals.

This research can only use the respondents that filled in both the Safety Monitor and the Guardianship Survey. When all respondents who did not fill in both of these questionnaires are eliminated, only 1309 respondents remain. This is a lot smaller than the circa 7000 individuals

included in the original sample, but it is still a large sample size and an appropriate amount to perform analyses with.

### *Independent variables*

The two independent variables in this study are the state of disorder and the degree of perceived social cohesion in a neighbourhood. Disorder captures the theoretical concept of social disorganization. Steenbek and Hipp (2011) argue how neighbourhood disorder can be seen as the consequence of structural neighbourhood factors, described by Shaw and McKay (1942). Therefore the definition of disorder is used and is measured through the question ‘What problem(s) do you experience on the street?’. The answer categories are: ‘Robbery’, ‘Assault of people on the street’, ‘Burglary of homes when people are away’, ‘Drug dealing’, ‘Vandalism (e.g. breaking windows, graffiti on cars or walls)’, ‘(Groups of) People hanging around being nuisance’, or ‘None of the above’. The range of this variable is from 0, experiencing no problems in the street, to 6, experiencing all six problems in the street.

To test the validity of the scale, a one-factor analysis and an Internal dependency test were executed. The Guttman-Kaiser criterium says that all eigenvalues with a value above 1 can be seen as a factor. The Internal dependency test gives a Cronbach’s alpha of .579. According to Tavakol and Dennick (2011) this alpha should be above .700 in order to it being reliable. When a factor analysis is executed, the results show two significant factors with an eigenvalue above one. The first factor loads above .4 for all items. The second factor shows that only the item ‘What problem(s) do you experience on your street? Vandalism’ loads above .4. When this item is eliminated, the Cronbach’s alpha is .486. This indicates that no items have to be let out of the variable. Despite the low alpha, all indicators will still be used, as they are necessary to measure the concept and agree with the measurement of Steenbek and Hipp (2011). They measured disorder through several questions concerning the problem of ‘Graffiti on walls or buildings’, or ‘Women and men getting bothered’ on the street.

To measure how connected residents feel to their neighbourhood, the dependent variable social cohesion is measured through four statements on a Likert scale. This scale goes from 1, which is ‘disagree entirely’ to 5, which is ‘agree entirely’. These statements are ‘People in this neighbourhood are willing to help each other.’, ‘I live in a closely-knit neighbourhood.’, ‘You can trust people in this neighbourhood.’, and ‘People in this neighbourhood generally don’t get along so well.’ (reverse coded). Using these questions for measuring social cohesion greatly overlaps with the research of Sampson et al. (1997), who also asked respondents to agree or

disagree with statements such as 'People in this neighbourhood generally don't get along with each other.'

To test the reliability of the scale, there is an Internal dependency test executed. The Cronbach's alpha that comes out of this is .847, from which can be concluded that the scale is valid (Tavakol & Dennick, 2011).

### *Dependent variable*

The dependent variable in this research is the willingness of residents to intervene. This captures the theoretical concept of informal social control (Silver & Miller, 2004). This will be measured through three statements with which respondents have to agree or disagree on a Likert scale of 1 to 5, that goes from 'completely disagree' to 'completely agree'. The statements include the following: 'I will do what I can to protect my neighbours from crime.', 'If I see a crime happening in my neighbourhood, I would take care of it myself.' and 'If I see a crime happening in my neighbourhood, I will call the police.'. These statements measure the concept of willingness to intervene, because they do not measure the direct behaviour of residents in deviant situations. This measurement of willingness to intervene agrees with the concept of Sampson *et al.* (1997) in their research. They also used statements as 'People around here are willing to help their neighbours.', by which respondents were asked how strong they agreed.

To test whether the scale of this variable is reliable, an Internal dependency test is executed. The results show that the Cronbach's alpha is .651. As mentioned before, Tavakol and Dennick (2011) say this alpha should be above .700 in order to it being reliable. They also state a low alpha could be due to a low number of questions. When running a one-factor analysis for this variable, the results show only one significant factor with three items that load above .731. If the lowest item, 'I will do what I can to protect my neighbours from crime.', is excluded, the Cronbach's alpha is .603. This indicates that no items have to be let out. Although the alpha is not high enough, the indicators are needed for measuring the concept of willingness to intervene and will therefore still be used.

A factor analysis was also conducted for all variables, to check the validity of the items. Again, the Kaiser-Guttman criterium was maintained. The expectation was that this analysis would show three variables, namely the variables social disorganization, social cohesion and willingness to intervene. However, the results show four significant factors with an eigenvalue above one. The last variable consists of only the items 'What problem(s) do you experience on your street? Robbery' and 'What problem(s) do you experience on your street? Assault of people on the street'. This is why this variable is not included in the research. These two items

are already included in the variable disorder and do not need to be taken separately. All items for willingness to intervene load above .519, the items for disorder above .488, and the items for social cohesion load above .760. For the variable social cohesion, the three items that measure willingness to intervene also load above .411. Because these items are needed to measure willingness to intervene, and as they also load higher for this variable, the choice was made to use them for willingness to intervene. The results are shown in Table 1.

Table 1. *Factor analysis on neighbourhood characteristics.*

	Willingness to intervene	Disorder	Social cohesion	Disorder 2
I will do what I can to protect my neighbours from crime.	.519		.441	
If I see a crime happening in my neighbourhood, I would take care of it myself.	.662		.411	
If I see a crime happening in my neighbourhood, I will call the police.	.626		.439	
What problem(s) do you experience on your street? Robbery		.488		.519
What problem(s) do you experience on your street? Assault of people on the street		.509		.550
What problem(s) do you experience on your street? Burglary of homes when people are away		.489		
What problem(s) do you experience on your street? Drug dealing		.494		
What problem(s) do you experience on your street? Vandalism (e.g. breaking windows, graffiti on cars or walls)		.505		
What problem(s) do you experience on your street? (Groups of) People hanging around being a nuisance		.496		

People in this neighbourhood are willing to help each other.					.778
I live in a closely-knit neighbourhood.					.760
You can trust people in this neighbourhood.					.804
People in this neighbourhood generally don't get along so well. (reverse coded)					.629
Eigenvalues	1.474	1.799	3.407	1.019	

Note. All items below .4 are not shown in the table.

*Control variables*

The relation between social disorganization, social cohesion and willingness to intervene will be controlled for age and gender. How old a respondent is, may influence his or her willingness to intervene. Age is measured in years, and the range of this variable goes from 17 to 89 years old.

The research of Hagan *et al.* (1979) shows that women are more often the instruments and objects of informal social controls, whereas men are more likely to be the instruments and objects of formal social controls. This indicates that being a man or a woman can influence the willingness to intervene. The variable gender is a dichotomous variable, where the value 0 is 'male', and the value 1 is 'female'.

Next to these standard control variables, the relation will be controlled for satisfaction with the police in the neighbourhood. If residents are not satisfied with the police, they may lose trust in them and therefore may be less willing to report deviant behaviour to the police. Satisfaction with the police is measured through six statements, on which respondents again have to indicate how much they agree with them on a Likert scale from 1 to 5, where 1 is 'completely disagree' and 5 is 'completely agree'. These statements include 'The police in my neighbourhood are effective at combating crime.', 'You can rely on the police in my neighbourhood.', 'The police in my neighbourhood respond promptly when they are called for service.', 'The police in my neighbourhood take residents' concerns seriously.', 'The police in my neighbourhood are never there when you need them.' -reverse coded- and 'The police in my neighbourhood do a good job.'. How this is measured, greatly overlaps with the measurements in the research of Warner (2014). She measured satisfaction with the police

through different questions and statements. An example of such a statement is ‘The police play an important role in preventing crime in this neighbourhood.’.

To test the reliability of the scale, there is again an Internal dependency test executed. This test shows a Cronbach’s alpha of .915 This is a very high alpha and therefore it can be assumed that the scale is reliable (Tavakol & Dennick, 2011).

### *Descriptive statistics*

Firstly, it was necessary to look at how many people filled in both questionnaires (Safety Monitor and The Guardianship Survey). To test this, a Pearson correlation test between one question of each survey was executed. From this outcome can be concluded that 1309 people filled in both surveys. Then a few of the questions had to be recoded into the opposite direction, so that all questions were positively formulated. Next, the different questions could be merged, so that they became the variables ‘disorder’, ‘social cohesion’, ‘willingness to intervene’ and ‘satisfaction with police’. The variables age and sex already existed. Eventually, all respondents who had a missing value on one of the variables had to be taken out. Because not all people answered all the selected questions, the sample size had to be made equal. This amount of people turned out to be 1309, which agrees with the amount of people who filled in both questionnaires.

Table 1 shows the descriptive statistics of all variables that are used in the tests. For the variable willingness to intervene the mean is 4.08 -with a minimum of 1 and a maximum of 5-, which is highly directed towards the maximum. This indicates that residents are on average quite willing to intervene in deviant situations. Social disorganization has a minimum of 0 and a maximum of 6, and the mean is 1.48. This means that the respondents do on average not experience many problems, thus disorder, in their neighbourhood. For social cohesion, the mean is 3.64 -with a minimum of 1 and a maximum of 5-, which is more directed towards the maximum. This indicates that the respondents on average feel quite connected to their neighbourhood. The first control variable, satisfaction with the police, has a range of 1 to 5, and a mean of 3.49. This mean is quite high, so the respondents are on average taken satisfied with the police in their neighbourhood. The age range of the respondents is from 17 to 89, where the average respondent is 52 years old. The variable sex is dichotomous and has the values of 0, male, and 1, female. The mean is 0.48, which means 48% of the respondents is man.

Table 2. *Descriptive statistics.*

<b>Variables</b>	<b>N</b>	<b>Min.</b>	<b>Max.</b>	<b>Mean</b>	<b>sd.</b>
Willingness to intervene	1309	1	5	4.08	.781
Disorder	1309	0	6	1.48	1.349
Social cohesion	1309	1	5	3.64	.805
Satisfaction with police	1309	1	5	3.49	1.038
Age	1309	17	89	51.50	15.523
Sex	1309	0	1	0.48	.500

### *Analysis*

The statistical methods this research will be using to test the four hypotheses are simple and multiple linear regressions. These type of regressions test whether the dependent variable can be predicted on the basis of the independent variables. There are a few conditions that the variables have to meet for linear regression (Poole & Farrell, 1971). The first condition is that the independent variable has to be normally distributed. A Kolmogorov-Smirnov Test is appropriate for testing this, because the sample size is large. The variable willingness to intervene is not normally distributed ( $D(1309)=.145$ ,  $p<.05$ ), which is not necessarily a problem. The Central Limit Theorem (CLT) states that when the sample size is larger than 30, the properly normalized sum tends toward a normal distribution, even when the dependent variable itself is not normally distributed (Boneau, 1960). Since the population of this research is 1309, this criterium applies. A second assumption is the homoscedasticity assumption (Poole & Farrell, 1971). This means the variances have to be the same in the whole dataset. This can be tested by executing a Leneve's Test. This test shows that the variances for both willingness to intervene and social cohesion are equal ( $F(6,1302) = .55$ ,  $p = .180$ ;  $F(6,1302) = 1.57$ ,  $p = .154$ ). Another condition for linear regression is that the dependent variables are at interval level or 'higher'. The dependent variable (willingness to intervene) is an interval variable. The fourth condition is the assumption of independence. This assumption is violated because people in the data can be nested in households. This will be discussed in the discussion section because it may influence the results. Another assumption is the one of linearity. By executing a Linearity Test, it can be concluded that both social cohesion and willingness to intervene are linear ( $F(5,1302) = 1.16$ ,  $p = .329$ ;  $F(5,1302) = .72$ ,  $p = .609$ ).

The goal is to measure the relation between social disorganization and the willingness to intervene. The mediator in this relation is social cohesion, because this may (partly) explain



the correlation between these two variables. Therefore, four regressions will be executed. The first simple regression will measure the direct relation between the independent variable and the outcome variable, namely social disorganization and the willingness to intervene. The second regression will measure the relation between the explanatory factor (social disorganization) and the mediator (social cohesion). The last test that will be executed, measures the relation between the mediator and the outcome variable (willingness to intervene). In the last regression all three variables will be included. In this way it will be possible to see how much influence the mediating factor has on the relation between social disorganization and willingness to intervene.

## Results

Table 2 presents three simple linear regressions and one multiple linear regression in four models. The results of Model 1 show that the negative effect of disorder on willingness to intervene is not significant ( $b=-.020$ ,  $t=-1.309$ ,  $p=.191$ ). This means that the phenomenon of respondents being less willing to intervene when they experience more social disorganization, is not significant. The effect of the control variable satisfaction with the police is significant and positive, meaning residents are more willing to intervene when they are satisfied with the police ( $b=.194$ ,  $t=9.870$ ,  $p<.001$ ). The older the respondent is, the more willing to intervene he or she probably is ( $b=.012$ ,  $t=.9338$ ,  $p<.001$ ). The negative effect of being a woman on the dependent variable is not significant ( $b=-.110$ ,  $t=-2.741$ ,  $p=.006$ ). Hypothesis 1 cannot be confirmed with these results. The model explains 14.7% of the variation in willingness to intervene.

Model 2 shows the relation between disorder and social cohesion. This relation turns out to be significant ( $b=-.093$ ,  $t=-5.861$ ,  $p<.001$ ). This means that when a respondents experiences more social disorganization in a neighbourhood, he or she feels less connected to the residents in this neighbourhood. The positive effect of the control variable satisfaction with the police is significant ( $b=.163$ ,  $t=7.880$ ,  $p<.001$ ). The positive effect of age is small, but also significant ( $b=.007$ ,  $t=5.451$ ,  $p<.001$ ). The negative effect of being a man is not significant ( $b=-.030$ ,  $t=-.708$ ,  $p=.479$ ). Even when the control variables are included, the results are in line with hypothesis 2 and this hypothesis can therefore be confirmed. The model explains 11.2% of the variations in the variable social cohesion.

In the third model the relation between social cohesion and willingness to intervene is tested. The results show that this relation is significant ( $b=.198$ ,  $t=7.811$ ,  $p<.001$ ). When a

respondent perceives a high degree of social cohesion in a neighbourhood, he or she is more willing to intervene in deviant situations. The positive control effects of satisfaction with the police and age are significant ( $b=.162$ ,  $t=8.319$ ,  $p<.001$ ;  $b=.011$ ,  $t=8.310$ ,  $p<.001$ ). Being a woman has a negative effect on the willingness to intervene ( $b=-.104$ ,  $t=-2.657$ ,  $p=.008$ ). When controlling for these variables, the results show that hypothesis 3 can be confirmed. Model 3 explains 18.4% of the variations in the dependent variable.

The fourth model is a multiple linear regression. In this model both disorder and social cohesion are included as independent variables. Only the positive effect of social cohesion on willingness to intervene is significant in this model ( $b=.198$ ,  $t=7.692$ ,  $p<.001$ ). The effect of disorder is again not significant ( $b=-.001$ ,  $t=-.089$ ,  $p=.929$ ). This indicates that social cohesion fully explains the relation between disorder and willingness to intervene. The positive control effects of satisfaction with police and the age of the respondent are again significant ( $b=.162$ ,  $t=8.215$ ,  $p<.001$ ;  $b=.011$ ,  $t=8.289$ ,  $p<.001$ ). The negative effect of being a man on willingness to intervene is also significant ( $b=-.104$ ,  $t=-2.650$ ,  $p=.008$ ). Hypothesis 4 cannot be confirmed according to these results. The fourth model explains 18.4% of the variations in the variable willingness to intervene.

In figure 1, you can find the figure that belongs to table 2. This figure shows the relation between social disorganization, social cohesion and willingness to intervene.

An explanation for the absence of a significant relation between disorder and willingness to intervene could be that satisfaction with police suppresses this relation. This, because the quality of a neighbourhood and how satisfied residents are with this area may highly correlate. This could mean a possible alternative mediating relation of satisfaction with police. To give more insight in this, Pearson correlations were executed for the relations between all variables. The results of these correlations are shown in Table 4. The results show that there is a negative significant relation between disorder and willingness to intervene ( $r=-.110$ ,  $p<.001$ ,  $N=1309$ ). The more disorder residents experience, the more willing they are to participate in informal social controls. The table also shows that there is a negative significant relation between disorder and satisfaction with police ( $r=-.190$ ,  $p<.001$ ,  $N=1309$ ). The more disorganized a neighbourhood is, the less residents are satisfied with the police in that area.

Table 3. *Linear regression analysis of the effect of social disorganization on willingness to intervene, the effect of social disorganization on social cohesion, and the effect of social cohesion on willingness to intervene.*

	<b>Model 1</b> (Dependent: willingness to intervene)		<b>Model 2</b> (Dependent: social cohesion)		<b>Model 3</b> (Dependent: willingness to intervene)		<b>Model 4</b> (Dependent: willingness to intervene)	
	<i>B</i>	<i>s.e.</i>	<i>B</i>	<i>s.e.</i>	<i>B</i>	<i>s.e.</i>	<i>B</i>	<i>s.e.</i>
Constant	2.853***	.103	2.842***	.108	2.286***	.114	2.290***	.124
Disorder	-.020	.015	-.093***	.016			-.001	.015
Social cohesion					.198***	.025	.198***	.198
Satisfaction with police	.194***	.020	.163***	.021	.162***	.019	.162***	
Age	.012***	.001	.007***	.001	.011***	.001	.011***	.001
Sex	-.110*	.040	-.030	.042	-.104*	.039	-.104**	.039
R <sup>2</sup>	.147		.112		.184		.184	
N	1309		1309		1309		1309	

\*\*\*p<.001 \*\*p<.005 \*p<.01

Figure 1. *Mediating relation between social disorganization, social cohesion and willingness to intervene.*

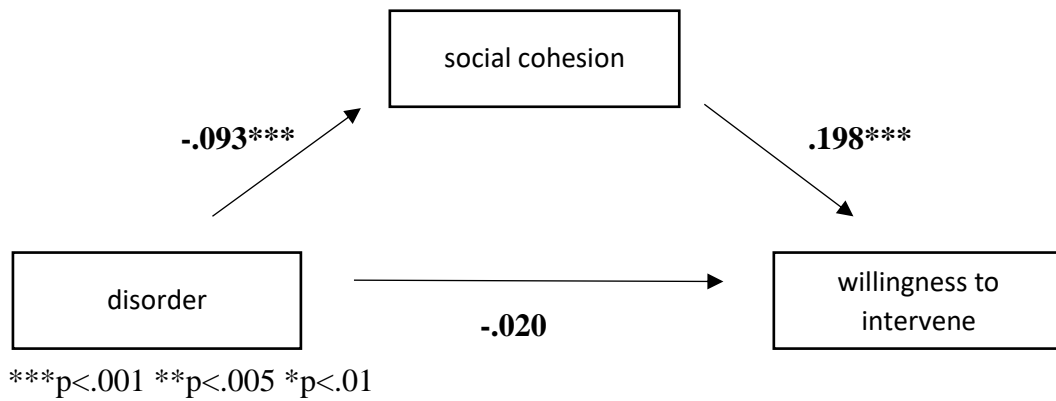


Table 4. *Pearson correlations among disorder, social cohesion, willingness to intervene, satisfaction with police, age and gender.*

	1	2	3	4	5	6
1. Disorder	-					
2. Social cohesion	-.211**	-				
3. Willingness to intervene	-.110**	.298**	-			
4. Satisfaction with police	-.190**	.251**	.281**	-		
5. Age	-.099**	.178**	.270**	.084**	-	
6. Gender	.039	-.022	.073**	.053	-.061*	-

\*\*p<.05 \*p<.01

In addition to this, the first regression model was executed, but with the variable satisfaction with police left out. We now see a significant negative relation between disorder and willingness to intervene ( $b=-.048$ ,  $t=-3.081$ ,  $p=.002$ ). This indicates that this relation was suppressed in earlier analyses by satisfaction with police. The results of this analysis are shown in Table 5.

Table 5. *Regression Model 1 without satisfaction with police.*

<b>Model 1</b>		
(Dependent: willingness to intervene)		
	<b>B</b>	<b>s.e.</b>
Constant	3.513***	.081
Disorder	-.048**	.015
Age	.013***	.001
Gender	-.048*	.042
R <sup>2</sup>	.083	
N	1309	

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

### Conclusion

The primary purpose of this research was to find an answer to the question ‘To what extent do the perceived social characteristics of a neighbourhood influence the willingness to intervene?’. The hypotheses belonging to this question were tested by running four linear regression analyses, using LISS-data conducted in 2010 and 2011. Earlier American and British research claimed that the quality of a neighbourhood and the informal social controls correlate (Sampson & Groves, 1989; Kingston *et al.*, 2009; Lowenkamp *et al.*; 2003, Sun *et al.*; 2004; Sampson *et al.*, 1997), but in the Netherlands there was found little evidence for this relation (Steenbek & Hipp, 2011; Wilsem *et al.*, 2006; Bruinsma *et al.*, 2013). The first hypothesis “*The more socially disorganized a neighbourhood is, the less willing residents are to intervene when they notice something deviant.*” cannot be confirmed according to our results. The findings show that the degree of disorder in a neighbourhood does not correlate with how willing residents are to intervene when they notice something suspicious. The Collective Efficacy Theory of Sampson *et al.* (1997) and SDT of Shaw and McKay (1942) claim that neighbourhood characteristics, such as residential mobility, influence the degree of social cohesion in a negative way. This research found evidence for the second hypothesis “*The more socially disorganized a neighbourhood is, the less connected residents feel to each other.*”, which is thus in agreement with both theories. According to the theories, neighbourhood characteristics influence informal social controls through the mechanism of social cohesion. Social ties in a neighbourhood foster residents looking out for each other. The third hypothesis “*The more connected residents feel to each other, the more willing they are to intervene when they notice something deviant.*” is

supported by the results of this research. The last hypothesis that connects all other hypotheses, “*The relation between social disorganization and willingness to intervene can (partly) be explained by the degree of social cohesion in a neighbourhood.*”, does not get confirmed. This is because the relation between social disorganization and willingness to intervene is not significant in both the first and last analysis. This means that the results show a full mediating effect of social cohesion. The relation between the quality of the neighbourhood and the presence of informal social controls can be explained by how residents feel at place in their neighbourhood. The answer on the research question would therefore be that the willingness to intervene is only due to the degree of social cohesion in the neighbourhood, and that the degree of social cohesion is only associated with the state of disorder in a neighbourhood. That the outcome of this cross-sectional study is that disorder is not related to willingness to intervene, is an interesting finding itself. This is in contrast with earlier research (Sampson & Groves, 1989; Kingston *et al.*, 2009; Lowenkamp *et al.*; 2003, Sun *et al.*; 2004). However, when satisfaction with the police is left out the regression analysis, the main relation between disorder and willingness to intervene becomes significant. Taking these results into account, it seems as if this main relation was suppressed by satisfaction with police in earlier analyses. This may be due to the fact that how people perceive order in their neighbourhoods is correlated with how satisfied they are with police in that area (Silver & Miller, 2004). Therefore, the results suggest that satisfaction with police is a possible alternative mediating factor that links disorder and informal social controls. This would mean that neighbourhood disorder affects how connected residents feel to each other and how satisfied they are with police, and that these two mediating factors influence the levels of informal social control in the neighbourhood.

## **Discussion**

The findings of this research partially confirm the expectations following from the literature study. There are several implications to this study. Firstly, there is a problem of causality. Steenbek and Hipp (2011) describe how structural neighbourhood characteristics influence social cohesion and social controls, and therefore cause disorder. They also describe how disorder in turn influences social cohesion. Their research found evidence for both directions. This research tested the relation of disorder on social cohesion and social controls, but did not test how reduced cohesion and control may influence disorder. This study thus gives little insight in the question whether structural neighbourhood characteristics influence disorder, or if it is the other way around. For future research, it would be interesting to test whether high

levels of informal social control affect neighbourhood disorder, as Steenbek and Hipp did in their study. In addition to this, there are a lot of other factors that may be influencing the willingness of residents to intervene that are not included in this research. An example of this is that the urbanization of a city may influence the willingness to intervene. Sampson and Groves (1989) describe in their article how urbanization may weaken social ties and impede participation in organizational structures, and thus how it may decrease informal social controls. They implemented the degree of urbanization as a control variable in their study. Further research could test the direct effect of urbanization on social cohesion and the willingness of residents to intervene.

Another limitation of this research may be the measurements of the variables. For the theoretical concept informal social control, this research used the definition of Miller and Silver (2004), who consider informal social control as the willingness of people to act upon deviant situations. This concept was thus measured through statements where people had to indicate their willingness to intervene in their neighbourhood. This can be a problem because there may be a difference between how people say they behave and how they actually behave. This could be the result of social desirability, or simply because people do not know how they would behave in such situations. It would be interesting for further research to make a distinction in the willingness of people to intervene and their actual behaviour. Steenbek and Hipp (2011) for example made this distinction in their research, as mentioned before in the theoretical section. Furthermore, that there is no relation found between disorder and willingness to intervene may be due to that disorder is differently measured in this research than in other researchers testing SDT. This research tested the theory considering disorder, capturing the theoretical concept social disorganization, as a consequence of neighbourhood characteristics. The results of this research do not indicate if the perceived disorder by residents really is a consequence of structural characteristics in that neighbourhood. Other researches that tested the theory, tested how the structural characteristics itself correlate with informal social control or crime rates (Sampson & Groves, 1989; Kingston *et al.*, 2009; Lowenkamp *et al.*; 2003, Sun *et al.*, 2004; Wilsem *et al.*, 2006; Bruinsma *et al.*, 2013). Their definition of social disorganization is thus neighbourhoods experiencing high residential mobility, low SES and ethnic heterogeneity, while the definition of disorder in this study is about neighbourhood characteristics as vandalism. It would be interesting for further research in the Netherlands to investigate whether disorder is genuinely a result of structural neighbourhood characteristics. It could also be that the SDT is simply not applicable in the Netherlands, because cities here may have different

structures than American or British cities. Bruinsma *et al.* (2013) suggest in their article that European cities may have less segregation and difference in wealth and housing in comparison to American cities. Another explanation they propose for the lack of evidence for SDT in the Netherlands is that the mobility of offenders and residents is different than in the time when the theory was developed. Steenbek and Hipp (2011) also wonder in their study whether this lack of evidence is due to research models, cultural differences, or other unobserved differences. For further research, it would be interesting to do a comparative study between an American city and a Western-European city for instance.

In addition to this, the results have to be interpreted cautiously because there are some limitations to the data that were used. Firstly, it is unfortunate that the original dataset consisted of approximately 7000 respondents, and that only around 1300 people filled in the questionnaires needed for this research. This reduces the generalizability of the results to people outside the research population. Secondly, the Cronbach's alpha was too low for both variables 'disorder' and 'willingness to intervene', according to Tavakol and Dennick (2011). This problem could maybe be solved by elaborating the scale of both variables with more items. Willingness for intervene was only measured through three statements. It could also be that more specific questions are needed in order to increase the validity of the variables. Another solution would be creating separate items within these variables. Lastly, one of the assumptions for doing a linear regression was violated, namely the interdependence assumption. It is possible that respondents live in the same household and that members of the same household (un)intentionally influence or affect each other's responses. Non-independent observations can influence the results because they introduce bias and may result in too many false positives.

Despite all these limitations and the fact that not all hypotheses were confirmed, the results of this research provide a test of Collective Efficacy Theory and Social Disorganization Theory. This in a way that this study tests the mechanisms of both theories. It follows the path way of neighbourhood characteristics influencing social cohesion, and social cohesion influencing informal social controls. The results find support for the indirect effects of disorder on social cohesion, and of social cohesion on willingness to intervene. Satisfaction with police seems to suppress the relation between disorder and willingness to intervene, which is an interesting finding for future research. Besides, it is an interesting result itself that the relation between disorder and willingness to intervene remains absent at first. This may indicate that the theories, developed in American and British context, are not applicable in the Netherlands. The conclusion of this study is that the relation between the quality of a neighbourhood and the



informal social controls in that area is fully mediated by the degree of social cohesion. However, satisfaction with police may be an alternative mediating factor within this relation.

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