Crime and Victimization in Luxembourg: results of the European Crime and Safety Survey

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Introduction

The present text deals with the results of the Luxembourgish sample in the European Crime and Safety Survey (EU ICS) that was carried out in 2004/2005. The main aim of the survey is the creation of data on crime and victimization by a standardized questionnaire, which can be analyzed on the national as on the cross-national level. The data are independent from official resources, so they offer alternative information for police statistics for instance. All EU ICS interviews were carried out using the Computer Assisted Telephone Interviewing (CATI) method.

The EU ICS itself constitutes the fifth round of its mother-study the International Crime Victims Survey (ICVS). Its first sweep was carried out in 1989, and it has since then been conducted in more than 70 countries.

Luxembourg's sample consisted of 800 respondents, while reaching a response rate 36.9% (average of the 15 countries: 46.3%). In the following, three topics will be outlined:

1. In a first step, Luxembourg's five years and one year prevalence of victimization, as well as its' victimization incidence rates will be delineated. The prevalence will further be compared to neighboring countries and to the other countries of the EU.

2. The second section deals with the relatedness of socio-demographical to crime and victimization.

3. Third, victimization is put in the context of safety ratings and from a broader perspective, safety and victimization are set in relation to general life satisfaction.

Contents

I. Crime occurrence in Luxembourg compared to its neighbor countries and the EU-15.

The survey proposes three indicators to quantify the experienced victimization. First, the five years prevalence rate indicates whether the respondent has encountered any of the assessed crimes in the *last five years*. Second, the incidence rate provides information on *how often* the respondent experienced a certain type of crime during the *last year*. Third, considering the incidence rate, it is possible to compute a one year prevalence, indicating criminal victimization during *last year* in the assessed categories.

The European Crime and Survey (EU ICS) takes into account eleven crime categories. The first six crimes are to be considered on the household level. Thus, the respondent is asked whether a certain type of crime occurred to *him/herself or to any other member of the household* during the last five years (or the last year when the incidence respectively the one year prevalence are regarded). The household crimes are:

- Theft of car
- Theft from car
- Motorcycle/moped theft
- Bicycle theft
- Burglary
- Attempted burglary

The other five assessed offences are the person crimes, which imply direct contact between the victim and the offender(s). These categories are assessed on the personal level, by asking whether or not the incident occurred *to the respondent*. The personal crimes are:

- Robbery
- Theft of personal property
- Sexual incidents
- Assaults and threats
- Assaults and threats committed by the partner, a family member or a close friend

In the structure of the interview, no special detailed questions are assessed for "assaults and threats committed by the partner, a family member or a close friend" as information on this category is provided through the items on "assaults and threats". Thus, neither an incidence nor a one year prevalence rate is available for this category.

It should further be noted, that in statistical analysis different weighting procedures are used on the personal as on the household level. Though, in the analysis presented in this text, a national person weight was used in the context of variables and computations on the person level (e.g. person crimes, socio-demographic variables…), as a national household weight was used for the analysis on the household level (e.g. burglaries, housing, income…).

In the following, Luxembourg's prevalence rates (one and five years) will be delineated and compared to the ones of its neighbor countries (France, Belgium and Germany) and the total EU-15 member states.

Table 1a gives an overview over the one year prevalence of the assessed crimes in Luxembourg and compares them to its neighboring countries. In the Luxembourgish sample, 4.9% of the respondents indicated that they have become a victim of person crime during the

year before the interview. 7.9 had become the victim of household crime. The most reported person crime was "theft of personal property (2.9%)" and the most common household crime was "theft from car (2.8%)".

Compared to the 15 EU countries, Luxembourg has significantly (at least on the 95% level) lower rates for "sexual incidents" (0.3% compared to 1.1%). Moreover, Luxembourg has significantly lower rates in "bicycle theft" then its neighboring countries and the total EU-15. On the contrary, rates for attempted burglaries are significantly higher then the ones of the neighbor countries and the 15 EU countries.

Table 1a: 1 year Prevalence of the EU ICS crime categories in Luxembourg's sample.

Type of crime	1 year Prevalence (in %)		
	Luxembourg	Neighboring countries	EU-15 countries
ROBBERY	0.7	0.8	0.9
THEFT OF PERSONAL PROPERTY	2.9	3.2	3.4
SEXUAL INCIDENTS	0.3	0.8	**1.1***
ASSAULT AND TREATS	2.3	2.8	2.8
THEFT OF CAR	0.6	0.4	0.8
THEFT FROM CAR	2.8	3.1	3.4
THEFT OF MOTORCYCLES	0.0	0.2	0.4
BICYCLE THEFT	1.6	**2.8***	**3.1***
BURGLARY / HOUSEBREACKING ATTEMPTED	1.7	1.4	1.6
BURGLARY / HOUSEBREACKING	2.7	**1.6***	**1.5***

* significant difference to Luxembourg on the 95% level.

The five years prevalence rates for Luxembourg, its neighbor countries and total EU-15 are presented in Table 1b. Taken the five years prevalence of all the person crime categories together, 32% of the respondents in Luxembourg state that they experienced at least one of the listed person crimes in the last five years. The most frequent person crime is "theft of personal property (18%)", meaning theft without using force (which is the difference to robbery, the latter one being defined as theft by using threat or force). On the household level, 32.5% of the respondents indicated, that at least one of the assessed incidents occurred to them or to a member of their household in the last five years. For the five years period, the most common household crimes are theft from cars (15%) and burglaries (10.8%).

Luxembourg's neighbor countries have statistically significant (at least at the 95% level) lower five years prevalence rates for "sexual incidents" and for "assaults and threats committed by a known person". Theft of bicycle is less common in Luxembourg then in other European counties. For burglaries and attempted burglaries Luxembourg's five years prevalence are highest compared to the other countries.

Table 1b: 5 years Prevalence of the EU ICS crime categories in Luxembourg's sample.

Type of crime	5 years Prevalence (in %)		
	Luxembourg	Neighboring countries	EU-15 countries
ROBBERY	5.9	2.9	3.8
THEFT OF PERSONAL PROPERTY	18.0	13.3	13.2
SEXUAL INCIDENTS	4.9	**3.5***	4.2
ASSAULT AND TREATS	9.8	10.1	9.7
ASSAULTS AND THREATS committed by a known person	3.9	**2.3***	2.8
THEFT OF CAR	4.0	3.3	4.6
THEFT FROM CAR	15.0	13.3	13.8
THEFT OF MOTORCYCLES	0.3	0.9	**1.6***
BICYCLE THEFT	6.9	**10.7***	**12.0***
BURGLARY / HOUSEBREACKING	11.2	**7.4***	**7.4***
ATTEMPTED BURGLARY / HOUSEBREACKING	10.2	**6.4***	**6.0***

* significant difference to Luxembourg on the 95% level.

The third provided indicator of victimization is the incidence rate. In the present survey incidence is defined as how often the incident occurred to the respondent or the household in the period of the year preceding the interview. The incidence rates for the person as for the household crimes in Luxembourg are shown in Table 2. As could be expected considering the one year prevalence in Table 1, the incidences are rather low, meaning that multiple victimization in one crime category and in a one year period might be a rather rare phenomenon.

Table 2: Incidence rates (in %) for the EU ICS crime categories in Luxembourg.

	Not victimized	Victimized once	Victimized twice	Three times	Four times and more
ROBBERY	99.3	0.6	0.1	0.0	0.0
THEFT OF PERSONAL PROPERTY	97.1	2.3	0.0	0.0	0.5
SEXUAL INCIDENTS	99.7	0.3	0.0	0.0	0.0
ASSAULT AND TREATS	97.7	2.0	0.0	0.0	0.3
THEFT OF CAR*	99.5	0.5	0.0	0.0	0.0
THEFT FROM CAR*	97.1	2.4	0.6	0.0	0.0
THEFT OF MOTORCYCLES*	100.0	0.0	0.0	0.0	0.0
BICYCLE THEFT*	98.0	2.0	0.0	0.0	0.0
BURGLARY / HOUSEBREACKING	98.4	1.2	0.3	0.0	0.0
ATTEMPTED BURGLARY / HOUSEBREACKING	97.8	2.2	0.0	0.0	0.0

- only the owners are considered

II. Impact of socio-demographic variables on victimization

The present section tries to delineate the relatedness of socio-demographic variables to victimization occurrence. Two approaches are chosen: first, the possible relations will be outlined from a descriptive point of view and second by means of logistic regression analysis. Household crimes will be analyzed in the light of household items, as socio-demographic person items will be used for the depiction of the prevalence of person crimes. The calculations focus on the five years prevalence, as the frequencies of the one year prevalence tend to be too low for proper analysis. It follows a list of the chosen socio-demographic variables on the household and on the person level:

Person Items:
- age
- gender
- position in income quartile[1]
- immigration
- occupational position
- marital status
- education

Household Items
- capital vs. non-capital
- household size
- position in income quartile
- type of habitation

II.1. Person Crimes in the light of socio-demographic variables

Age and gender

The variables age and gender were recoded in order to obtain an age*gender variable. Table 3 shows the distribution of victimization over age and gender. It shows that over all person crimes young people are the most at risk. 56.6% of young men aged between 16 and 29 such as 61.4% of young women had experienced at least one person crime during the last five years. The highest rates can be found for "theft of personal property". One third of young people indicate such an event, while the rates tend to decline in mid-age to rise again after the age of 60. Especially older women seem to be prone to experience such events (21%). Sexual incidents occurred almost solely to women under the age of 29, while young men were the most common victims of robberies.

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[1] The income variables are defined on the household level. Nevertheless they are used in the scope of person crimes as they could be of great use for content's sake.

Table 3: Percentages of victimization by person crimes in the age and gender subgroups.

In %	16-29 males	16-29 females	30-59 males	30-59 females	60++ males	60++ females
PERSON crimes	56,6	61,4	26,7	24,1	16,8	26,6
ROBBERY	27,1	4,5	3,1	3,2	1,9	3,6
THEFT OF PERSONAL PROPERTY	30,7	31,0	10,9	15,3	13,0	21,0
SEXUAL INCIDENTS	4,7	24,9	1,9	3,6	0,0	1,7
ASSAULT AND TREATS	17,3	22,1	10,9	6,7	2,8	3,7
Assaults & Threats by partner, a family member or close friend	6,6	3,8	5,0	3,3	0,0	3,8

Income

A variable was computed indicating the respondents' positions on the quartiles of the national household net income distribution. The results are presented in Table 4. Their seems to be a higher risk of victimization among people located within the first quartile (lowest income). Except for "theft of personal property" and "sexual incidents" their rates are highest compared to the other income quartiles.

One should consider these results critically, as 24.9% of the respondents had a missing value on the household net income. A striking thing is that people with a missing value on the income variable tend to be more exposed to person crimes (the overall person crimes five years prevalence rate was 42.5% in that subgroup). It can however be shown, that 60.9% of the respondents with a missing value were students, though young age. As the household income is assessed, many students might not have known the actual income of the parents or tutors. Thus, the higher rates are mostly to be drawn back on the young age of the respondents in the category, person crimes being associated to age.

Table 4: Percentage of victimization in the income quartiles subpopulations.

Income quartile	First quartile	2	3	Fourth quartile
PERSON crimes	37,1	27,8	29,6	21,9
ROBBERY	8,4	2,4	5,3	6,5
THEFT OF PERSONAL PROPERTY	17,2	18,1	18,5	11,8
SEXUAL INCIDENTS	2,8	5,6	3,7	2,3
ASSAULT AND TREATS	8,5	5,3	8,8	6,5
Assaults & Threats by partner, a family member or close friend	7,4	3,0	5,7	1,1

Immigration

The item on immigration asks the respondent whether 1)he or she is an immigrant him/herself, 2)whether the parents are /were immigrants, 3)whether someone in the immediate family is/was an immigrant or 4)if there a no immigrants in the immediate family. Table 5 indicates a clear trend, namely that the second generation of immigrants bears the greatest risks of becoming the victim of person crimes. In all person crimes taken together, their percentage of victimization is twice as high as for the non-immigrants or any of the other two groups.

Table 5: Percentage of victimization in the subgroups of immigration

	Immigrant him/herself	Immigrant parents	Immigrants in the family	No immigrants in the family
PERSON crimes	26,6	63,9	30,6	29,8
ROBBERY	4,4	18,9	1,8	5,0
THEFT OF PERSONAL PROPERTY	16,8	29,3	12,2	17,4
SEXUAL INCIDENTS	5,5	12,6	3,6	3,9
ASSAULT AND TREATS	6,7	29,6	17,3	7,9
Assaults & Threats by partner, a family member or close friend	3,0	12,8	5,5	3,0

Occupational position

The occupational position of a person might be linked to criminal victimization, as different positions may more or less expose people to higher risks of being victimized. Looking at table 6, it appears that students and unemployed persons seem to be most at risk of becoming the victims of person crimes. Again "theft of personal property" is the most common crime over all groups. However two problems emerge in the interpretation of these results: first, as being a student is usually highly associated with age[2], the students' higher rates are to be drawn back on their young age. Second, it should be considered, that only 1.1% of the respondents in Luxembourg's sample indicated, that they were actually looking for work or would be unemployed. As there are not many respondents in this group, the listed rates for this category should be regarded cautiously.

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[2] 95.1% of the responding students were aged under 30.

Table 6: Percentage of victimization in the subgroups of occupational position

Occupational position	working	looking for work unemployed	keeping home homemaker	retired, disabled	student
PERSON crimes	27,2	64,6	27,1	22,3	63,0
ROBBERY	4,7	0,0	2,4	1,6	19,6
THEFT OF PERSONAL PROPERTY	12,0	26,7	19,6	17,4	33,8
SEXUAL INCIDENTS	4,7	0,0	3,3	1,2	12,9
ASSAULT AND TREATS	8,9	15,0	4,7	5,8	23,5
Assaults & Threats by partner, a family member or close friend	4,6	23,0	3,8	1,9	3,8

Marital Status

The five years prevalence of person crimes in the groups of marital status are presented in table 7. The singles seem to be the most endangered group followed by the respondents living in non-married couples and by the divorced and the separated. It becomes visible that marriage could be a protective factor against criminal victimization.

The results presented in Table 7 should only be interpreted regarding the distribution of the respondents over the groups of the marital status. In the sample, 59.2% of the respondents indicated that they were married and 25.1% said that they were singles. The remaining 15% of the respondents are distributed over the other three categories. A further point is that marital status is not independent of age. 76.8% of the singles are aged under 30 whereas 89.1% of the widowed are aged over 59. Their appears to be a high risk of confounding the effects while interpreting the results outlined in Table 7.

Table 7: Percentage of victimization in the subgroups of marital status.

	married	single	couple not married	divorced/ separated	widowed
PERSON crimes	23,5	52,6	42,6	36,8	25,2
ROBBERY	2,3	15,4	6,5	10,8	0,0
THEFT OF PERSONAL PROPERTY	12,8	27,9	16,0	29,9	21,0
SEXUAL INCIDENTS	2,5	11,2	20,1	0,0	0,0
ASSAULT AND TREATS	8,3	16,7	9,4	2,2	4,7
Assaults & Threats by partner, a family member or close friend	3,5	6,2	0,0	4,8	1,6

Education

The education variable was computed through the years of formal school and higher education reported by the respondent. This was the only education variable provided in the dataset. The recoding of the years of formal school and higher education into "level of education" was carried out as follows:

- 1-6 years: primary school
- 7-9 years: first stage of second level
- 10-12: second stage of second level
- 13-15: bac+1,2; short university cycle degree or equivalent
- 16-17: bac+3,4; first university degree or equivalent
- 18-23: bac+>4; second university or equivalent

Looking at overall person victimization, people who have only attended primary school and people who have attended the "second stage of second level" are mostly at risk of being the victim of crime. There is no clear trend that years of education might be systematically linked to the risk of criminal victimization.

For the category "robbery" people with low education are most at risk. People having attended school for 1 to 12 years, or in other words, respondents with an education level below the high-school degree seem to bear a higher risk of being the victims of "theft of property". The risk of "Sexual incidents" tends to increase with education but diminishes when a very high amount of years of education is reached (again, this effect might be due to growing age). For "assaults and threats the contrary is obtained, namely that risk is highest for people with very high education.

The education variable used here was computed through the years of formal education indicated by the respondent. One should therefore regard the presented results from a critical point of view, as there is no guarantee that first, the respondents have indicated the correct amount of years (it might be a rather difficult task to remember or to calculate the years spent in school on request) and second, that every year spent in school can be considered as a step taken in the direction of higher education (the item is not sensible for a whole lot a situational constellations e.g. failures). Moreover, the years of education variable can not be independent

of age, as years of education accumulate with increasing age. It is not possible for a 19 year old respondent to have reached for instance 13 years of education. Though especially for the categories of lower education, the effects might be strongly confounded with age.

As for the results on income, respondents with a missing value in the years of education variable, tended to have very high victimization rates (overall person crimes victimization rate: 63.8%). In Luxembourg's sample, most of the respondents with a missing value on the education variable were students (96%). As most of the students are young age (95.1% of the students are aged under 30 in the sample), these results are probably to be drawn back on age effects.

Table 8: Percentage of victimization over the categories of education

	Primary school	First stage of second level	Second stage of second level	Short uni. cycle	First uni. degree	Second uni. degree
PERSON crimes	30.8	23.8	30.9	22.1	24.9	25.9
ROBBERY	8.0	5.2	2.0	1.3	2.9	3.0
THEFT OF PERSONAL PROPERTY	17.4	16.2	17.2	14.3	10.4	10.9
SEXUAL INCIDENTS	3.5	1.1	2.3	5.5	7.6	3.6
ASSAULT AND TREATS	3.3	5.5	9.1	8.3	5.6	11.9
Assaults & Threats by partner, a family member or close friend	4.9	4.9	4.9	2.4	3.8	0.0

II.2. Victimization and socio-demographic variables in logistic regression analysis

The socio-demographic variables used in the descriptive part of the present section were entered as predictors in logistic regression analysis to examine their predictive potential for person crimes on the five years prevalence. However, as the occupational position variable tended to have only few cases in some of the categories, it was recoded to create variable called "working", though indicating whether the respondent is in a working position or not. To do this, respondents stating that they were working were coded as 1 and the other (disabled/retired, student, unemployed and house maker) were recoded as 0. Furthermore, the variable "how often do you personally go out in the evening for recreational purposes?" was entered in the analysis as a behavior that could potentially expose the respondents to person crimes. Six logistic regression analyses were computed, one with the total person crimes as criterion and one for every single crime. Their results are shown in Table 9.

All the model tests were significant, demonstrating that in all six cases, the predicted values adequately fitted the data on at least a 95% level. However, not all the models generated the

same quality of prediction. On total person crimes 75.5% of the non-victimized were classified correctly whereas only 50.6% of victims were classified as such. In other words, this particular model classified the non-victims quite well, while it failed to classify the victims. Nevertheless, the regression explained 12% (Cox & Snell R^2) of criterion variance, which is the highest value reached within these models. The best correct classification of victims was reached for "robbery" with 76.7% of the respondents correctly assigned. The overall "weakest" models are the ones predicting "theft of personal property", "assaults and threats" and "assaults and threats committed by a close person". They classified respectively 62.3%, 70.5% and 70.6% correctly, while not exceeding 8% of variance explanation. Taken together, one could however state, that the predictions of person crimes made by means of logistic regression, while considering almost solely socio-demographic variables as predictors, adequately fitted the empirical data.

As in logistic regression the B values are less interpretable, the Exp (B) values were entered in table 9. They can be interpreted as the estimated odds-ratio of a certain class or group compared to a reference group. Taking into account total person victimization, it appears that especially younger people are at risk of becoming the victim of person crimes. Compared to the respondents aged 59 or above, their odds are 3.29 times higher. The odds for respondents with low income are elevated compared to those with higher earnings. As seen in the presentation of the descriptive results in the second part of the present text, people with a missing value on the income variable tended to be more exposed to person crimes. As already noted, this could be due to the fact, that most of the respondents in that category were students, so young age. Education is also linked to criminal victimization, since people with a short university cycle degree or equivalent (13 to 15 years of education) tended to have lower odds then respondents having only attended basic school (1 to 6 years of education).

In the following, a short depiction of the results for any of the six person crimes will be made, relying on the estimated odds-ratio listed in table 9:

Robberies

Being an immigrant's child seems to be a risk factor of becoming the victim of robberies. The odds for that category are 2.52 compared to the respondents who have no immigrants in the family. Another risk factor might be being divorced or separated. Their odds are 4.44 to 1 compared to the married. A protective factor might be having reached the second stage of second educational level or a short university cycle degree.

Theft of personal property

The risk of "theft of property" is elevated especially for people under the age of 30 and for people who are divorced or separated. Being in a working position, seems to be a protective factor against thefts. One should recall however, that the model tests for that particular logistic regression showed only moderate fit.

Sexual Incidents

Women are particularly at risk of becoming the victims of sexual incidents. Even if the odds for younger people are higher, the B value fails statistical significance. Being in the second quartile of the monthly net household income also seems to be a risk factor.

Assaults and Threats

Even if their odds are almost similar to the one of respondents under the age of 30, people between 30 and 44 seem to be most exposed to assaults and threats, as their specific B value attains statistical significance. Having a missing value on the household net income variable equally constitutes a risk factor. Possible reasons for that astonishing result have already been discussed (see point II.1.). People with immigrated parents and people with immigrants in their family also show higher risks of victimization. Another surprising result is the higher odds of respondents with missing values on the education variable. Yet it has to be recalled, that 96% of these respondents were students and thus young age.

Assaults and threats by a known person

The model computed for "assaults and threats by a known person" should be considered carefully as the model tests show modest results. However, there seems to be a link between that kind of victimization and being in the first (lowest income) and in the third quartile of the monthly net household income. Having immigrated parents constitutes a further strong risk factor. Moreover, going out in the evening raises the odds of becoming the victim of assaults committed by the partner, a family member or a close friend.

Table 9: Predicted person crime victimization through socio-demographic variables by logistic regression analysis.

		Total Person Crime	robbery	theft of personal property	sexual incidents	assaults and threats	assaults and threats by a known person
percentage of correct classification	Vicimized	50.6	76.7	63.7	72.0	72.0	66.8
	not victimized	75.5	76.8	62.5	75.5	70.6	70.8
	Total	**67.4**	**76.8**	**62.3**	**75.3**	**70.5**	**70.6**
Model Fit	Chi^2	**101.53****	**83.70****	**45.98****	**73.68****	**68.01****	**38.40***
R^2	Cox & Snell	0.12	0.10	0.06	0.09	0.08	0.05
		Estimated odds-ratio Exp(B)					
Age	>59						
	>30	**3.29****	0.44	**2.83***	5.89	4.17	2.04
	30-44	1.69	0.49	1.43	1.50	**4.31***	1.93
	45-59	1.49	0.34	1.19	1.03	2.88	2.05
gender	Masc	1.01	1.88	0.87	**0.22****	1.20	1.01
quartile income	4						
	Missing	**1.93***	0.48	1.13	2.74	**3.00****	3.05
	1	**2.08***	1.10	0.79	2.02	2.61	**7.35***
	2	1.52	0.38	1.17	**5.32***	1.32	3.52
	3	1.43	0.55	1.32	2.22	1.64	**6.08***
immigrant	4	**				**	*
	1	0.90	1.29	1.01	1.28	0.83	1.19
	2	**2.83****	**2.52***	1.38	2.01	**3.48****	**5.36****
	3	1.46	0.40	1.00	2.56	**3.20***	1.61
working	1	0.78	3.31	**0.48****	0.91	0.98	0.96
marital status	married						
	sgle	1.07	2.20	1.43	1.84	0.40	1.34
	cple not married	1.42	1.89	1.27	3.38	0.51	0.00
	divorced/separated	1.88	**4.44***	**3.50****	0.00	0.25	0.77
	widowed	1.12	0.00	1.52	0.00	1.03	0.66
education	Prim		*				
	First stage of second level	0.65	0.70	0.88	0.64	1.53	1.34
	Second stage of second level	0.90	**0.23***	0.89	0.67	2.50	1.06
	Short uni. Cycle degree or equivalent	**0.51***	**0.09****	0.80	2.10	1.86	0.44
	First uni. Degree	0.72	0.26	0.63	3.37	1.26	1.25
	Second uni. Degree	0.72	0.18	0.60	1.30	4.09	0.00
	Missing	1.07	2.93	0.65	0.78	**7.49***	0.29
go out in the evening		1.02	1.38	0.93	1.12	0.89	**1.69****
Constant		**0.21****	**0.02****	**0.24****	**0.01****	**0.01****	**0.00****

B significance   **p<,01 *p<,05

II.3. Burglary and household crimes predicted by household characteristics.

The methodology used for the prediction of person crimes was adopted to predict the five years prevalence of household crimes. More specifically, the models focus on the prediction of attempted burglaries, succeeded burglaries and a total burglary variable, obtained by summing and recoding the attempted and the succeeded burglaries. Moreover a logistic regression analysis was computed with total household crime as criterion. A person or a household that became the victim of "total household crime" got victimized at least once in at least one household crime category in the last five years. Next to burglaries, the household crimes include the crimes: theft of car, theft from car, theft of motorcycle and theft of bicycle. Since the present section mainly focuses on burglaries, no further analysis was carried out for these categories.

Compared to person crimes the models created for predicting household crimes by logistic regression show less adequate model fit. The results are presented in table 10. Even if all chi^2 tests are significant on the 99% level, the total percentage of correct classification doesn't exceed 69.8% (for attempted burglary). The lowest percentage was for the model predicting total household crime (55.5%). Furthermore, except for the model on total household crime, the predictions of non-victimization were better than the ones of victimization, meaning that the models were better in classifying non-victims then victims.

The presented odds-ratio in table 10 show almost the same pattern for attempted and succeeded burglary as for the combination of the two. Living in a row house seems to be a protective factor against total burglary, as the odds for the category are lower compared to living a detached house. The B value of the same category in the model for the prediction of succeeded burglaries just slightly missed statistical significance.

Over all the models in table 10 the B values for "projected burglary" reached significance on the 99% level. High scores on "projected burglary" signify that the respondent perceives future burglaries as not likely. The lower odds respectively the highly significant B values have thus to be interpreted in the way, that respondents who have been the victims burglaries or attempted burglaries, had lower "projected burglary" scores, or in other words, respondents who actually became victims of burglaries expected further burglaries in the coming 12 months.

However, it would be a hazardous assumption that, departing from these results, one would state that expecting burglaries would be a risk factor for actual victimization. Of course, it is a sensible hypothesis, that people who live in an endangered area are aware of the potential risks and might therefore express higher probabilities. But also exactly the contrary might be the case: people who experienced burglaries might have become aware of the risks or just thin-skinned and expect further burglaries. Though in the first case "projected burglary" would be a function of risk perception and in the second case it would be a function of sensibilisation. To sum up, the present results show that "projected burglary" is systematically linked to household crime (especially burglaries) without providing information on causality. The EU ICS data are not sensible to that question.

The pattern of the odds for total household crime differs a bit from the homogenous ones found for the three models on burglaries. In the present analysis the household size is an important determinant in the prediction of total household crime, whereas it is not as important for burglary or attempted burglary prediction. Mostly, this has to be drawn back to the heterogeneous categories that where summed up and recoded to obtain the total household crime prevalence. This rate not only composed of the prevalence of burglaries and attempted burglaries but the crime types "theft of car", "theft from car", theft of motorcycle" and "theft of bicycle" where also added. Burglaries happen to the complete household at a time, thus the single entities of the household are independent of the probability of becoming the victim of burglaries. On the other hand the amount of vehicles owned by the household might vary with its size. The probability of a household of four persons to own two cars, two bicycles and a motorcycle should be higher than if one single person would own that amount of vehicles. In Luxembourg's sample of the EU ICS, a Spearman correlation of $r=.68$ ($p \leq .01$) was found between the total amount of vehicles (cars, motorcycles and bicycles) owned and the size of the household. Of course the more vehicles a household owns, the higher is the probability that one is stolen. This might highly contribute to the heightened prevalence of vehicle theft among larger households, what has further impact on total household crime prevalence. The importance attributed to the household size for the prediction of total household crime should therefore be regarded considering potential risks of confounding the effects.

Table 10: Prediction of household crimes, burglary and attempted burglary through household items by means of logistic regression.

		Total household crime	Burglary/ Housebreaking	attempted Burglary/ Housebreaking	Burglary + attempted burglary
percentage of correct classification	Vicimized	69.1	57.4	59.2	52.3
	not victimized	48.1	68.8	70.9	67.6
	Total	55.5	67.5	69.8	64.8
Model Fit	Chi^2	**32.57****	**27.24****	**32.55****	**36.81****
R^2	Cox & Snell	0.04	0.04	0.04	0.05
		Estimated odds-ratio Exp(B)			
capital	1	0.93	1.57	1.11	1.28
hhsize3	3	**			
	1	**0.50***	0.98	0.46	0.74
	2	**0.62****	0.89	0.74	0.86
quartinc	4				
	Missing	0.73	1.16	0.75	0.75
	1	0.92	1.24	1.39	1.05
	2	1.03	0.87	2.08	1.24
	3	1.27	1.37	1.21	1.16
projected burglary		**0.64****	**0.47****	**0.45****	**0.47****
habitation	Detached/semi-detached house				
	Flat/apartment/maisonette	1.03	0.68	1.43	0.98
	Terraced/row house	0.76	0.51	0.58	**0.56***
constant		2.13*	0.77	0.71	1.61

B significance   **p<,01 *p<,05

II.4. Conclusion

To sum up the results found for potential linkages between criminal victimization on the person level and socio-demographic variables, one could state that quite different patterns emerge for the single assessed crime types. Except for the categories "robbery" and "assaults and threats committed by a known person", the age of the respondents played an important role in the prediction of victimization. Another important factor is immigration: especially sons or daughters of immigrants bear higher victimization risks.

Having a lower income was marked out to elevate the risk of total person crime. This founding is nevertheless inconsistent over the single crime categories, leaving a pattern of results that is difficult to interpret. As seen in the descriptive part of the section, the effects generated by income, are not independent of age effects. This has become particularly visible in the delineation of the higher risks of respondents having a missing value on net income. It turned out that this category was mainly composed of students, though persons young age.

Divorced and separated respondents were more at risks becoming the victims of thefts, be it with or without the use of force. Over total person crime, as well as over the other crime categories, their higher rates tended to disappear. Regarding only the descriptive results the singles and the non-married couples were most at risk of total person crimes. But again, these results have to be interpreted considering intervening age effects.

The occupational position of the respondents revealed unclear patterns of victimization rates. Although a slight decline of victimization with growing years on education is visible, some results are difficult to interpret. Moreover the construction of the variable has to be taken into consideration, as the education categories were computed through the years of education indicated by the respondents what might bias the results. Again, there is high risk of confounding the education effects with age effects, as years of education are dependent of age. The same patterns of results found in the descriptive part of the present text were found in logistic regression.

As the occupational position variable revealed insufficient respondent frequencies in the category "looking for work/unemployed", the variable was recoded active vs. non-active on the labor market by simply assigning (1) to the working respondents and (0) to all other. Only for "theft of personal property" being in a working position proved to be a protective factor. Yet again, the confusing potential of intervening age effects has to be mentioned.

The variable "going out in the evening", that was entered in logistic regression as a potential exposition factor, only made a significant contribution to the prediction of assaults and threats committed by a known person. Thus, the more frequent people go out in the evening for recreational purposes, the higher are the odds for becoming the victim of assaults by a known person. The respective B-values for the prediction of the other crime types failed statistical significance.

Summing up, only one effect proved to be more or less consistent over person crime namely age. With some restrictions immigration could be added. The effects of the other variables are mainly to be drawn back on age effects. Considering these results, one could state, that young age is the most important socio-demographical risk factor of the most categories of the assessed person crimes followed by being having immigrant parents.

Despite, inferior model fit, more consistent results were reached for the prediction of succeeded and attempted burglaries using socio-demographical household attributes. The results were astonishing, as "projected burglary" proved to be the best predictor for burglaries. In other words expecting burglaries was in line with being the victim of burglaries. Unfortunately the data give no information on the direction of causality, so that it is unclear whether victims become more sensible to potential risks, or whether the perception of higher danger in the neighborhood proves to be adequate from time to time

III. Feelings of safety and the perceived risk of victimization of Luxembourg's sample in the EU ICS.

III.1. Presentation of the safety measures.

The present section deals with one of the major aims of the EU ICS, namely the assessment of crime related feelings of (un-)safety. To date, not all the safety related items are available in the database. Therefore the analysis will focus on two indicators of safety, specifically the items:

- "How safe do you feel walking alone in your area after dark?(safety after dark)" and
- "How often do you think of the possibility of becoming a victim of crime and how to avoid it? (projected victimization)".

The response options provided for the first item are "(1) very safe", "(2) fairly safe", "(3) a bit unsafe", "(4) very unsafe", "(8) refusal" and "(9) don't know/no opinion". The options (8) and (9) were regarded as missing values. For better interpretability of the results, the response options were recoded, in the way that for the response "very safe" an item score of (4) was be ascribed and that the item score for "very unsafe" was (1). The scores for the other two response options were reversed in the same way. One could state that the item was recoded in the "safety" direction.

The second item is to be answered with: (1) often, (2) sometimes, (3) rarely and (4) never, such as (8) refusal and (9) don't know/no opinion, which were treated as missing values. No recoding was done for this item, as the answers "often" or "sometimes" should reflect worries about crime and safety. High item scores can therefore be interpreted as cognitions probably linked to feelings of safety.

The national individual weights were used for the whole analyses on the crime related safety topic. The descriptive statistics on both items in the Luxembourgish sample are presented in Table 11. Means for both items indicate that respondents tend to have mid-range to higher scores on the safety measures. The reported skewness values show that the distribution of the item scores for the "safety after dark" item tends more in the direction of higher scores, whereas the item scores of "projected victimization" have a more symmetrical distribution. Negative Kurtosis means that the values cluster less around a central point.

Table 11. Descriptive characteristics of the two EU ICS items on safety.

Items	M	SD	Min	Max	Kurtosis	Skewness
safety after dark	2.85	1.03	1	4	-1.06**	-0.38*
projected victimization	2.67	0.98	1	4	-1.08**	-0.04*

* standard error: 0.09
** standard error: 0.18.

III.2. Feelings of safety and victimization.

As a critical life event, criminal victimization should be related to enhanced feelings of insecurity. To test this, several non-parametrical (Spearman) correlations between the five years prevalence of the assessed crimes and the two safety items were computed. The variable "projected burglary (What would you say are the chances that over the next twelve months someone will try to break into your home? Do you think this is very likely (1), likely (2) or not likely (3)?)" was equally entered in the correlation table. Due to its more specific formulation, it might be more closely linked to the adjacent feelings of insecurity triggered by crimes against the household. Moreover, it could be defined as a worry or insecurity item, since the perception of probable burglary should be in line with perceived insecurity, and though, it may trigger feelings of insecurity or anxiety. To analyze the interrelations between the two safety ratings and "projected burglary" Pearson Correlations were calculated.

The results of the computed correlations are presented in table 12. The two safety items ("safety after dark" and "projected burglary") are substantially but not exceedingly interrelated (r=.32). Thus, both items account for different aspects of safety feelings, either item measuring different crime and insecurity related cognitions. Both safety items are significantly correlated (on the 99% level) to the "projected burglary" item, the latter being more closely linked to "projected victimization" then to "safety after dark". Considering the contents of the correlated items, this is no unexpected result, as frequent thoughts about possible victimization should in many cases be in line with the tendency to expect burglaries.

Although some of the coefficients reach statistical significance, no substantial correlations can be found between household crimes and the two safety ratings. As predicted, the correlations between "projected burglary" and total household crime as well as succeeded and attempted burglary are higher then the correlations found with the two safety ratings. Thus, becoming the victim of a burglary might incite the victim to predict further burglaries (see also the results presented under point II.3.). On the contrary, this result could also mean, that potential victims know about the danger of burglaries in the area they life in. Considering the data, no further specifications can be made to clarify that question.

On total person crime, the magnitude of the correlation coefficients with the two safety ratings tends to be more sizeable. Overall person victimization is related to heightened insecurity cognitions on both ratings. Taking only into account the single types of person crime, it appears that the "safety after dark" item is most closely related to "theft of personal property"(r=-.14), whereas "assaults and threats" are most considerably correlated to "projected victimization"(r=-.15). It seems though, that events like pick pocketing might incite people to feel unsafe walking around alone after dark, and that being assaulted or threatened in a really frightening way might be linked to increased frequencies of thoughts about the possibility of becoming the victim of crime.

Taken together, although some interpretable correlation coefficients between the safety measures and the indicators of victimization can be found, the amount of explained common variance doesn't exceed 3% for none of the presented correlations. Though there are no strong links between victimization and the used safety measures.

Next to the fact, that in the present analysis victimization and the used safety measures are almost unrelated, several problems are linked to the presented results. It must be acknowledged, that the full range of safety measurements has still not been provided. Therefore, the present analysis had to stick to the two available variables ("safety after dark" and "projected victimization") and one variable that was only marginally related to feelings of

safety ("projected burglary"). The main problem emerges from the content validity of the items. It doesn't take actual or expected criminal victimization to feel unsafe walking alone after dark. In fact, a person might express fear of the dark without having any kind of criminal victimization in mind. "Projected victimization" is a conceptually better anchored item, because frequent thoughts about possible victimization might be closely connected to crime related worries. However, the item is burdened with the difficulty that it contains two judgments: first, the respondent has to answer the question on how often he or she thinks of the possibility of becoming the victim of crime, and second, he or she has to respond how often he or she thinks about how to avoid victimization. Thus, the item contains two separate ratings, what might create confusion on the respondents' site and bias the results. The results presented here, must therefore be contemplated regarding the conceptual weaknesses of the provided measures. There is clear indication for an enhanced quality of operationalization considering the safety measures.

Table 12: Correlations between the EU ICS crime categories and indicators of safety feelings.

	safety after dark	projected victimization	projected burglary
	Pearson Correlations		
projected victimization	0.32**		
projected burglary	0.11**	0.19**	
	Spearman Correlations		
Total HOUSEHOLD CRIMES	-0.05*	-0.09**	-0.13**
THEFT OF CAR	0.04	-0.07*	0.02
THEFT FROM CAR	0.03	-0.05	-0.04
THEFT OF BICYCLE	-0.01	-0.05	-0.02
BURGLARY / HOUSEBREACKING	-0.04	-0.10**	-0.15**
ATTEMPTED BURGLARY / HOUSEBREACKING	-0.07*	-0.10**	-0.12**
Total PERSON CRIMES	-0.17**	-0.16**	
ROBBERY	-0.08*	-0.08*	
THEFT OF PERSONAL PROPERTY	-0.14**	-0.05	
SEXUAL INCIDENTS	-0.09**	-0.03	
ASSAULT AND TREATS	-0.07	-0.15**	
ASSAULTS AND THREATS BY A KNOWN PERSON	-0.01	-0.08*	

Significance: p≤.01; ** p≤.05.

III.3. Safety measures and their relatedness to age and gender.

As the magnitude of the correlations between the provided safety measures and actual victimization are less sizable in Luxembourg's sample, the present section focuses on inter-individual differences. The analyses take into account effects of age and gender on the two safety measures. To do so, two ANOVAs were computed, where age (four groups; 16-29, 30-44, 45-59 and 60 upwards) and gender were entered as independent variables, such as "safety after dark" respectively "projected victimization" were treated as the dependent variable.

For both ANOVAs it can be shown, that neither the homogeneity of error variances (significant Levene tests for both computations) is given, nor that the two dependent variables show normal distributions in the groups of age and gender (tested using Kolmogoroff-Smirnov tests). However, as the frequencies of respondents within the groups of age and gender don't differ too much, one can state that both ANOVAs should be robust against these violations of their requirements.

The results from both ANOVAs are represented in table 13. For "safety after dark" both main-effects reached statistical significance on the 99% level, with 10% of explained variance by gender and additional 4% explained by age. The interaction wasn't significant and accounted for no variance explanation (0.00%). Overall the model explained 14% of the variability of the dependent variable, which is a high percentage considering that only four age groups and gender were entered in the model. For further delineation of the age effect, post hoc Tukey HSD tests were computed showing that the age groups of the respondents under 30 and over 59 had higher scores then the two groups in the middle (30-44 and 45-59).

In the second ANOVA with "projected victimization" as dependent variable, one main-effect, namely gender, and the interaction reached statistical significance. However, variance explanation was rather low as the two significant effects accounted for 2% of variance each. No significant effect was found for age. Taken together, 4% of variance was explained by the model.

The results of the two ANOVAs are visualized in the Charts 1 and 2. The first of the two histograms shows the means of "safety after dark" in the groups of age and gender. The gender effect is clearly visible over the four groups of age. The age effect, although having reached statistical significance, is less striking. Moreover, it becomes evident, that there is no age*gender interaction. Chart 2 shows the modest effects uncovered by the second ANOVA. Nevertheless, the interaction becomes observable as the gender differences are only substantial for the age group below 30 and the group from 59 upwards. For the two groups in between, these differences disappear.

Table 13. Two ANOVAs testing the effects of gender and age on the two safety items.

Source of variance	Sum of squares	df	F	p
Dependent variable: **safety after dark**				
Gender	86.49	1	91.49	.00
Age	29.67	3	10.46	.00
Gender*Age	2.40	3	.84	.47
Error	789.35	835		
Dependent variable: **projected victimization**				
Gender	13.60	1	14.73	.00
Age	3.92	3	1.49	.24
Gender*Age	12.69	3	4.58	.00
Error	769.80	834		

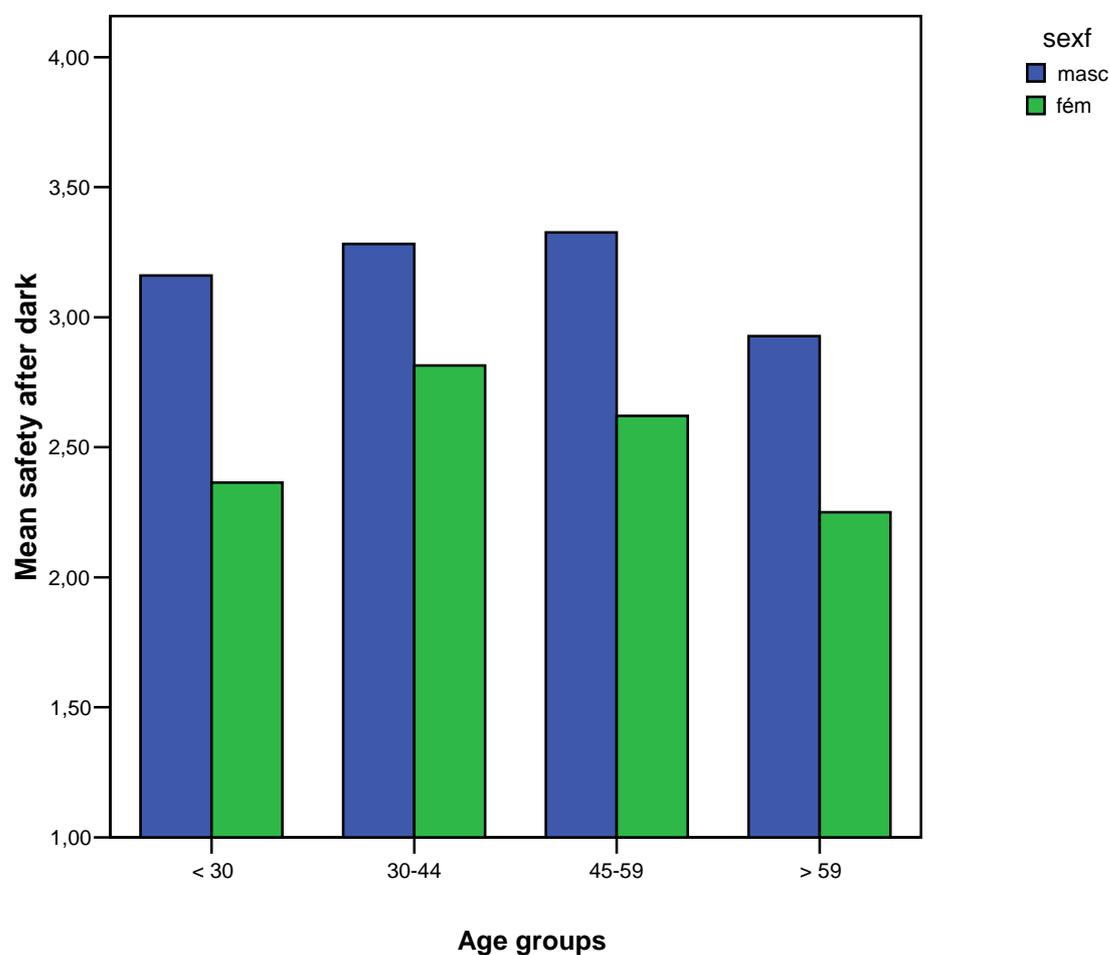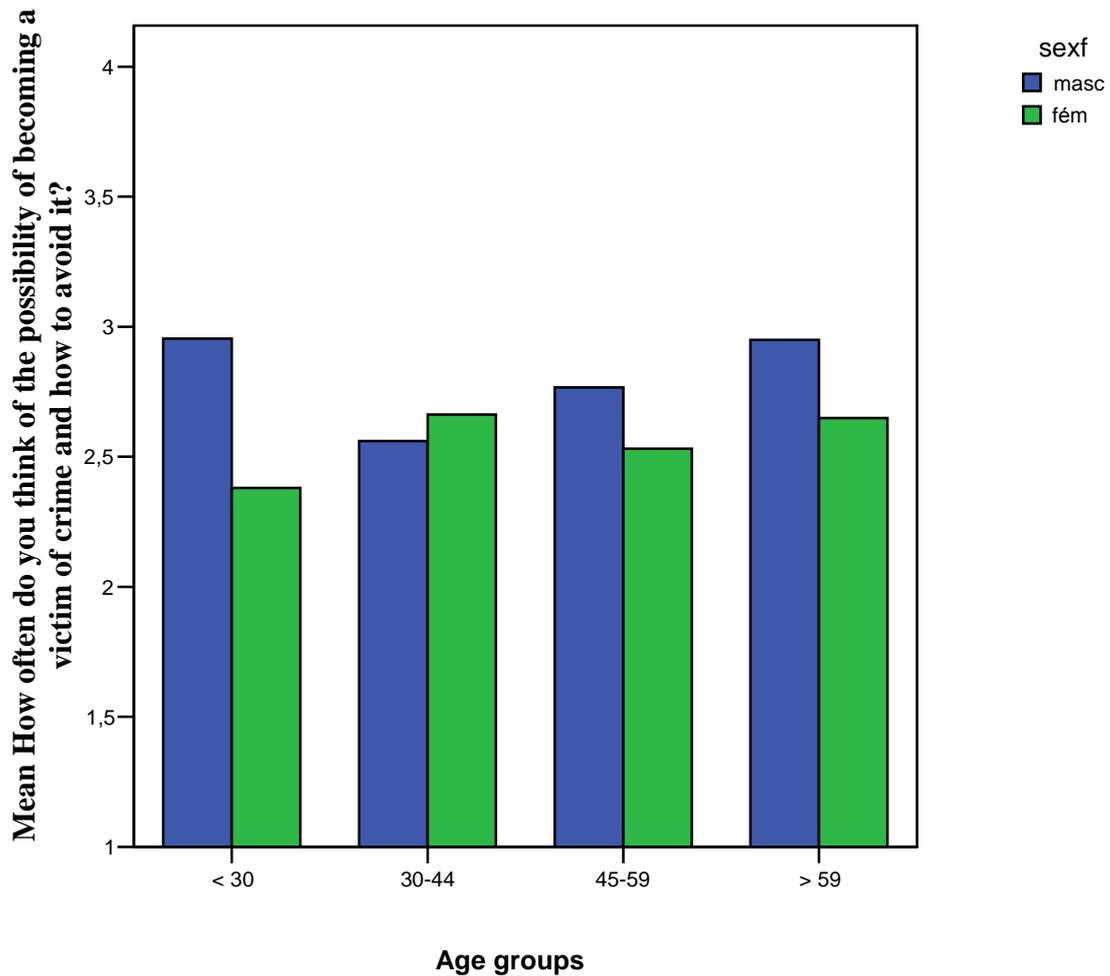Chart 1. Mean "Safety after dark" in the groups of age and gender.

Chart 2. Mean "projected victimization" in the groups of age and gender.

III.4. Life satisfaction in the light of victimization and feelings of safety.

The present section figures out possible links between criminal victimization, safety measures and overall life satisfaction. It can be assumed that criminal victimization as a critical life event should affect life satisfaction. As indicators of victimization, the overall five years prevalence of household and person crimes were entered in the regression as predictors. The two safety items were equally entered in the analysis, as feeling safe from victimization should be linked to satisfaction with life in general.

The item "On the whole, how satisfied (or dissatisfied) are you with your life in general? (life satisfaction)" with the response options "(1) very satisfied", "(2) fairly satisfied", "(3) not very satisfied" and "(4) not at all satisfied" was used as an indicator of general life satisfaction. It was entered in the analysis as criterion. For better interpretability the item was recoded in the direction of high satisfaction, meaning that high scores reflect high satisfaction.

The results from the regression analysis are presented in table 14. Tolerance and the variance inflation factor revealed no excessive multicollinearity between the predictors. The B-values of both five years victimization prevalence failed to reach statistical significance. Though, no relation between experienced victimization and general life satisfaction could be found. Following these results, one could state that victimization doesn't affect life satisfaction.

A different picture is drawn by the two safety items. Whereas the B-value of "projected victimization" fails statistical significance, "safety after dark" proves to be a significant predictor in that regression. These results show again, that both items account for different aspects of perceived crime related safety. Considering the entered predictors, life satisfaction could partly be a function of how safe the respondent feels, when he or she is walking alone in his or her area after dark.

One should take into account however, that the entered predictors explained only 5% of total criterion variance. To obtain the generated variance explanation by the single predictors, a second regression analysis was computed using the stepwise method. It could be shown that the 5% variance explanation is almost solely to be drawn back on the contribution of the "safety after dark" item, which was the only predictor entered in the analysis. Taken together, the prediction of the criterion "life satisfaction" by the used predictors was rather weak.

Table 14. Predicted Life Satisfaction by Person- and Household-Crime Victimization such as two safety items using linear regression.

	Unstandardized Coefficients			
	B	Std. Error	t	Sig.
Constant	2.94	0.09	33.81	0.00
Total Person Crime	0.04	0.05	0.74	0.46
Total Household Crime	0.07	0.05	1.50	0.13
Safety after dark	0.12	0.02	5.32	0.00
Projected victimization	0.02	0.02	0.86	0.39

Criterion: On the whole, how satisfied (or dissatisfied) are you with your life in general?
R^2=.05; F=9.21, p≤.01.

III.5. Conclusion

On the two available safety indicators, the respondents in Luxembourg showed mid-range to high feelings of safety. These feelings proved not to be related to actual victimization: the tendency to answer the two safety items was not affected by having become a victim of the assessed crimes in the last five years. In a next step, effects of age and gender on the two safety measures were analyzed. For the item "safety after dark" strong gender differences were found, in the way that men had higher scores (feeling safer) then women. Age constituted a smaller but still significant effect, with younger and older person feelings less safe compared to mid-aged people. The effects of age and gender on the other safety measure (projected victimization) proved to be rather small.

No relationship between victimization (on the person as on the household level) and life satisfaction could be found. Following these results, one could state that life satisfaction is independent of victimization. Furthermore, only one of the two safety measures was significantly related to life satisfaction (although the variance explanation is rather marginal).

These results should however be regarded cautiously. The focus will be set on two major problems of the above measurements. The first is the problem of content validity of the safety items. As already outlined in point III.2, both safety measures underlie conceptual difficulties. The "safety after dark" item measures more the acceptance of certain stereotype myths or unexplained fear of the dark then worries about crime and safety. The "projected victimization" item contains two discernable questions and it is not clear, to what question the respondent actually gives answer.

Another intervening influence may be the elapsed time the since the incident. In the present analyses a retrospective time period of five years was considered. Elapsed time may be not independent of effects resulting from coping effort. Though, the low correlation between victimization and safety could be partly traced back to the passed time since the incident.

The third problem is the choice of critical events to be linked to safety and life satisfaction. If one looks at the proposed crime categories in the EU ICS one could come to the conclusion that becoming the victim of one of the listed events should affect the perceived security and

well-being. However, the crime categories are not homogenous in the way that positive answer to any of the screening items can have quite different impetus. To give an example, the category "sexual incidents" regroups events like rape, attempted rape, indecent assault, and offensive behavior. Each of these events has quite different characteristics which have of course different effects on the ratings of security and well-being. Moreover, for the same type of criminal victimization, 74.1% of the victimized respondents, indicated that the incidents was very serious when asked about the seriousness of the incident. This means on the other hand, that one third of the respondents, indicated fairly serious or less, what is a further argument for the heterogeneity of the categories and the differential effects on the ratings.

The fourth issue is closely linked to third point as it deals with the victimization categories themselves. Not only the heterogeneity of the victimization categories can have an effect on the safety and the life satisfaction ratings but a more fundamental question can be raised. Is criminal victimization (in the available categories) a necessary condition of feeling insecure? Becoming a victim of crime might of course generate feelings of insecurity, since it emphasizes the victims' vulnerability to crime and might heighten the sensibility of the victim for potential risks. But regarding the rather low prevalence rates and taking into account the heterogeneity of the victimization classes, criminal victimization is a quite rare phenomenon. To this, victimization and insecurity are almost totally independent. Though it could be that it is not (solely) criminal victimization that generates insecurity feeling but other influences come to play. Such influences could be:

1. perceived risks of crime in the neighborhood or frequently attended places

2. infra-penal deeds or smaller delinquency in the neighborhood or areas that are often visited. Such incidents might seriously disturb safety feelings without being serious criminal deeds. In fact, "loosing the face" confronting a group of youth who behave disrespectfully can not be called criminal victimization since no criminal deed is committed. However, such incidents might have strong effects on the safety feelings of the victims.

3. the media broadcasting single impressive crimes from all around the world: the risk of victimization in the own area might be overestimated