

Environment and Safety in European Capitals

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based on the data of the European International Crime Survey (EU ICS), Gallup Europe

The European International Crime Survey (EU ICS) asked a subsample in several European capital cities¹ to assess their neighbourhood area from a number of perspectives. Each of the attributes is adverse neighbourhood characteristic of different kinds. The EU ICS question was: *S14. Please tell me whether or not each of the following occurs in your area / neighbourhood? (often, sometimes, never, DK/NA):*

- A. *cars speeding*
- B. *streetlights not functioning*
- C. *unsupervised youths on the street*
- D. *littering*
- E. *loud parties or noises*
- F. *vandalism*
- G. *thefts from automobiles*
- H. *small thefts or pickpockets*
- I. *domestic violence*
- J. *burglary*
- K. *public intoxication*
- L. *auto theft*
- M. *vagrancy or loitering*
- N. *fighting*
- O. *houses in a very bad state of repair*
- P. *personal assaults*
- Q. *graffiti*
- R. *sexual assault or rape*
- S. *assaults based on the race or ethnicity of the victim*

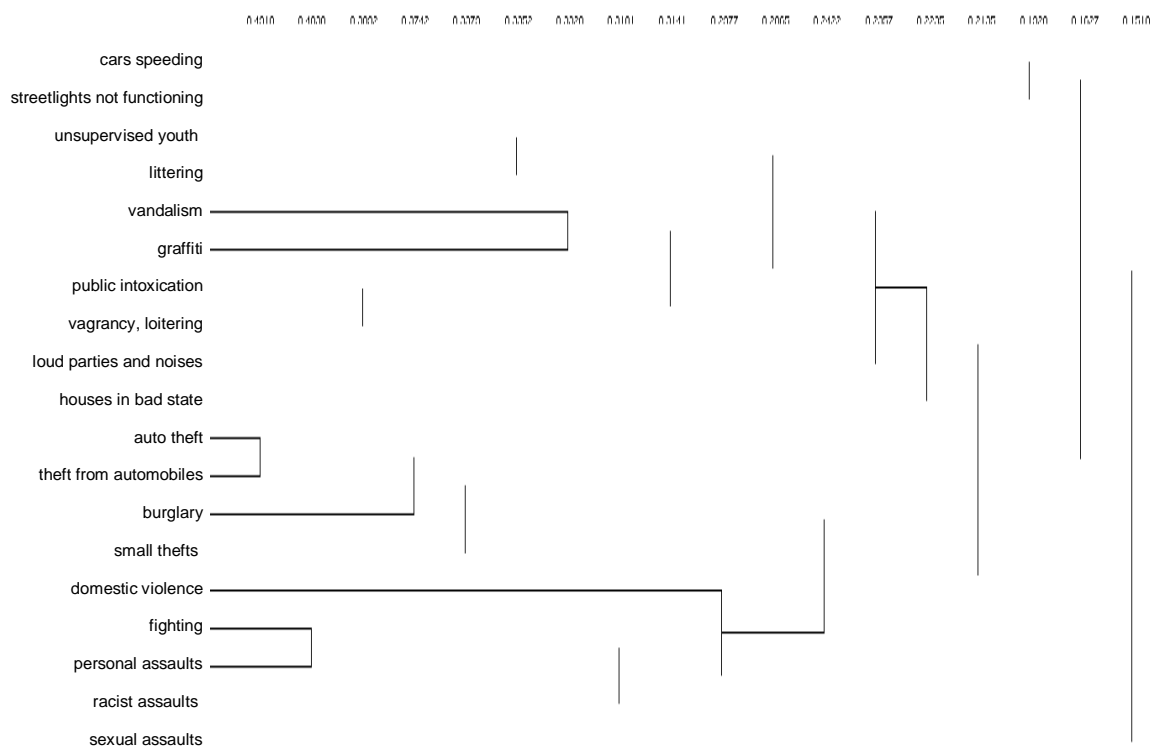
There is a relatively wide consensus among urban sociologists that the physical and the social environment in the neighbourhood or local area interact with crime and safety. Urban planners put forward recommendations and guidelines how to design safer physical environments, and sociologists agree that adverse neighbourhood characteristics go hand-in-hand with unfavourable outcomes on a series of life domains, including criminality. EU ICS measured neighbourhood characteristics with a series of questions that cover three important areas:

- 1) Perception of unfavourable neighbourhood characteristics that might interfere with safety
- 2) Perception of the extent to which typical property crimes occur in the area
- 3) Perception of the extent to which some violent crimes occur in the area

¹ Amsterdam, N=402; Athens, N=382; Belfast, N=965; Berlin, N=413; Brussels, N=423; Budapest, N=448; Dublin, N=401; Edinburgh, N=923; Helsinki, N=378; Lisbon, N=431; London, N=399; Madrid, N=419; Paris, N=390; Rome, N=399; Stockholm, N=389; Vienna, N=416;

The first obvious question is how similar are these neighbourhood characteristics; to what extent do they measure different dimensions of the neighbourhood or do they reflect an overall unfavourable assessment of the living environment. Figure 1² divides the environment characteristics into segments that more or less reflect the above described threefold classification.

Figure 1. Area assessment: linked dimensions



We see a highly inter-correlated group of characteristics that describe a deprived area: *youth on the streets, homeless persons, beggars, littering, graffiti, vandalism, and public intoxication*. The attributes have an overall correlation almost at the 0.3 level, but certain phenomena are perceived to be co-occurring to an even larger extent (i.e. *loitering and public intoxication*, or *graffiti and vandalism*, or *unsupervised youth and littering*). Two further attributes complete the group of variables that describe an **adverse neighbourhood environment**; *loud parties and noises* and *houses in the area that are in a very bad state of repair*.

Another important group of neighbourhood attributes is one indicating the prevalence of different crimes in the area. The crimes are divided in two closely correlating groups. *Car theft* and *theft from cars* joined by *burglary* and other *small thefts* indicate living in an area high on **property** crimes. Relatively widespread *fighting* and *personal assaults*, extended with *racial / ethnic violent crimes* and *domestic violence* indicate living in an area with relatively widespread **violent** criminality. The fact that the two crime-groups (property and violent) are closely correlated with each other (at about the .025 level) indicates that

² Hierarchical Cluster Analysis of the correlation matrix between the dichotomised individual area attributes (often / not often), Pearson Correlations, all significant at the .01 level

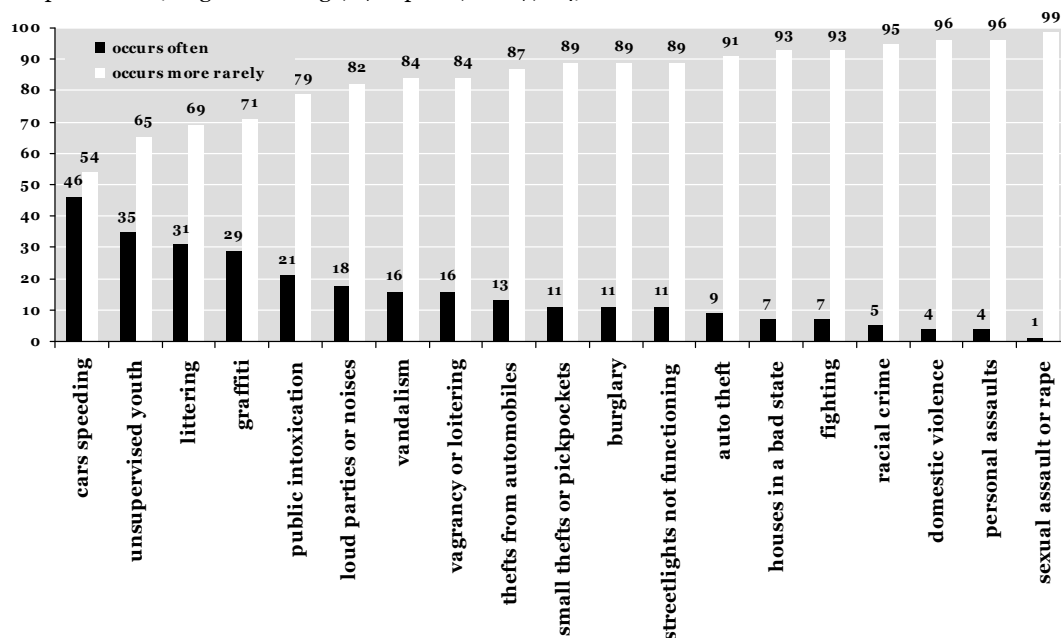
neighbourhoods face the problem of crime generally and it is not typical that an area is high on property crimes but low on violent ones or vice versa.

While they clearly separate in the above analysis, there is a clear relationship at around the 0.2 level between adverse neighbourhood characteristics and perception of high crime.

Our analysis finds three attributes that are only loosely correlated with the above analysed items. *Speeding cars* are very common in European capital city neighbourhoods, almost half of all capital city respondents said they live in an area where speeding often occurs (Fig. 2.). This characteristic correlates to some extent to a much more rare phenomenon, which is *street lights not functioning*. But neither of these two circumstances connects to other neighbourhood problems. The same is true for the most rare area characteristic: almost no one in the European capital cities claimed that sexual assaults are widespread in their area. This item has the weakest correlation to the overall neighbourhood safety assessment of the citizens.

The below figure gives an overall picture on how widespread are each of the attributes we were looking at, in the European capitals, on average. Adverse neighbourhood characteristics are more frequent than high perception of criminality in the area. We already mentioned that speeding is the most widely reported unsafe factor of European city life (46% of respondents mention it). Among the attributes that are in the core of unsafe environment perception, unsupervised youth (35%), littering (31%) and graffiti (29%) are the most widespread.

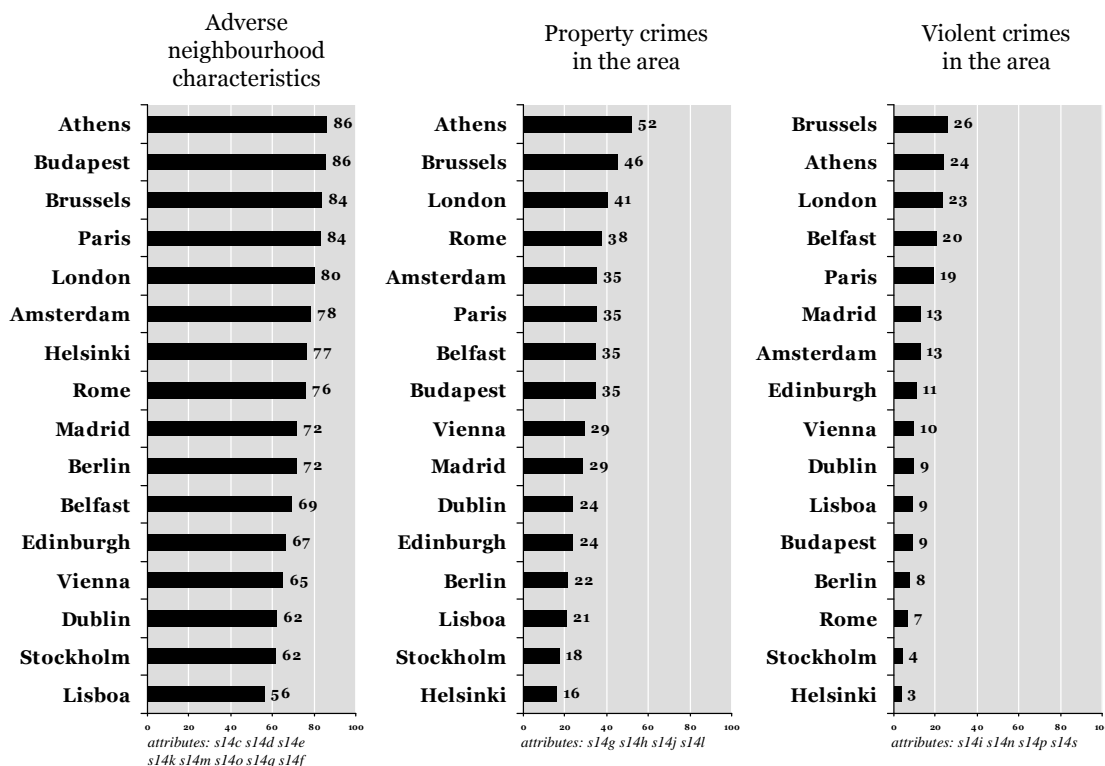
Figure 2. Prevalence of circumstances that indicate a potentially unsafe environment in European capital cities (weighted average, 17 capitals, N= 17,124)



The perception of widespread criminality in the local area is less frequent. Theft from cars is the most often reported crime that is characteristic to one's neighbourhood with 13% mentioning it. The most widespread form of violent crime is fighting which was reported by 7% of EU ICS capital city respondents.

Cities where citizens criticise local circumstances the most vary somewhat if we look at different aspects (Fig. 3). The locals in Athens and Brussels (and to a smaller extent Londoners) are consistently dissatisfied as to how often they have to confront with criminality and deprived area characteristics³. Similarly, people from Stockholm and Helsinki are quite consistent in scoring low on each major dimension (with Helsinki citizens being less satisfied with local area “tidiness”).

Figure 3. Assessment of local area in European capitals
(frequent occurrence of any attribute belonging to the particular group)



In other countries the assessments are more independent in the different areas. Budapest residents report high level of adverse neighbourhood characteristics, while the perception of local area crime is far less unfavourable, especially in the case of violent crimes. Rome, on the other hand, scores relatively high in local area property crimes, while perceptions of local environment are less unfavourable, and from a violent crime perception point of view it has the third safest neighbourhoods among the sixteen capitals.

Using a different approach to discover patterns in local area assessment we find a similar grouping of attributes. Principal component analysis⁴ of the attributes shows that there are three major types of local area assessment (Table 1.).

³ This analysis does not include the following items: cars speeding, street lights not functioning, and sexual assaults. As we have shown earlier, they are only loosely related with the otherwise very coherent core assessment of the local area safety-related characteristics

⁴ KMO: .905, Approx. Chi-Square: 49663.535, df: 141, sig: .000, total explained variance: 53.619

In the first type (which is the component that explains by far the highest proportion of variance) citizens are dissatisfied in every respect: they are more likely than others to say that each of the adverse characteristics as well as criminality occur often in their local area. This pattern reflects a general despair, where everything seems to be wrong. The analysis of the factor scores reveals that this pattern is highly associated with elderly age: those above 60 are the most likely to answer in the above described manner in the capitals of Europe.

A second typical answer pattern complains about “slummish” characteristics of their neighbourhood, but they are less likely than others to report property crimes: they live in a disadvantaged area, but in a relative safety. The reported level of violent crimes in the area is about average in this response pattern.

Table 1. Primary Component Analysis of circumstances that indicate a potentially unsafe local area environment in European capital cities
(.. indicate correlations with the primary component below 0.1)

	Component		
	1	2	3
unsupervised youth on the street	0.57	0.32	-0.26
Littering	0.57	0.27	-0.36
loud parties or noises	0.54	0.20	-0.14
Vandalism	0.67	..	-0.27
thefts from automobiles	0.64	-0.47	-0.24
small thefts or pickpockets	0.62	-0.27	..
domestic violence	0.61	..	0.31
Burglary	0.58	-0.50	..
public intoxication	0.66	0.27	-0.13
auto theft	0.67	-0.46	..
vagrancy or loitering	0.67	0.19	..
Fighting	0.72	0.17	0.19
houses in a very bad state of repair	0.54	0.17	0.39
personal assaults	0.66	..	0.38
Graffiti	0.59	0.19	..
assaults based on the race or ethnicity of the victim	0.59	..	0.47

The third response pattern is probably the most interesting one: indicates a situation where people live in a relatively decent neighbourhood (at least they are less likely to report any of the adverse neighbourhood characteristics we used in this analysis), but the perception of widespread violent crime is well above average. The only more general local area attribute that is more characteristic to this response pattern is that houses are often in a very bad state of repair. This principal component is the most prevalent in the youngest age cohorts of the capital cities (16-29 years of age), and among those who have less than average income.

Looking at the items that correlate most strongly with each of the principal components, we can extract the attributes that determine or dominate the actual response pattern. Among those in general despair, we do not see a truly dominating attribute as all of the individual items correlate with the component very strongly. Still, *fighting in the area* is the one that stands out – only if marginally – among the others as the one with the highest association with the evaluation patterns reflected in the first component.

Curiously, the second component that we described as slummish neighbourhoods without widespread property crime is dominated by items on the negative side: (the lack of) *burglary*

and (no) *theft from cars* are the strongest elements in this group. On the positive end, we find *unsupervised youth*, *littering*, and *public intoxication*.

Finally, the third component (relatively decent neighbourhood streets, however, with buildings in a bad state of repair, associated with high level of violent criminality) is dominated by the perception of *widespread racial assaults* the most strongly. This suggests that the perception of violent criminality is connected at least partly to the overall problem of immigration in European capitals. The EU ICS data show that the response pattern that indicates higher levels of violent crimes of all kind is more likely to belong to immigrants and children of immigrants than to the members of the majority society.

From another aspect: in their own judgement, immigrants – and children of immigrants – who live within the boundaries of the capitals are not more exposed to adverse neighbourhood characteristics than other capital city residents (immigrants: 74%, non-immigrants: 72%) or property crimes (immigrants and non-immigrants: both 31%), but they are more likely to report violent criminality to occur often in their area: 19% vs. 13% among non-immigrants.

Neighbourhood characterisation and past crime victimisation

It seems to be obvious that the area assessment using the attributes that we designed to indicate potentially unsafe neighbourhoods must be connected to the actual crime victimisation experience of the respondents. But we also saw that the most dominant response pattern was a rather undifferentiated unfavourable view of the neighbourhood characteristics, which hints that local area assessment might be more linked to a more general feeling of safety and security rather than actual victimisation experience.

Literature suggests that while the feeling of safety is obviously connected to recent victimisation experience, it is also a function a series of socio-demographic and other characteristics, such as neighbourhood “disorder”⁵. On the other hand, likelihood of victimisation is often connected to the physical and socio-economic characteristics of neighbourhoods⁶. Without taking a side in this chicken-or-egg discussion, our data from European capitals confirm the strong association of crime experience and neighbourhood assessment.

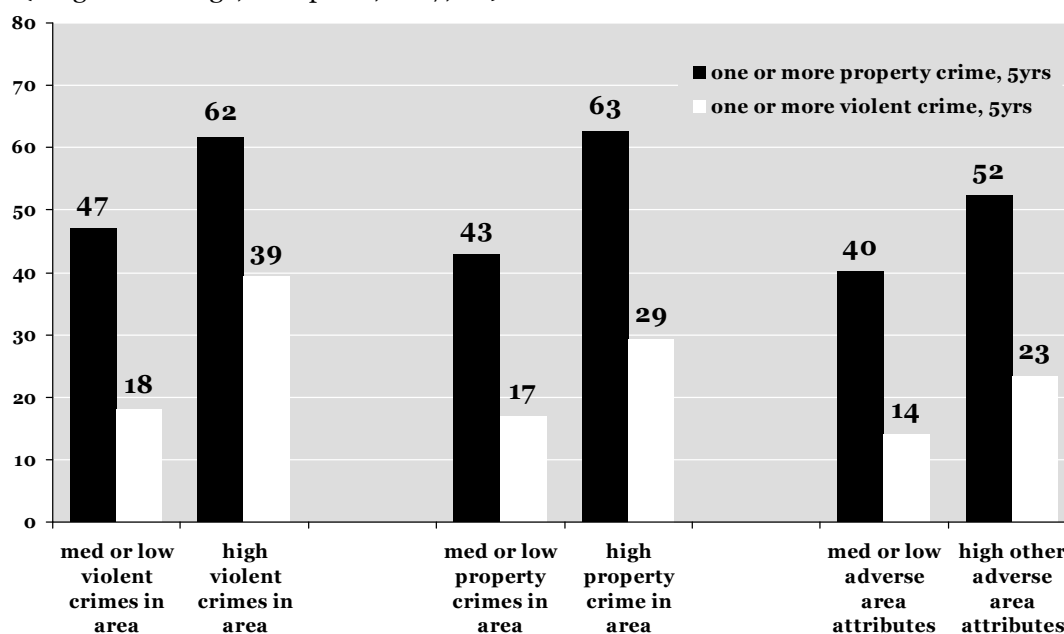
While the crimes respondents reported in EU ICS do not necessarily happen at home, or even in the local area (people might have even moved residence over the course of the past five years), still unfavourable area characteristics and victimisation experience are highly correlated. Especially falling victim to violent crimes is more frequent among those who have a rather unfavourable view on neighbourhood characteristics (Fig. 4.) but the association is very clear in the case of property crimes as well. If a respondent reports high level of violent criminality in the local area he or she is 121% more likely to have fallen victim to a violent crime than those who gave a better rating (39% vs. 18%). Similarly, if one lives in an area with a reported high level of property crimes, this person is 46% more likely to have a recent

⁵ An overview summary of the interaction between fear and crime experience can be found in Holly Johnson 2005. Crime Victimization in Australia, Key Results of the 2004 International Crime Victimization Survey, pp 29-35.

⁶ there is a wide-range of literature on how appropriate landscaping, and planning of built environment increases safety of neighbourhoods and the comfort level of citizens

property crime experience than those whose assessment is more favourable in this respect (63% vs. 43%). Other perceived adverse neighbourhood characteristics have a similar effect: it increases the chance of violent victimisation by 66% and the chance of property victimisation by 30%.

Figure 4. Neighbourhood characteristics and crime prevalence by type (weighted average, 16 capitals, N= 7,611)



Overall, the likelihood of 5-year victimisation by any of the volume crimes measured by the EU ICS is increased by 40% if the respondent believes that property crimes are widespread, by 34% if violent crimes are perceived to happen frequently, and by 30% if high occurrence of other adverse neighbourhood characteristics are reported.

Neighbourhood characterisation and safety

As we have shown above, the characterisation of the local area is closely correlating with the crime experience of the respondents. Crime experience and safety are connected issues, but researchers often find that safety is a broader concept, and it has several important predictors beyond actual crime experience.

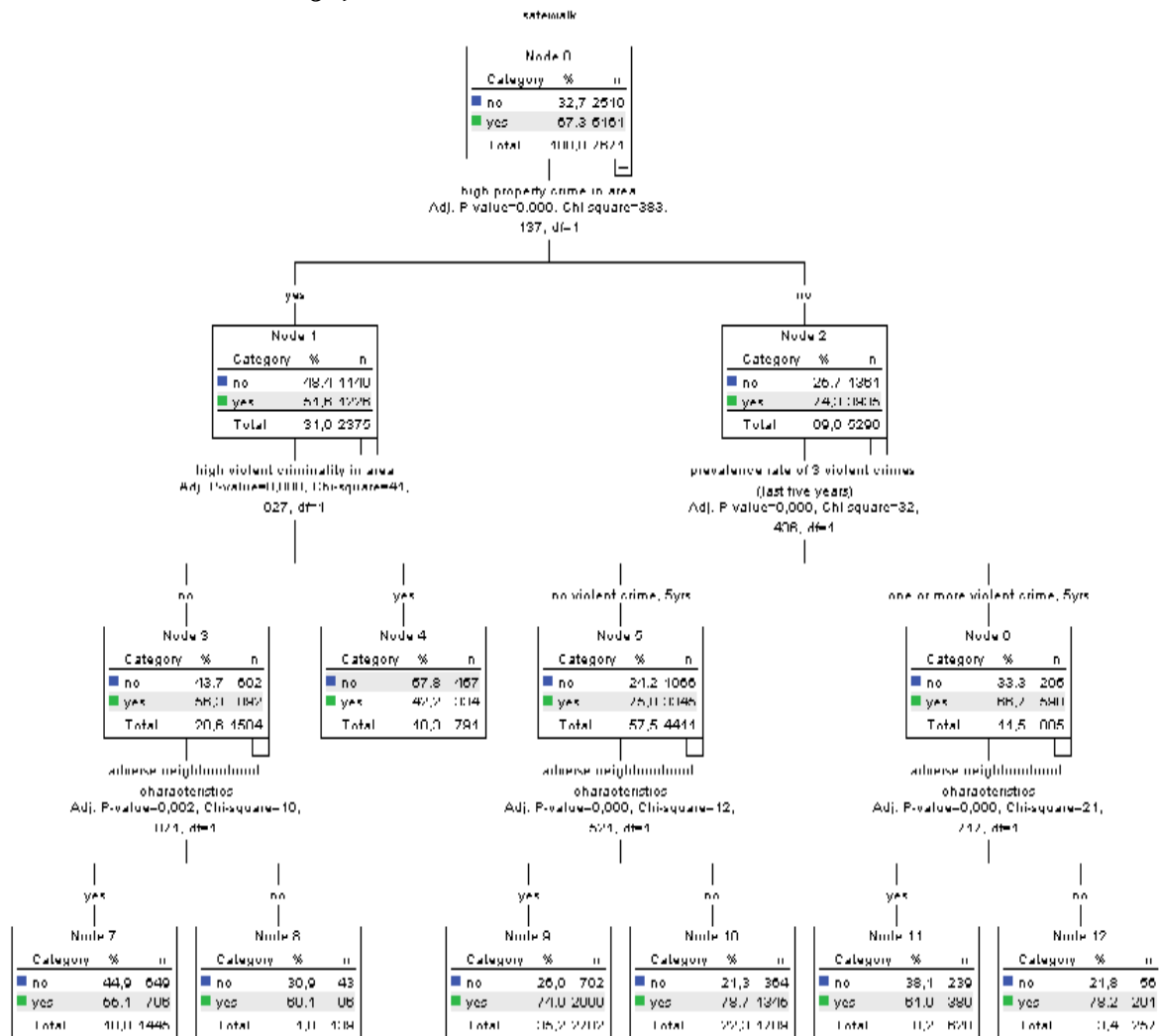
We find the same in the EU ICS data. We measured safety with three different often-used variables: fear of crime, safety walking alone in the dark in the local area, and crime avoidance (how often respondent think of crime and how to avoid it). Among the three aspects the second one proved to be the most important (or the only important) from the respondents' general well-being point of view⁷, therefore we selected this variable as our dependent one. We used CHAID analysis to explore the mechanisms that produce favourable outcomes in this policy-relevant measure of safety. Among the independent variables we

⁷ Robert Manchin and Laura Szabó, 2005. The Effect of Crime Experience and Personal Safety to Subjective Well-being, *EU ICS Working Paper Series*, unpublished

included three variables about local area perception: perception of violent criminality in the area, perception of property crimes in the area, and perception of the other adverse neighbourhood characteristics. We added 5-year violent crime and 5-year property crime experience of the respondent. (The effect of past-year victimisation is much smaller; therefore we decided to use the longer timeframe.) Of course the analysis was based on respondents from European capital cities.

As the tree below suggests, the personal safety of citizens in European capitals is primarily dependent on neighbourhood characteristics – at least on how they perceive and report it. The most important determinant in how safe people feel is how much they think that property crimes are prevalent in their area. Only about half of those who report high level of property crimes say that they are rarely or never afraid to walk in their neighbourhood after dark, opposed to 74% feeling safe among those who don't perceive a similarly high level of property crimes in their local area.

Figure 5. Safety as a product of environment and victimisation history (Exhaustive CHAID, required significance level of splitting nodes at 0.05, Cross-validation estimate of misclassification error is 0.31.)



Going further the tree, the importance of both the perception and experience related to violent criminality comes up. Those who otherwise do not feel that there would be much property

crime in their area and therefore feel relatively safe on average, have a deteriorated feeling of safety if they have a violent crime experience from the past 5 years. Further down this way, especially among those with violent crime experience, the decency of the local area matters a lot: those who do not report adverse neighbourhood characteristics are more likely to feel safe.

If we go back and look at those respondents who have a deteriorated feeling of safety in the first place because of a perceived high prevalence of property crimes in their area, their safety is further deteriorated most if they perceive widespread violent crimes, or experience adverse neighbourhood characteristics.

Experience of property crimes does not emerge at all as a primary differentiating factor on the first three levels of the tree. This analysis reveals the enormous effect of local area perception on how safe citizens feel in European capitals. Beyond less crime experience, an improved perception of the local neighbourhood – especially in the aspects of widespread criminality – is instrumental to enhance citizens' feeling of personal safety in Europe's capitals.