

**THE CRIMINAL ACTIVITY AND LIFESTYLE OF
ROBBERS AND BURGLARS: A MODEL FOR
IDENTIFYING CRIMINAL BEHAVIOUR**

**Thesis submitted in accordance with the requirements of the
University of Liverpool for the degree of Doctor in Philosophy by**

ALINE LOBATO

November 2004

ABSTRACT

This research examines the behaviour of robbers and burglars and proposes a model for profiling these property offenders. The study was based on responses to 210 questionnaires completed by Brazilian male offenders in four prisons in three different states in Northeast Brazil. From the total of 210 offenders, 168 reported committing robbery and 148 reported committing burglary. The data were analysed statistically using the computer programs Smallest Space Analysis (SSA) and the Partial Order Scalogram Analysis (POSA), Correlations Test and Regression Analyses.

The research investigated the offenders' criminal activities and lifestyle characteristics in a search for patterns of behaviour. The model proposed for this analysis identifies the instrumental and the interpersonal facet elements with respective behavioural themes showing which actions tend to co-occur to form different patterns of behaviour of the offenders. The instrumental and the interpersonal facet elements are different from one another and drive and distinguish offenders' behavioural patterns. The instrumental element refers to behaviour reflecting the offenders' attention to the instrumental issues such as the planning of the crime and the desire to make the crime profitable. The interpersonal element refers to behaviour reflecting the offender's over attention towards the victim and the desire to establish a relationship with the victim during the commitment of the crime. Within these two main facet elements it was possible to identify four more specific facet elements of robbers and burglars in relation to lifestyle characteristics, namely *Family/Violence* and *Casual/Drugs* in the case of the *Interpersonal Facet Element*, and *Family/Criminality* and *Financial/Property* for the *Instrumental Facet Element*.

The results indicated that both the instrumental and the interpersonal patterns of behaviour are developed and reinforced by distinct lifestyle characteristics. Distinguishable criminal activities referring to these instrumental and interpersonal elements will combine with distinct lifestyle characteristics to reinforce one element or the other so helping to differentiate between offenders. The proposed model provides a framework for showing that the offenders' patterns of behaviour can be identified by the examination of the relationship between their criminal activities and their lifestyles. Considering the offender's lifestyle characteristics can also help to answer questions about the consistency of their behaviour over a period of time and from crime to crime.

This study concluded that distinct lifestyle characteristics are not just brought to and expressed at the crime scene but in fact are responsible for the development of different patterns of behaviour. The examination of the criminal actions in relation to lifestyle characteristics helps to define different patterns of behaviour and makes it possible to differentiate between offenders. The model proposed by this research provides additional information about the offenders' identity and in this way contributes to studies on Investigative Psychology and thus to the police investigation.

CONTENTS

SECTION I - INTRODUCTION

CHAPTER 1 - Defining Property Crimes

1.1 - Defining Robbery	1
1.2 Defining Burglary	3

CHAPTER 2 - The Criminal Activity of Robbers and Burglars 8

2.1 - An Instrumental Approach to Robbers' Behaviour	8
2.2 - An Instrumental Approach to Burglars' Behaviour	11

CHAPTER 3 - The Interpersonal Desire of Robbers and Burglars 17

3.1 - An Interpersonal Approach to Robbers' Behaviour	17
3.2 - An Interpersonal Approach to Burglars' Behaviour	20
3.2.1 - The Role of the Premises Targeted by the Burglars	25

CHAPTER 4 - The Lifestyle of Robbers and Burglars 32

4.1 - The Lifestyle Approach to Robbers' Behaviour	32
4.2 - The Lifestyle Approach to Burglars' Behaviour	34
4.3 - Distinguishing Between the Instrumental, Interpersonal and Lifestyle Context	40

SECTION II - THE PRESENT STUDY

CHAPTER 5 - The Data 42

5.1 - The Prisons Where the Data Were Collected	42
5.2 - Access and the Visits to the Prisons	44
5.3 - The Way the Data were Collected	45
5.4 - The Data Collection and the Characteristics of the Data	48

CHAPTER 6 - The Sample	50
6.1 - Characteristics of the Sample	50
6.2 - Selection of the Sample	51
CHAPTER 7 - The Procedures and Methods	53
7.1 - The Instrument for Data Collection	53
7.2 - The Procedure for Data Coding	56
7.2.1 - Variables Dealing With Criminal Activities	58
7.2.2 - Variables Dealing With Criminal History	59
7.2.3 - Variables Dealing With Criminal Actions Related to the Commitment of the Crimes	60
7.2.4 - Variables Dealing With Actions Towards the Victims	61
7.2.5 - Variables Dealing With Personal Background	61
7.2.6 - Variables Dealing With Family Background	62
CHAPTER 8 - The Hypotheses of the Present Study	64
8.1 - The Framework for Testing the Hypotheses	64
8.1.1 - The Structure of Robbers and Burglars Behaviour According to Instrumental Criminal Actions	65
8.1.2 - The Structure of Robbers and Burglars Behaviour According to Interpersonal Actions	66
8.1.3 - The Structure of Robbers and Burglars Behaviour According to their Lifestyle Characteristics	67
8.2 - Statistical Methods for Testing the Hypotheses	68
8.2.1 - Smallest Space Analysis – SSA	69
8.2.2 - Tests for Correlations and Strength of Associations Between Variables	72
8.2.3 - Partial Order Scalogram Analysis – POSA	73

SECTION III - RESULTS ON ROBBERY

CHAPTER 9 - The Study of Robbery	76
9.1 - Objectives of the Study of Robbery	76
9.2 - The Data and Sample on Robbery	76
9.3 - The Method and Procedure for the Analyses of Robbery	77
CHAPTER 10 - Descriptive Analysis of Robbery	78
10.1 - The Descriptive Analysis of the Robbery Data Set	78
10.2 - Criminal Activities of the Robbers	80
10.2.1 - Stolen Items	80
10.2.1 - Distribution of the Stolen Items	81
10.3 - Criminal History of the Robbers	82
10.3.1 - Minor Criminal Behaviour and Dishonest Actions of Robbers	82
10.3.2 - Criminal Records of the Robbers	83
10.3.3 - Convictions and Imprisonment of the Robbers	84
10.4 - Criminal Behaviour of the Robbers	85
10.4.1 - Robbers' Actions Related to the Commitment of the Crimes	85
10.4.2 - Robbers' Actions Towards the Victims	87
10.5 - Personal Background of the Robbers	88
10.5.1 - Educational Level, Skills and Marital Status of the Robbers	88
10.5.2 - Drugs, Other Addictions and Mental Status of the Robbers	89
10.6 - Family Background of the Robbers	91
10.6.1 - General Characteristics of Family and Parents of the Robbers	91
10.6.2 - Violence, Abuse and Criminality in the Family of the Robbers	92
10.7 - The Nature of Brazilian Robbers	93
CHAPTER 11 - SSA Analysis on Robbery	96
11.1 - The Results of the SSA Analysis on Robbery	96
11.2 - The Facet of Robbers' Criminal Behaviour	96
11.3 - Interpersonal Element of the Facet of Robbers' Criminal Behaviour	99
11.4 - Instrumental Element of the Facet of Robbers' Criminal Behaviour	102
11.5 - The Interpersonal Element as Opposed to the Instrumental Element of the Facet of Robbers' Criminal Behaviour	104
11.6 - The Facet of Robbers' Lifestyles	107
11.6.1 - The Element Family/Violence of Robbery	109
11.6.2 - The Element Casual/Drugs of Robbery	111
11.6.3 - The Element Family/Criminality of Robbery	113
11.6.4 - The Element Financial/Property of Robbery	116

CHAPTER 12 - Associations of the Variables on Robbery	119
12.1 - The Strength and Prediction of the Associations on Robbery	119
12.2 - The Strength of the Associations Within the Facet Elements of Robbery	120
12.2.1 - Associations Within the Element Family/Violence of Robbery	120
12.2.2 - Associations Within the Element Casual/Drugs of Robbery	123
12.2.3 - Associations Within the Element Family/Criminality of Robbery	128
12.2.4 - Associations Within the Element Financial/Property of Robbery	131
12.3 - The Prediction of the Associations Between the Variables of Robbery	135
12.3.1 - Predicted Associations of the Element Family/Violence of Robbery	135
12.3.2 - Predicted Associations of the Element Casual/Drugs of Robbery	138
12.3.3 - Predicted Associations of the Element Family/Criminality of Robbery	141
12.3.4 - Predicted Associations of the Element Financial/Property of Robbery	142
12.4 - The Strength of the Associations Across the Facet Elements of Robbery	146
12.4.1 - Associations Across the Element Family/Violence of Robbery	146
12.4.2 - Associations Across the Element Casual/Drugs of Robbery	148
12.4.3 - Associations Across the Element Family/Criminality of Robbery	150
12.4.4 - Associations Across the Element Financial/Property of Robbery	151
12.5 - Similarities and Differences Between the Facet Elements of Robbery	154
CHAPTER 13 - POSA Analyses on Robbery	156
13.1 - The Results of the POSA Analyses on Robbery	156
13.2 - The Thematic Structure of the POSA Analyses on Robbery	157
13.2.1 - The Use of POSA Analysis on Robbery	157
13.2.2 - The Variables Chosen for the POSA Analysis on Robbery	159
13.3 - POSA Analysis of the Element Family/Violence of Robbery	165
13.4 - POSA Analysis of the Element Casual/Drugs of Robbery	175
13.5 - POSA Analysis of the Element Family/Criminality of Robbery	183
13.6 - POSA Analysis of the Element Financial/Property of Robbery	191

SECTION IV - RESULTS ON BURGLARY

CHAPTER 14 - The Study of Burglary	199
14.1 - Objectives of the Study of Burglary	199
14.2 - The Data and Sample on Burglary	199
14.3 - The Method and Procedure for the Analyses of Burglary	200
CHAPTER 15 - Descriptive Analysis of Burglary	201
15.1 - The Descriptive Analysis of the Burglary Data Set	201
15.2 - Criminal Activities of the Burglars	202
15.2.1 - Premises Targeted by the Burglars	202
15.3 - Criminal History of the Burglars	205
15.3.1 - Criminal Records of the Burglars	205
15.3.2 - Convictions and Imprisonment of the Burglars	206
15.4 - Criminal Behaviour of the Burglars	207
15.4.1 - Burglars' Actions Related to the Commitment of the Crimes	207
15.4.2 - Burglars' Actions Towards the Victims	210
15.5 - Personal Background of the Burglars	211
15.5.1 - Educational Level, Skills and Marital Status of the Burglars	211
15.5.2 - Drugs, Other Addictions and Mental Status of the Burglars	212
15.6 - Family Background of the Burglars	214
15.6.1 - General Characteristics of Family and Parents of the Burglars	214
15.6.2 - Violence Abuse and Criminality in the Family of the Burglars	215
15.7 - The Nature of the Brazilian Burglars	216
CHAPTER 16 - SSA Analysis on Burglary	219
16.1 - The Results of the SSA Analysis on Burglary	219
16.2 - The Facet of Burglars' Criminal Behaviour	219
16.3 - Interpersonal Element of the Facet of Burglar' Criminal Behaviour	223
16.4 - Instrumental Element of the Facet of Burglar' Criminal Behaviour	226
16.5 - The Interpersonal Element as Opposed to the Instrumental Element of the Facet of Burglars' Criminal Behaviour	229
16.6 - The Facet of Burglars' Lifestyles	232
16.6.1 - The Element Family/Violence of Burglary	234
16.6.2 - The Element Casual/Drugs of Burglary	236
16.6.3 - The Element Family/Criminality of Burglary	239
16.6.4 - The Element Financial/Property of Burglary	243

CHAPTER 17 - Associations of the Variables on Burglary	250
17.1 - The Strength and Prediction of the Associations on Burglary	250
17.2 - The Strength of the Associations Within the Facet Elements of Burglary	250
17.2.1 - Associations Within the Element Family/Violence of Burglary	251
17.2.2 - Associations Within the Element Casual/Drugs of Burglary	254
17.2.3 - Associations Within the Element Family/Criminality of Burglary	258
17.2.4 - Associations Within the Element Financial/Property of Burglary	261
17.3 - The Prediction of the Associations Between the Variables of Burglary	264
17.3.1 - Predicted Associations of the Element Family/Violence of Burglary	265
17.3.2 - Predicted Associations of the Element Casual/Drugs of Burglary	267
17.3.3 - Predicted Associations of the Element Family/Criminality of Burglary	269
17.3.4 - Predicted Associations of the Element Financial/Property of Burglary	271
17.4 - The Strength of the Associations Across the Facet Element of Burglary	273
17.4.1 - Associations Across the Element Family/Violence of Burglary	273
17.4.2 - Associations Across the Element Casual/Drugs of Burglary	275
17.4.3 - Associations Across the Element Family/Criminality of Burglary	277
17.4.4 - Associations Across the Element Financial/Property of Burglary	279
17.5 - Similarities and Differences Between the Element of Burglary	281
CHAPTER 18 - POSA Analyses on Burglary	283
18.1 - The Results of the POSA Analyses on Burglary	283
18.2 - The Thematic Structure of the POSA Analyses on Burglary	284
18.2.1 - The Use of POSA Analysis on Burglary	284
18.2.2 - The Variables Chosen for the POSA Analysis on Burglary	286
18.3 - POSA Analysis of the Element Family/Violence of Burglary	293
18.4 - POSA Analysis of the Element Casual/Drugs of Burglary	300
18.5 - POSA Analysis of the Element Family/Criminality of Burglary	308
18.6 - POSA Analysis of the Element Financial/Property of Burglary	314

SECTION V - DISCUSSION AND CONCLUSIONS

CHAPTER 19 - APPLICATIONS OF THE RESEARCH	321
19.1 - A Structural Model to Analyse Criminal Behaviour	321
19.2 - Applying the Model	323
19.3 - The Usefulness of the Model: A Process of Measurement	332
19.4 - Separating Robbers from Burglars	334
CHAPTER 20 - PUTTING THE PRESENT STUDY IN PERSPECTIVE	336
20.1 - The Relevance to Research in Investigative Psychology	336
20.2 - Possible Future Implications for Police Investigation	339
20.3 - Limitations of the Present Research	341
20.4 - Further Research	342
20.5 - The Main Contributions to Knowledge	343
20.5.1 - Understanding the Lifestyles and Patterns of Criminal Actions of Brazilian Robbers and Burglars	343
20.5.2 - Interpersonal and Instrumental: Fundamental Processes of Criminality	345
20.5.3 - The Power of the SSA Analysis for Revealing the Structures in Criminal Data	346
20.5.4 - Using POSA Analysis to Demonstrate Classifications of Criminals	346
20.5.5 - Ways of Using MDS in Police Investigations	347
20.5.6 - The Usefulness of Interviews and Questionnaires to Study Criminal Behaviour	347
REFERENCES	349

APPENDICES

Appendix I - Questionnaire in English and in Portuguese	
a) Questionnaire Used to Collect the Data Translated to English	
b) Questionnaire in Portuguese as Used to Collect the Data	
Appendix II - The Variables Used in the Analysis of the Crime of Robbery	
Appendix III - The Variables Used in the Analysis of the Crime of Burglary	
Appendix IV - Data Matrix for the SSA Analysis on the Crime of Robbery	
Appendix V - Data Matrix for the SSA Analysis on the Crime of Burglary	

LIST OF TABLES

Table 6.1.1. The Sample Data Sets	50
Table 6.1.2. The Offenders Age	51
Table 7.2. An Example of the Matrix Produced by the Encoding of the Variables Used in the Present Study	57
Table 7.2.1. Variables Dealing With Criminal Activities	58
Table 7.2.2. Variables Dealing With Criminal History	59
Table 7.2.3. Variables Dealing With Criminal Actions Related to the Commitment of the Crimes	60
Table 7.2.4. Variables Dealing With Actions Towards the Victims	61
Table 7.2.5. Variables Dealing With Personal Background	62
Table 7.2.6. Variables Dealing With Family Background	63
Table 10.1.1. Variables for the Descriptive Analysis of Robbery According to Main Topics Proposed	79
Table 12.2.1. Significant Correlations Between the Variables Within the Element Family/Violence of Robbery	121
Table 12.2.2. Significant Correlations Between the Variables Within the Element Casual/Drugs of Robbery	125
Table 12.2.3. Significant Correlations Between the Variables Within the Element Family/Criminality of Robbery	129
Table 12.2.4. Significant Correlations Between the Variables Within the Element Financial/Property of Robbery	132
Table 12.4.1. Significant Correlations Between the Variables of the Element Family/Violence Across the Elements of Robbery	147
Table 12.4.2. Significant Correlations Between the Variables of the Element Casual/Drugs Across the Elements of Robbery	149
Table 12.4.3. Significant Correlations Between the Variables of the Element Family/Criminality Across the Elements of Robbery	151
Table 12.4.4. Significant Correlations Between the Variables of the Element Financial/Property Across the Elements of Robbery	153
Table 12.5.1. The Variables that Uniquely Correlate With the Elements of Robbery	155
Table 13.2.1. Variables for POSA Analyses on the Four Facet Elements of Robbery Identified by the SSA Analysis on Robbery	165
Table 15.1.1. Variables for the Descriptive Analysis on Burglary According to Main Topics Proposed	202
Table 17.2.1. Significant Correlations Between the Variables Within the Element Family/Violence of Burglary	253
Table 17.2.2. Significant Correlations Between the Variables Within the Element Casual/Drugs of Burglary	256
Table 17.2.3. Significant Correlations Between the Variables Within the Element Family/Criminality of Burglary	260
Table 17.2.4. Significant Correlations Between the Variables Within the Element Financial/Property of Burglary	263

Table17.4.1.	Significant Correlations Between the Variables of the Element Family/Violence Across the Elements of Burglary	274
Table17.4.2	Significant Correlations Between the Variables of the Element Casual/Drugs Across the Elements of Burglary	276
Table17.4.3	Significant Correlations Between the Variables of the Element Family/Criminality Across the Elements of Burglary	278
Table17.4.4	Significant Correlations Between the Variables of the Element Financial/Property Across the Elements of Burglary	280
Table17.5.1	Variables that Uniquely Correlate With the Elements of Burglary	282
Table18.2.1	Variables for POSA Analyses on the Four Facet Elements Identified by the SSA Analysis on Burglary	292

LIST OF FIGURES

Figure 8.2.1. POSA Analysis – Profiles Measurements	74
Figure 8.2.2. Different Types of POSA Analysis Partition	75
Figure 10.2.1. Percentages of Variables Indicating the Stolen Items	80
Figure 10.2.2. Percentages of Variables Indicating Distribution of the Stolen Items	82
Figure 10.3.1. Percentages of Variables Indicating Minor Criminal Activities and Dishonest Actions of the Robbers	83
Figure 10.3.2. Percentages of Variables Indicating Criminal Records of the Robbers	84
Figure 10.3.3. Percentages of Variables Indicating Convictions and Imprisonment of the Robbers	85
Figure 10.4.1. Percentages of Variables Indicating Robbers' Actions Related to the Commitment of the Crimes	86
Figure 10.4.2. Percentages of Variables Indicating Robbers' Actions Towards the Victims	87
Figure 10.5.1. Percentages of Variables Indicating Educational Level, Skills and Marital Status of the Robbers	89
Figure 10.5.2. Percentages of Variables Indicating Drugs, Other Addiction and Mental Status of the Robbers	90
Figure 10.6.1. Percentages of Variables Indicating General Characteristics of the Family and Parents of the Robbers	91
Figure 10.6.2. Percentages of Variables Indicating Violence, Abuse and Criminality in the Family of the Robbers	92
Figure 11.2.1. SSA Plot Illustrating the Facet of Robbers' Criminal Behaviour and the Facet Elements: Interpersonal and Instrumental	97
Figure 11.6.1. SSA Plot Illustrating the Facet of Robbers' Lifestyles and the Facet Elements: Family/Violence, Casual/Drugs, Family/Criminality and Financial/Property	108
Figure 13.1.1. Different Types of POSA Analysis Partition	157
Figure 13.3.1. POSA Main Plot for the Element Family/Violence of Robbery	167
Figure 13.3.2. "Elementary Education" Item Plot Y-axis/Robbery	168
Figure 13.3.3. "Violence in Family" Item Plot X-axis/Robbery	168
Figure 13.3.4. "Abused" Item Plot Y-axis/Robbery	168
Figure 13.3.5. "Violent Parents" Item Plot J-axis/Robbery	168
Figure 13.3.6. "Crime Person" Item Plot J-axis/Robbery	168
Figure 13.3.7. Combined Structure of the Element Family/Violence of Robbery	169
Figure 13.4.1. POSA Main Plot for the Element Casual/Drugs of Robbery	176
Figure 13.4.2. "Drugs" Item Plot Y-axis/Robbery	177
Figure 13.4.3. "Physical" Item Plot Y-axis/Robbery	177
Figure 13.4.4. "Verbal" Item Plot X-axis/Robbery	177
Figure 13.4.5. "£10-100" Item Plot J-axis/Robbery	177
Figure 13.4.6. "Object Low" Item Plot P-axis/Robbery	177
Figure 13.4.7. Combined Structure of the Element Casual/Drugs of Robbery	178

Figure 13.5.1. POSA Main Plot for the Element Family/Criminality of Robbery	184
Figure 13.5.2. “Criminal Family” Item Plot X-axis/Robbery	185
Figure 13.5.3. “Young” Item Plot Y-axis/Robbery	185
Figure 13.5.4. “Car” Item Plot P-axis/Robbery	185
Figure 13.5.5. “Disguise” Item Plot P-axis/Robbery	185
Figure 13.5.6. “Plan” Item Plot J-axis/Robbery	185
Figure 13.5.7. Combined Structure of the Element Family/Criminality of Robbery	186
Figure 13.6.1. POSA Main Plot for the Element Financial/Property of Robbery	192
Figure 13.6.2. “Object High” Item Plot Y-axis/Robbery	193
Figure 13.6.3. “Select Victim” Item Plot X-axis/Robbery	193
Figure 13.6.4. “Weapon” Item Plot J-axis/Robbery	193
Figure 13.6.5. “Group” Item Plot J-axis/Robbery	193
Figure 13.6.6. “Conv+3” Item Plot Q-axis/Robbery	193
Figure 13.6.7. Combined Structure of the Element Financial/Property of Robbery	194
Figure 15.2.1. Percentages of Variables Indicating the Premises Targeted by the Burglars	203
Figure 15.3.1. Percentages of Variables Indicating Criminal Records of the Burglars	206
Figure 15.3.2. Percentages of Variables Indicating Convictions and Imprisonment of the Burglars	207
Figure 15.4.1. Percentages of Variables Indicating Burglars’ Actions Related to the Commitment of the Crimes	208
Figure 15.4.2. Percentages of Variables Indicating Burglars’ Actions Towards the Victims	210
Figure 15.5.1. Percentages of Variables Indicating Educational Level, Skills and Marital Status of the Burglars	212
Figure 15.5.2. Percentages of Variables Indicating Drugs, Other Addiction and Mental Status of the Burglars	213
Figure 15.6.1. Percentages of Variables Indicating General Characteristics of the Family and Parents of the Burglars	215
Figure 15.6.2. Percentages of Variables Indicating Violence, Abuse and Criminality in the Family of the Burglars	216
Figure 16.2.1. SSA Plot Illustrating the Facet of Burglars’ Criminal Behaviour and the Elements: Interpersonal and Instrumental	220
Figure 16.6.1. SSA Plot Illustrating the Facet of Burglars’ Lifestyles and the Facet Elements: Family/Violence, Casual/Drugs, Family/Criminality and Financial/Property	233
Figure 18.1.1. Different Types of POSA Analysis Partition	283
Figure 18.3.1. POSA Main Plot for the Element Family/Violence of Burglary	294
Figure 18.3.2. “House” Item Plot X-axis/Burglary	295
Figure 18.3.3. “Crime Person” Item Plot X-axis/Burglary	295
Figure 18.3.4. “Abused” Item Plot Y-axis/Burglary	295
Figure 18.3.5. “Violent Parents” Item Plot J-axis/Burglary	295
Figure 18.3.6. “Violence in Family” Item Plot J-axis/Burglary	295
Figure 18.3.7. Combined Structure of the Element Family/Violence of Burglary	296
Figure 18.4.1. POSA Main Plot for the Element Casual/Drugs of Burglary	301

Figure 18.4.2. “Restaurant” Item Plot Y-axis/Burglary	302
Figure 18.4.3. “School” Item Plot Y-axis/Burglary	302
Figure 18.4.4. “Physical” Item Plot X-axis/Burglary	302
Figure 18.4.5. “Drugs” Item Plot J-axis/Burglary	302
Figure 18.4.6. “Verbal” Item Plot J-axis/Burglary	302
Figure 18.4.7. Combined Structure of the Element Casual/Drugs of Burglary	303
Figure 18.5.1. POSA Main Plot for the Element Family/Criminality of Burglary	309
Figure 18.5.2. “Criminal Family” Item Plot X-axis/Burglary	310
Figure 18.5.3. “Flat” Item Plot Y-axis/Burglary	310
Figure 18.5.4. “Young” Item Plot J-axis/Burglary	310
Figure 18.5.5. “Conv-20” Item Plot J-axis/Burglary	310
Figure 18.5.6. “Disguise” Item Plot P-axis/Burglary	310
Figure 18.5.7. Combined Structure of the Element Family/Criminality of Burglary	311
Figure 18.6.1. POSA Main Plot for the Element Financial/Property of Burglary	315
Figure 18.6.2. “Plan” Item Plot X-axis/Burglary	316
Figure 18.6.3. “Office” Item Plot Y-axis/Burglary	316
Figure 18.6.4. “£10,000,00” Item Plot J-axis/Burglary	316
Figure 18.6.5. “Select Premise” Item Plot J-axis/Burglary	316
Figure 18.6.6. “Escape Route” Item Plot P-axis/Burglary	316
Figure 18.6.7. Combined Structure of the Element Financial/Property of Burglary	317

ACKNOWLEDGEMENTS

I would like to express my gratitude to Prof. David Canter, my supervisor, for his intellectual stimulation, guidance and criticism; also for his patience over the entire period of my work in England.

I am indebted to the Conselho Nacional de Desenvolvimento Científico e Tecnológico CNPq, for financial support.

Thanks to Dr. Gabriella Salfati and Dr. Laurence Alison for giving advice about the field of Investigative Psychology and to Dr. Donna Young for the suggestions about the construction of the questionnaire used in this research.

I am grateful to my friends; master and doctoral students at The University of Liverpool in the Centre for Investigative Psychology for their immense emotional and professional help. I would like to mention some of these friends for their special help, Louise Porter, Marion Lloyd, Marriane Saether, Paul Taylor, Karen Shalev, Elizabeth Kempen, Brent Snook, Brenda Snook, Craig Bennett. Acknowledgements on this point are also due to the staff of the Department of Psychology of the University of Liverpool that so kindly helped me with all my requests. I also would like to thank all those that participated in the process of my education, such as my teachers at school and at the State University of Paraíba-Brazil.

Acknowledgements are also due to the following people and institutions related to them that supported the data collection: Forum de Campina Grande, Paraíba-Brazil, Judges Dr. Ricardo Vital, Dr. Romero Carneiro Feitosa and Dr. Rodrigo Marques Silva Lima; Presídio do Serroão, Campina Grande, Paraíba-Brazil, Dr. João da Mata Medeiros Filho and Dr. José de Almeida Bezerra; Presídio João Chaves, Natal, Rio Grande do Norte-Brazil; Presídio de Segurança Máxima de Alcacuz, Natal, Rio Grande do Norte-Brazil, Dr. Ricardo Roland Rocha; Instituto Presídio Prof. Olavo Oliveira, Dr. José Bento Laurindo de Araújo and Dr. Wandemberg de Sousa Matias.

I would like to thank all the prisoners that freely collaborated in this research and especially those who helped me during the data collection as my assistants. Unfortunately their names cannot be mentioned because of ethical reasons and to preserve their identity.

I would like to thank my family, especially my husband Dr. Howard Pearson, for help in correcting my English and providing intellectual argument with love, and my mother Iêda Lobato Costa, my father Audo Pereira Costa and my brothers Audo Pereira Costa Junior and Bosco Lobato Costa, for their intense emotional support and encouragement.

...and God for giving me health to continue my way towards my Ph.D. degree and wisdom to be serene and overcome the difficult moments that existed.

CHAPTER 1

DEFINING PROPERTY CRIME

1.1 - Defining Robbery

Robbery is a serious crime that has rapidly increased in the last few decades in the United States and in Britain, and other European countries (see Feeney, 1986; Blackburn, 1993) and also in Brazil, where the data for this research were collected (Veja, 1996). According to the Brazilian Penal Code a person is guilty of robbery if they “Steal for themselves or for others property belonging to another through grave threat or violence, and before, during or after doing so, by any means that seeks to reduce to an impossibility resistance by fear or force (Codigo Penal Brasileiro 1999; Decreto-lei 3.688; 1941; Art. 157).

In England and Wales a person is guilty of robbery if he/she “Steals property belonging to another and immediately before or at the time of doing so, and in order to do so, uses force or puts or seeks to put another in fear of them and there being subjected to force” (Theft Act, 1968). Thus, robbery is basically defined in the same way by both Brazilian and English law. However, in reality robbery covers a spectrum of criminal activity, much more than it is possible to write down in any country penal code. Indeed, robbery encompasses acts from large commercial robberies down to minor acts such as students stealing money from their classmates or people stealing money from someone at home, using force or by creating fear.

Despite robbery being considered a serious crime, basically because of the indisputable psychological damage it causes the victim through the fear experienced, there is still very little research on the subject. The existing studies are restricted to descriptive analyses based on issues such as target selection, offenders' motivation, victim resistance and the use of weapon (Gabor *et al*, 1987; Koppen and Jansen, 1998). Although these studies provide important concepts, which can contribute to the effectiveness of policing and crime prevention strategies, they seem to add little to efficient criminal investigations. This is basically because most of this research emphasises the different levels of various offenders' abilities, as a way of differentiating between them, but few of these studies consider psychological issues as being important in identifying variations in offending behavioural style.

As a consequence of this, the literature contains various articles on the typologies of robbers, and of criminals in general, that ignore psychological related issues (Walsh, 1986; Matthews, 2002). For example, Matthews (2002) provides an account of how the criminals may perform during their crimes but says nothing about who they are or about how these criminals might behave when not in a crime situation. Thus, it seems that no effort has been made to relate the identified skills employed during offences with psychological issues and lifestyle characteristics. Such an approach could be very helpful in identifying these individuals' through their distinct patterns of behaviour.

It is important to emphasise that in this present research the existence and importance of typologies of robbers based on such issues as the degree of planning, skills employed during the offence etc, are not being dismissed. On the contrary, they are given serious consideration but an attempt has been made to empirically link them to what are considered to be equally important psychological issues such as the levels of interpersonality, impulsivity, etc. Furthermore it is fundamental to explain that these psychological issues are being considered in relation to robbers' lifestyle characteristics.

In other words, what is being emphasised is the importance of analysing the robber's pattern of behaviour as displayed during the offence in relation to both the degree of skill or ability and the psychological issues involved when considering the robbers' lifestyle characteristics. Thus, using the benefits of empirical analysis, the analysis of robbery aims to combine known information on interpersonal characteristics, planning ability and lifestyle patterns to the study of robbers' behaviour.

1.2 - Defining Burglary

Originally burglary was defined in England and Wales as breaking and entering and in order for an offence to be recognised as burglary the physical breaking into the property needed to occur (see Mawby, 2001). After the 1968 Theft Act in England and Wales a person is guilty of burglary if: a) he enters any building or part of a building as a trespasser and with intent to commit any such offence; as is mentioned in the subsection below, or b) having entered any building or part of a building as a trespasser he steals or attempts to steal anything in the building or that part of it or inflicts or attempts to inflict on any person therein any grievous bodily harm (Theft Act, 1968).

The following incidents are therefore classified as burglaries in England and Wales:

- (i) Breaking-in to a home through a door or window.
- (ii) The use of other methods (e.g. credit card) to enter.
- (iii) Entering through an open window.
- (iv) Entering through an open door.
- (v) Entering with permission, where the offender used trickery to gain access.

In Brazil, where the data for this present research were collected, the Brazilian Penal Code defines robbery and burglary in the first instance using the same words but burglars receive longer prison sentences than do robbers. Accordingly, as with robbery, burglary is primarily defined as "Stealing for themselves or for others,

property belonging to another or attempts to through threat or violence, before, during or after the event, by any means that seeks to reduce or attempts to reduce the possibility of resistance by using fear or force” (Codigo Penal Brasileiro 1999; Decreto-lei 3.688; 1941; Art 155). More specifically, according to the Brazilian Penal Code, burglary is defined as having entered any premises to steal or attempt to steal or inflict or attempt to inflict on any person bodily harm and according to the following amendments:

The additions or amendments, in relation to burglary being as follows:

- (i) With destruction or breakage of obstacles during the act of stealing.
- (ii) With abuse of confidence, or by means of fraud, escalation or dexterity.
- (iii) With use of a false key.
- (iv) Mediated by two or more people.

According to the Brazilian Penal Code the penalty increases:

- (i) If the crime is practised during the period of nocturnal rest.
- (ii) If a weapon is used.
- (iii) If during the crime the perpetrator maintains the victim under his power restricting their freedom.
- (iv) If violence and serious threat are exerted.
- (v) If the violence during the crime results in bodily harm or death.
- (vi) Note: If the crime is a first offence and if the thing stolen is of low value, the judge may reduce the main penalty by between 1 to 4 years imprisonment.

Thus, similar issues in both Brazilian and English Law basically define burglary. In Brazil and England there is no requirement for anything to actually be stolen for an offence to be defined as burglary. In both countries for an offence to be recognised as burglary no longer depends on the use of physical force to enter the property, merely that the offender had no legitimate right to be on the property. Both countries also consider as a crime attempted burglary, where the offender acted in preparation

for the offence but did not actually gain entry. In both countries for an offence to be considered as burglary it is not necessary an encounter between the offender and the victim or for the premise to be occupied at the time of the offence. In both countries it is considered a burglary if the offender steals or attempts to steal anything or inflict or attempt to inflict on any person therein any grievous bodily harm. Also emphasised in the law of both countries, and which may influence the penalty, are issues related to aggravated burglary, such as use of violence and force, possession of weapon, etc.

Indeed it is important to mention these similarities because in other countries the definition can be quite different. For example, in Germany both entry through an open door and entry without permission are classified as simple theft (see Mawby, 2001). Therefore, for the purpose of the present study, and not for specific legal proceedings, the term burglary will be considered as the illegal entry into homes and other premises such as garages, offices, shops, etc.

One key issue relating to burglary is that this crime has increased significantly in recent years in many parts of the world, including Brazil (Kershaw *et al*, 2000). Michael (1983) when considering domestic burglaries, pointed to a rise in reported burglaries in England and Wales from 252,772 in 1979 to 664,188 in 1992, a rise of 163% in 13 years. Subsequent to Michael's analysis the police records for burglary in England and Wales showed a decline for this crime from 661,194 in 1994 to 472,960 in 1998, a drop of 28% (Barclays and Tavares, 2000). However it is know that not all crimes are reported to the police which gives rise to uncertainty in the statistics. Also, for example, reporting rates for attempted burglaries are lower than for completed burglaries and only half of the burglaries where nothing was stolen were reported (see Mawby, 2001).

According to official statistics burglary rates also appear to be higher in England and Wales and other industrialised societies. However as pointed out by some studies (see Jones, 2001) it is important to emphasise that rates of reporting are much lower in less developed countries. Indeed, when considering studies that take

respondents' answers about who had been burgled rather than official statistics as reported to the police, the results on burglary rates are quite different. Thus, some caution needs to be exercised when discussing burglary rates and the differences between official and unofficial statistics. The way the data were collected in a study, i.e. by the use of official statistic or by the use of self-report tools, needs to be clearly defined in the research.

Having discussed the main issues related to reported rates of burglary, and while reports may vary, what is obvious is that the crime of burglary is becoming an increasing source of concern to the police and public. This is basically because recently it has been recognised that the impact of burglary on the victim is indeed much wider than just the monetary loss of property.

In relation to the financial context, Budd (1999), for example, pointed out that the cost of burglary in England and Wales in 1997 totalled £950 million, with damage during the burglaries an additional £450 millions. However, although burglary is still traditionally labelled a property offence, it is the psychological effects that are frequently mentioned by those who have been burgled and research in this area has identified considerable emotional and psychological damage to the victims of burglary (Maguire, 1980).

Mawby (2001) emphasised that burglary victims reported difficulty in sleeping after the event. Maguire and Kynch (2000) also reported considerable levels of insomnia amongst victims of burglary. Mawby (2001) also emphasised high levels of fear amongst victims usually based on the concern that the burglar might return. Importantly, these researches pointed out that this fear affects peoples' behaviour to the extent of discouraging victims from continuing to live in their homes.

Dugan (1999) found that being the victim of burglary increases the probability of moving home within the following year by 12%. Also one of the most common experiences mentioned was the feeling of invasion of privacy, particularly in burglaries of homes where it accentuated the feeling of the home no longer being a

safe place, a secure territory (see Mawby, 2001). Thus, in general, the daily lives of people are affected by the actions of those individuals who break into a property and more particularly into homes.

Because of the psychological impact, and the frequency of burglary, research has shown that burglary is the crime that people most fear (MORI, 1994). This is aggravated by the fact that the police are limited in their ability to detect burglary, which increases fear in the population. In England despite the majority of burglaries being reported (73%) just one in ten is cleared up (11%) and only three in every hundred results in a caution or a conviction (Home Office Research Paper, 1998).

In fact, as reported by Greenberg (1981), the offenders themselves perceive their chances of being caught as generally low and indeed offenders often are apprehended as a result of a “tip-off” or “grass” from another offender. This difficulty in detecting burglary is related to issues such as: burglary not being reported until some hours after it has happened; also in most cases burglars leave no evidence; and particularly in the case of house burglary, because of the private nature of the locations in which the crime occurs, nobody actually sees the burglar.

However, despite the difficulties in detecting burglary and maybe because of that, the economic, social and psychological impacts of burglary have stimulated research to address the problem. The main aim of these studies has therefore been to develop models to identify burglars in order to facilitate detection. Burglary is traditionally recognised as a property crime, thus often these researches have emphasised issues related to the level of skill or craft employed by the burglars. Thus, the majority of these studies have focused on the instrumental aspect of the crime of burglary and this will be discussed next.

CHAPTER 2

THE CRIMINAL ACTIVITY OF ROBBERS AND BURGLARS

2.1 - An Instrumental Approach to Robbers' Behaviour

Despite the apparent importance of analysing criminal behaviour by considering the interpersonal approach, the instrumental dimension has nevertheless dominated when studying property crimes. In many studies this instrumental dimension in the context of planning has been the main focus when analysing robbers' behaviour (Bennet and Wright, 1984; Walsh, 1986). The instrumental context is directly related to level of skills or craft abilities displayed during the offence and serves, for example, to identify the degree of professionalism shown by the robber. As a consequence, certain types of behaviour will be expected from a more professional robber but not from a less professional one and vice-versa. As a parallel to this, robbers' behaviour has also been studied linking this planning context to rationality (Feeny and Weir, 1986).

Robbers have been classified or typed according to the degree of planning employed in their crimes. For example, Walsh (1986) distinguishes between 'planners' and 'opportunists' and defines *planners* as cold individuals who plan their crimes controlling their emotions during a crime and avoiding unnecessary violence. For these *planners* the weapon is instrumental and they are strongly committed to the culture of crime. The *opportunists* on the other hand will not plan their offences and often commit their crimes under the influence of alcohol or drugs. These robbers will engage in unthinking actions and will act on the spur of the moment.

Petersilia *et al* (1977), considering not just planning but also criminal career development, suggested the typology '*intensive*' and '*intermittent*'. *Intensive* criminals have an active criminal career expressed by the commitment of a large number of offences. These robbers are persistent criminals who will have developed their skills and who search for better targets. In contrast, the *intermittent* criminals will commit crimes when it is opportune and so their criminal career will be related to periods of activity rather than continuous criminal activity. *Intermittent* criminals will also have less criminal skills and will be more simplistic when committing their crimes.

Matthews (2002), when considering commercial robberies, proposed the terms '*amateur*', '*intermediate*' and '*professional*' to distinguish between different types of robbers. He described *amateurs* as novices who do not plan their crimes and who show a low level of organization, selecting accessible and vulnerable targets. These robbers tend to operate alone and steal small amounts of money with which to buy necessities or to support their addiction to drugs. The *intermediate* robbers show a better level of planning and are less governed by drugs than the amateurs. Despite the *intermediates* being bettered organised they do not show a strong commitment to robbery and thus engage in other types of criminal activity. For the *professionals* "robbery is more of a job and a way of life" (Matthews, 2002; pg. 28). These professional robbers plan their crimes for weeks, tend to choose lucrative targets and work in groups of three or four members. These robbers are likely to use balaclavas to hide their identity, more sophisticated equipment and consider issues such as escape routes.

The problem with these concepts involving professionalism and rationality is that these approaches do not recognise the psychological issues behind the actions. Thus from this point of view, professionalism for example is just related to the degree of planning involving issues such as being well armed, working in groups, etc. The psychological mechanisms related to the capacity to plan, such as self-control, levels of thinking, etc are often forgotten. The rationality context merely refers to the extremities between rational/irrational actions and what is often forgotten are the

issues that relate to the balance between impulsivity and rationality as influencing for example peoples' capacity to plan and their behaviour. Matthews (2002) criticised the rational choice theory, which for him is based on an "unrealistic dichotomy of rational/irrational". But he did not suggest any alternative approach that takes into account psychological issues such as levels of impulsivity and interpersonality when studying criminal behaviour.

Other studies have considered the balance between rationality and impulsivity when analysing offending behaviour in general and robbers' behaviour in particular. In these studies rationality is understood as being related to the decision-making process working towards the achievement of the goals; while impulsivity is related to the decision-making process in terms of confused thinking and lack of direction (Alison *et al*, 2000). In fact, these studies when analysing rationality and impulsivity seem to be concentrating on psychological issues such as emotionality, delay of gratification, intelligence, cognitive thinking patterns, social skills, self-control, self-esteem and self-derogation (see Eysenck, 1964; McGuire and Priestly, 1985; Walsh, 1986; Blackburn, 1993). Thus, psychological reasons behind the offenders' behaviour are actually being taken into consideration.

However, the problem is that when these important psychological issues are considered there is little effort made to link these psychological issues with the individuals' specific patterns of behaviour. For example, it can be said that the offender who uses a balaclava demonstrates planning in the execution of his crime and has thus developed his cognitive thinking and as a consequence is a more self-controlled individual. But from where does this cognitive thinking, this self-control and this capacity to plan come from which ends in the specific action of using a balaclava? On which other occasion does the criminal display this type of behaviour? Are they displayed in a similar way in different life situations? In trying to answer these questions the present study will later address how these psychological issues may be developed and if possible where they come from, as this can help in identifying a criminal's behaviour, and more particularly, robbers' patterns of behaviour.

2.2 - An Instrumental Approach to Burglars' Behaviour

Burglary is recognised as a crime related to material gain and consequently the instrumental dimension has dominated research in this field, as in robbery analysis. The focus has been on issues such as motivation to commit the crime, offender decision making, target selection, risk consideration, planning versus opportunist burglaries, etc. Consequently several authors have proposed typologies of burglars with the aim of differentiating between offenders by identifying their different offence style. Thus overall, these studies attempt to classify burglars by considering levels of professionalism and opportunism based on the level of planning the burglars' display (Bennett and Wright, 1984; Cromwell *et al*, 1991).

In relation to the motivation to offend, Bennett and Wright (1984) suggest six categories underlying the motivation issues. These are listed here in order of importance as: 1) Instrumental needs, the need for money; 2) Influence of others, influence of peers as important in the decision to offend; 3) Influence of presented opportunities, discovery of an attractive or vulnerable target; 4) No precipitating factor, i.e. no other influence, the individual is constantly motivated; 5) Expressive needs, feelings such as depression arousing the desire to offend; and 6) Alcohol, effect of alcohol as influencing the decision to offend. Scarr (1973) suggested, in order of importance, four motivations: 1) Need for money to buy drugs; 2) Need for money to lead a "fast expensive life"; 3) Social motives, gangs, delinquent subcultures, peer approval, status; 4) Idiosyncratic motives, kicks, thrills, pathological behaviour, rebellion.

Still related to motivation, Reppetto (1974) emphasised the offenders' need for money as the primary motivation for their crimes and also suggests subsidiary satisfactions, such as excitement, revenge and curiosity. Reppetto (1974) also pointed to excitement as a motive as mentioned most often by young burglars and to a less extent by older ones. Rengert and Wasilchick (1985) also concluded that the main motive for committing a burglary was to obtain money, but they emphasised that this need for money may arise out of psychological or expressive needs.

Cromwell *et al* (1991) also pointed to the need for money in relation to expressive needs as the main motivation. He emphasises the need to obtain money to buy drugs and alcohol and for supporting the activities related to fun and partying.

Bennett and Wright (1984) tried to link specific motives identified by them to four offenders' characteristics, namely: age, number of admitted burglaries, number of previous convictions and type of sentence. They found no significant differences between offenders in relation to these four variables. However, they emphasised a tendency for offenders who committed many burglaries to not be motivated by precipitating factors. Cromwell *et al* (1991) similarly concluded that younger, less experienced burglars were more motivated by precipitating factors, such as the thrill and excitement than the experienced older ones. Shover (1991) also pointed out that young, less experienced burglars committed spontaneous offences driven by the motives of fun and excitement.

Another issue related to the studies on burglars' behaviour focuses on the offenders' decision-making processes. This is because decision-making is basically associated with the choice of whether or not to commit a criminal act and closely related to this is the offender's consideration of the risk of recognition and arrest. Risk issues are taken as being important in helping differentiate between offenders since some of them will refuse to consider the risk of arrest even after several apprehensions, while others will take risk seriously (Maguire, 1982; Bennett and Wright, 1984). Cromwell *et al* (1991) linked lack of risk consideration to limited rationality, which means the individual lacks the ability to carefully consider alternatives and consequences before making a decision. In fact, several studies suggest that burglars will commit crimes of opportunity (Scarr, 1973; Cook, 1989).

The issue of opportunity versus planning offences leads to, and influences, another issue used to differentiate between burglars and that is target selection. Some typologies of burglars consider the differences between opportunistic and planning offences in relation to target selection to examine burglary. Bennett and Wright (1984) for example, suggested three typologies: '*the opportunistic offence*', '*the*

search and *'the planned offence'*. *The opportunistic offence* is precipitated by the discovery of criminal opportunities related to attractive or vulnerable targets. In this case the offence is committed there and then with no element of previous planning. *The search* refers to the searching for a suitable target and this may involve even travelling to a particular area where the target is. *The planned offence* refers to careful planning and this type of crime differs from the other two because there is a time gap between the selection of the target and the commitment of the offence.

Cromwell *et al* (1991) also considered issues such as high or lower levels of planning, target selection and burglars' experience when making distinctions between criminals. They suggested three typologies to differentiate between burglars, namely: *'the novice'*, *'the journeymen'* and *'the professionals'*. *The novices* are at the beginning of their criminal careers as burglars and learn from older more experienced burglars. *The journeymen* are experienced burglars who search out suitable targets and create opportunities and so are similar to the category *search* identified by Bennett and Wright (1984). *The professionals* are differentiated by their developed criminal skills, organisational ability and status within the criminal community; these burglars do not usually commit opportunistic crimes, they plan well their offences.

Despite the conclusions of Reppetto (1974), that many burglars could be classified as 'opportunistic', Bennett and Wright (1984) found that over half of the burglars in their sample planned their offences and few burglars could be classified as 'opportunistic'. However, Cromwell *et al* (1991) suggested that burglars often described their crimes as it should be and not actually as it was and so will show a tendency to not admit to their crimes as being opportunistic. However most of the research suggests that the majority of burglaries are planned and very few are opportunistic (Maguire, 1982; Wiersma, 1996). Yet, researches focusing on juvenile burglars reveal different results and show that most young inexperienced offenders commit opportunistic crimes and this is basically because they have not developed their criminal skills and criminal minds.

The relationship between target selection and the decision making process is also based on the combination of several elements. These elements may influence the burglars' target selection and decision whether or not to commit the crime, they are issues such as the possibility of escape routes, presence of alarms, dogs, etc. Bennett and Wright (1984) found that target selection comprises three main problems that burglars face when deciding to burgle: whether they can get away (risk), whether they can make anything of it (reward) and whether they can do it (ease).

Several studies also pointed to three main components influencing target selection, namely: surveillability, occupancy and accessibility (Maguire, 1982; Bennett and Wright, 1984; Cromwell *et al*, 1991). Surveillability refers to the extent to which passers-by and neighbours oversee the premises. Occupancy refers to whether the premises are occupied or not, as suggested by the presence of a car, noise, lights, etc. Accessibility refers to the presence on the premises of special locks and alarms, if a window has been left open, etc.

Cromwell *et al* (1991) and Bennett and Wright (1984) pointed to surveillability as being a prime factor in target selection, followed closely by occupancy that was considered by Maguire (1982) as the leading factor. Maguire (1982) found for example that the vast majority of the burglars selected a property that was unoccupied. He also pointed out that burglars were less preoccupied with the ease or difficulty in breaking-in. According to Maguire (1982) this is because most burglars can by-pass most security systems, despite being more likely to be deterred by alarms and mortise locks. Bennett and Wright (1984) also concluded that burglars are more likely to be deterred by alarms or even by the presence of dogs, because these are seen as alternatives to human occupation.

Thus, the commissioning of a burglary is the result of a multistage and combined process and other elements come to play a part. Elements such as the ones related to the method of entry, the search for rewards, etc are important. These are components of the overall situation so they are going to influence and be influenced by the other elements mentioned before, namely the motivation to offend, the decision making

process, target selection, levels of planning, etc. Research has also focused on the examination of these additional components in an attempt to differentiate between burglars' and their offending styles (Cromwell *et al.* 1991; Kershaw *et al.* 2000).

In terms of the method of entry Maguire (1982) concluded that most burglars would take advantage of an unlocked door or window or simply push or smash their way in. He emphasised that more sophisticated methods such as glass cutting or picking locks were more rare. Maguire also found that windows were more often the entry point than doors. In relation to rewards, Cromwell *et al.* (1991) suggested that the expectation of reward will increase as burglars gain experience and thus search for properties offering greater rewards. Directly related to reward is the kind of item stolen and this may also help in differentiating between types of burglars.

The most likely items to be taken are jewellery, video equipment and cash, with stereo and televisions also commonly stolen; cheques and credit cards are less likely to be stolen from properties (Kershaw *et al.* 2000). The most frequently stolen objects are those that are easier to place on the stolen goods market. This issue of the disposal of stolen items is related to the levels of the criminal network. To some extent the burglar's ability to market stolen goods determines the success of his/her criminal activities. Research suggests that the more experienced criminals with access to an established criminal network will more easily dispose of their goods (Shover, 1991).

The analysis of the interaction between all the elements mentioned before is used in the search for the offender's identity. From this perspective, there are various ways to examine burglary and different researchers will focus on different forms of analysing the problem. Some will concentrate on the determinist concept of a predisposition to commit burglary, others on the immediate social environment, and yet others on the rational process related to offenders' actions, etc. In the end, all these approaches are analysing criminal career issues and criminal acts in the search for offenders' characteristics and offending styles. In order to do so these studies will suggest classifications based on typologies to identify burglars.

It is necessary to consider in combination the issues previously discussed, namely motivation to commit crime, offenders' decision making process, target selection, risk consideration, levels of planning, method of entry, items stolen, criminal network, etc, to develop typologies or a classification which can help differentiate between burglars and this has been done by several researchers. For example, taking the typology related to planning versus opportunistic, it has been suggested that planners will not be motivated by precipitating factors, they will carefully select their target, take risk into consideration, use elaborate methods of entry, search for items of high value, and be part of an established criminal network (Maguire, 1982; Bennett and Wright, 1984; Cromwell *et al*, 1991; Shover, 1991).

However, despite these classifications and typologies having indisputable value, they usually have not been empirically tested in relation to actions at the scene of the crime. Consequently these approaches have their limitations. As admitted by Maguire and Bennett (1982), in relation to their typology classification, "low-level" offenders may also occasionally steal items of high value, which is normally a characteristic of "high-level" burglars. Thus, 'professionals' may at times behave as 'novices'; 'planners' may commit 'opportunistic' offences; etc. Another missed point is that there is no attempt to link these issues to the offenders' background and offenders' lifestyle characteristics.

Thus, there is no effort to answer questions such as: Who actually are these 'planner' individuals when not in a crime situation? Who are the 'opportunistic' ones? Why do some 'novice' criminals stay amateurs forever and never learn criminal skills associated with 'professionals'? What are the components that interfere with and damage their learning processes? Are these components emotions, interpersonal needs or lifestyle characteristics? Do high levels of interpersonal need make the criminal less rational so impeding the development of instrumental criminal skills? In order to address these questions the interpersonal context in relation to criminal behaviour will be discussed next.

CHAPTER 3

THE INTERPERSONAL DESIRE OF ROBBERS AND BURGLARS

3.1 - An Interpersonal Approach to Robbers' Behaviour

Robbery is a crime that involves a face-to-face encounter between the robber and his victim. As Canter (1989) stated, most crimes will permit this interpersonal contact just as any other general encounters do in peoples' lives. In these encounters individuals will express attitudes, behaviour and even feelings towards each other. What defines the nature of this interaction between people is the degree of interpersonality shown. In a crime situation the interaction seems to be founded on interpersonal desires based on ill-formed conceptions related to peoples' relationships.

This interpersonal relationship in a crime situation is more easily recognised in crimes such as rape or murder (Salfati, 2000). However, considering what was implied by Canter (1989), it is suggested here that in crimes such as robbery this interpersonal relationship is present as well and that the decision to display interpersonal acts in a more or less strong way may help in determining a robber's characteristics.

In others words, it is believed that, even in the crime of robbery where the prime desire would seem to be the possession of objects, the interpersonal desire will be present and the analysis of the degree to which it is displayed may help in differentiating between robbers.

In fact, many studies in principle recognise this interpersonal approach to crime and make a distinction between 'instrumental crimes' and 'expressive crimes' (Bennet and Wright 1984; Blackburn, 1993). The main concept is that material gain is more strongly related to instrumental crimes while interpersonal desire is more closely related to expressive crimes. The literature attempts to define instrumental crimes as the ones linked to property crimes such as robbery and burglary while expressive crimes are linked to crimes against the person such as rape and murder. This primary distinction implies that a high level of interpersonal desire is related just to expressive crimes and not to instrumental crimes.

However, even high levels of interpersonal desire may be directly related as well to instrumental crimes such as robbery and burglary. The presence of this interpersonal desire may explain for example why some robbers become murderers and burglars may become rapists and so on. Indeed, according to the offenders' criminal career approach it is known that criminals will not always commit the same type of crime and that they in fact may move from instrumental crimes to expressive crimes or even vice-versa (Guttridge *et al.* 1983; Farrington, 1992).

Thus it is being argued here that rather than identify crimes and criminals as instrumental or expressive it is more useful to identify offenders' criminal behavioural patterns by considering psychologically related issues such as the level of interpersonal desire displayed even when considering property crimes such as robbery and burglary. It seems erroneous or simplistic to analyse expressive crimes in terms of being highly driven by interpersonal needs and less so by material gain and instrumental crimes as being highly driven by material gain and much less so by interpersonal needs. Indeed a criminal highly driven by interpersonal desires may commit instrumental crimes as a training process or as an 'excuse' to finally allow his interpersonal desires to drive him to commit rape or murder.

From this point of view, perhaps it is important to come to the origin of this concept of instrumental and expressive crimes. Feshback (1964) defined Instrumental and Expressive (Drive-Mediated) in the context of the level of aggressive behaviour

being shown by the individuals. Feshback was focusing on levels of aggressiveness as the driving force in both cases, i.e. if the aggressive behaviour was displayed to obtain the desired object as in instrumental crimes or if it was displayed to feel gratification in inflicting pain on others as in expressive crimes. Thus, at least Feshback was emphasising the importance of the level of aggressiveness exhibited in a crime in relation to an individuals' desires and drives in both instrumental and expressive crimes. In this present study the level of aggressiveness displayed during a crime is also considered as important in differentiating between criminals and in the expression of characteristics peculiar to these individuals such as their interpersonal desires even when studying property crimes.

In this present research robbery will be recognised not just as an instrumental crime as the basic definition implies but also as an expressive one with levels of interpersonality also being displayed during the offences. For example, an important point to be considered here in relation to robbers' behaviour is how they treat their victims since the degree of aggression exhibited towards the victim may be helpful in differentiating between criminals. Thus, the relationship between the offender and the victim is not just going to be considered here in the context of a counter reaction by the criminal to the victim's resistance as seems to be the main focus in many cases when using this approach which recognises robbery as just instrumental. For example, what if the robber displayed violent acts even if the victim was passive; is this 'freely' displayed violence by the offender not deserving of consideration?

Thus, it is this interpersonal approach of robbers' behaviour that is going to be considered by the present study. The approach that acknowledges the possibility of expressive acts also being displayed in a primarily defined instrumental crime such as robbery. It will be argued here that this expressiveness is shown by levels of interpersonality displayed during the robbery that can be related to robbers' behavioural patterns and even to their lifestyle characteristics, both important definitions as to their identity.

3.2 - An Interpersonal Approach to Burglars' Behaviour

Burglary is more than just a property crime since it is the invasion of not just peoples' property but also their self-identity. Even when nothing is stolen or damaged, being a victim of burglary affects peoples' lives. In fact people perceive burglary as an intrusion in the larger context; and as stated by a victim in a house burglary survey, to quote, "It was like being raped" (Bennett and Wright, 1984). The offenders are probably aware of the impact their actions have on the victim's life when seeking to satisfy their material and/or psychological interests. In this present study, during informal interviews with the burglars (see methodology chapter, page 55) many did express knowledge of the impact their actions can cause on the victim's life.

Indeed, it can be said that whilst the victim experiences material loss and psychological damage from a burglary, in contrast the burglar gains from his actions not only material reward but also psychological rewards for being able to attack the victim in a psychological context. Some criminals may desire more material reward than psychological gain for their encounter with the victims, but others may desire the opposite. Therefore an interpersonal relationship is established between the victim and the burglar and from this it can be inferred that the crime of burglary will contain, carry forward and express the burglar's attitudes towards other individuals.

This interpersonal interaction between offender and victim is much more easily recognised in crimes such as rape and murder because the expressive context of these crimes is more obviously expressed. Indeed in the literature burglary is recognised as an instrumental crime, because it is considered to be merely related to material gain while rape and murder are identified as expressive crimes, because they make reference to non-material needs (see Blackburn, 1993). However, this is a somewhat simplistic view or definition of crime that ignores psychological issues such as the ones related to the levels of interpersonality within these so-called instrumental crimes.

In fact, Canter (1989) pointed out that most crimes have an explicitly or implicitly interpersonal quality. He also emphasised that crime is an interpersonal transaction that involves characteristics and psychologically entrenched ways of dealing with other people. In fact, in burglary the violation imposed by the burglar on the victims' property, their safety and lives, initiates an interaction between the offender and the victim establishing a form of interpersonal relationship. In the present study the interpersonal context in relation to property crimes is considered fundamental in the search for a model which can help in distinguishing between criminals and their offending styles.

Recent studies have given some consideration to the expressive nature of instrumental crimes (Cromwell *et al*, 1991; Tarling and Davison, 2000). Walsh (1980), whilst not recognising burglary as inherently interpersonal, accepted that material gain was not all that a burglar could wish from his offences and emphasised, for example, that abuse of the victim's home could even be the relevant reward. From this perspective and introducing some psychological elements, Walsh (1980) suggested a typology related to burglars offending styles and described burglaries as "*challenge*" and "*dispossessive*".

According to Walsh (1980) *dispossessive* burglaries are purely instrumental and thus the victim is irrelevant to the burglar other than representing the owner of the property. *Dispossessive* burglaries are subdivided into three categories according to the level of craft employed, namely: '*novitiate*', '*pillager*' and '*breakman*'. The *novitiates* are apprentice burglars who are still testing out their skills and because of this, these burglars are characterised by errors and failures, commonly making errors on entry, missing valuable property and likely to panic. The *pillagers* are unskilled burglars who offend because of need and so are opportunistic; they fail to plan, employ any entry method and are disorganised looters. The *breakmans* are highly skilled criminals, artists who show a great deal of planning, establish the target's value and select the most vulnerable entry point. *Breakmans* are self-disciplined and are consistent in the methods they employ. They avoid uncertainties; their search will be neat and tidy and if caught they are usually non-violent.

In the *challenge* burglary things are different since the victim is significant to the burglar and the actions are to satisfy a more emotional need. They therefore challenge the victim by causing damage or confronting them. These burglaries often include rape or attempted rape and vandalism, since the prime aim is to destroy. The *challenge* burglaries are also subdivided into three categories, namely: '*feral threat*', '*riddlesmith*', and '*dominator*'. The *feral threat* burglar chooses an empty house, engages in malicious vandalism by smashing furniture, urinating or defecating in an effort to destroy the victim's home. The *riddlesmith* shows more technical skill and damage to the premises is caused in a more inventive way, such as writing graffiti containing messages left on walls and mirrors. The victims often represent a specific ethnic class or race. The *dominator* burglar chooses an occupied premise and confronts the victim displaying violence, abuse and causing terror. These burglars' actions are linked to high interpersonal desire and to less professional ability.

Merry and Harsent (2000), as did Walsh (1980), also recognise an interpersonal context related to burglary and argue that burglars seek more than material gain. They identified the craft and interpersonal dimensions of burglaries and classified burglars as '*intruder*', '*pilferers*', '*raider*', and '*invaders*'.

According to Merry and Harsent (2000), the *intruders* display actions 'explicitly interpersonal and low-craft'. These burglars are highly expressive and the offender will not try to avoid contact with the victim and so chooses occupied premises. The offender's desire is to "intrude and violate another's home in a cruder manner" (Merry and Harsent, 2000; pg. 49). These offenders do not plan their crimes and display actions such as malicious damage unrelated to entry or theft; they use the house facilities and climbing is the style of entry. The offender exhibits power, hostility, excitement and revenge.

The *pilferers* exhibit actions that are 'implicitly interpersonal and low-craft'. These burglars are not highly expressive, however there is little evidence of a desire for relevant material gain. The victim is irrelevant to the offender and is simply the owner of the property. The offender shows low levels of dominance and hostility

and more curiosity and excitement. These *pilferers* are expected to cause little disturbance to the property and steal readily portable and impersonal items such as cash.

The *raiders* display actions 'implicitly interpersonal and high-craft'. Here the level of interpersonal interaction is very low and the burglar exhibits higher levels of power or dominance and less hostility. Actions are related to instrumental intrusion and no actions extraneous to theft are displayed. Little or no damage is caused, they disturb few if any items, and their search involves a few non-private rooms. This offender spends as short a time as possible in the premise and there will be little if any evidence that the offender has been on the premises. If any items of personal significance to the victim are stolen they will be the ones of high value such as jewellery. Burglary committed by the *raider* burglar will primarily involve taking cash or cash instruments such as chequebooks and credit cards.

The fourth and last category of burglar identified by Merry and Harsent (2000) is the '*invader*' who displays 'explicitly interpersonal and high-craft' actions. The behaviour of these offenders will have expressive and instrumental dimensions. The victim is significant to the offender and there will be explicit evidence of power, hostility, revenge and excitement. Actions will include unnecessary damage to the premises, an untidy search of more private rooms, defecation and the leaving of messages. Breaking and entering may be sufficient and the burglar may leave without taking any property. The items taken include food, clothes and personally meaningful items. These "*invaders*" also spend prolonged periods of time in the premises.

Despite these studies being innovative and sensible in considering interpersonal components as related to property crimes, their sample and results always deal with household burglaries. Thus, there is a concentration on the analysis of domestic burglaries to identify typologies of offenders' behaviour and offence styles and the results tend to be used to explain or define burglary in general.

Thus, some studies will consider the importance of interpersonal but will do so just within the context of house burglaries and it will thus tend to create typologies or categories that are in fact very similar to one another. Consequently, it is difficult to place burglars in one or other typology, because the typologies created are very similar and thus they do not help in distinguishing burglars on the basis of behaviour and offence styles. Walsh (1980) for example believed that whilst dishonest material gain can be achieved by many forms of burglary, the act of house burglary specifically feeds particular psychological needs and so an extreme level of interpersonal is related especially to house burglaries.

One of the limitations of these studies is that when data other than those used to construct the proposed typologies are applied then the results became somewhat confused and suspect. For example, taking the interesting work of Merry and Harsent (2000) mentioned before, but focusing on its limitations, it is not difficult to observe the great similarities between the categories, '*intruders*' and '*invaders*' on the one side, and between '*pilferers*' and '*raiders*' on the other. This happens because this research focuses on the more extreme interpersonal context, and is based on the role and essence of just the home premises of the victims.

However in the present research the inclusion of results for other types of premises rather than just the home will be considered. This balance between data for house burglary on the one side and the burglary of commercial properties on the other may well help in distinguishing more precisely, and in a less confused way, the levels of interpersonal displayed and thus help to better identify burglars and their offending styles.

Still based on the interpersonal approach, the next topic will discuss the role of the premises chosen by the burglars in relation to the interaction between the burglar and the victim.

3.2.1 - The Role of The Premises Targeted by The Burglars

Studies on residential burglaries, as mentioned before, have dominated the field of burglary (Walsh, 1980; Maguire, 1982; Bennett and Wright, 1984; Cromwell *et al*, 1991; Mawby, 2001). This focus on house burglary results from the potentially traumatic impact it has on the victim. Research has shown that the primary impact of house burglary on the victim will depend on the behaviour the burglar displays within the house (Merry and Harsent, 2000). Brown and Harris (1989) emphasised that the way the burglar acts may intensify the sense of intrusion and invasion felt by the victim. They concluded that the degree of devastation felt by the victim after a burglary is related to issues such as the range of rooms entered, the amount of damage and mess, and the type and value of the goods stolen. Thus high levels of ransacking and damage, and the theft of personal objects increases the victim's distress by increasing the degree of violation felt.

Another issue is related to repeat victimisation. In house burglary this will have a similar effect as will be presented later for commercial burglaries, namely causing financial and emotional stress. In house burglary the sense of intrusion and invasion will be intensified by repeat victimization and this may cause prolonged damage to the victims. Merry and Harsent (2000) for example concluded that the intrusion by the burglar threatens the victim's sense of control and causes feelings related to the inability to protect the home that will affect the occupant's self image and thus damage their identity. Thus repeat victimisation would repeat the adverse effect on self-image and this may cause even more serious damage to people' identity.

In comparison with house burglary there have been few studies on commercial burglary i.e. break-ins to shops, stores, offices, factories, warehouses, etc (see Mawby, 2001). The research that has been carried out on commercial burglaries concentrates on issues such as the nature and extent of the burglary, the effect on the companies and individuals, the nature of the police response, crime prevention strategies, and information about the offenders. The research has focused on specific types of premises. For example, Laycock (1985) analysed burglaries of

chemists' shops; Beck and Willis (1991) studied burglaries against out-of-town superstores, while Jacques (1994) studied ram-raids against retailers.

Studies by Johnston (1994) and Tilley (1993) emphasised that burglary against commercial premises was a common crime. Mirrless-Black and Ross (1995) found that in England and Wales the rates of burglary against retail and manufacturing premises were higher than for household burglary and Mawby (2001; pg. 156) pointed out that "the risk of burglary in the retail sector was about ten times that for households". Higher incidences of burglary were also found for those commercial premises stocking 'saleable' goods such as alcohol and tobacco.

It has also been noted that vandalism towards these premises was not rare and that the cost was high and in some cases the cost of the damage exceeded the value of the goods stolen (see Jacques, 1994; Mawby and Simmonds, 2000). Importantly, several studies have found that with commercial burglaries repeated victimisation is common (Tilley, 1993; Johnston, 1994; Mirrless-Black and Ross, 1995; Perrone, 2000). Redshaw and Mawby (1996), considered a sample of burglaries from the police computer list in Devon and Cornwall and found that 8% of the victims of domestic burglary said they had been burgled before in the last 12 months, whereas half of the commercial properties were re-burgled, with 16% being re-burgled once, 16% twice and 18% on at least three occasions.

Thus repeat victimisation seems to be a serious problem for the business sector and this may have a serious impact on the victims. This repeated victimisation consequently increases the level of dissatisfaction and criticism against the police who are blamed for making little effort with poor feedback and low clear-up rates (see Tilley, 1993; Johnston, 1994).

This victimisation of the commercial sector raises the issue of crime prevention, which has considerable financial implications. Mirrless-Black and Ross (1995) found that in England and Wales the majority of businesses had burglar alarms and window protection and a minority also had security lights. Mawby (2001)

emphasised that the use of closed circuit television (CCTV) and contract security has been growing faster recently and that they have had a considerable impact on commercial burglary rates, particularly CCTV in reducing shop burglary rates.

However Redshaw and Mawby (1996) found in their sample, half of all respondents had a burglar alarm installed prior to the burglary and that only 11% had no security measures listed. They also pointed out that after the burglary 74% increased or planned to increase security at their business premises. Thus, these two initial problems, of repeat victimisation and the increased cost of additional security faced by commercial business needs to be considered as components which are likely to distress the victims.

In relation to the offenders' characteristics and the offending pattern of those burglars who break into commercial premises, research has shown that in general the offenders are males, aged between 20 and 30 and with a history of little or no schooling (Walsh, 1986; Wiersma, 1996). The majority of these offenders had been active in crime for years and could be recognised as specialists in property crimes but not in commercial burglary. Research has also shown that they do not just commit commercial burglaries but about half of them also committed residential burglaries; a large minority committed vehicle-related crimes and about one third robbery (Walsh, 1986; Wiersma, 1996). However, Mawby (2001; pg. 163) pointed out that, by those who commit both residential and commercial burglaries, "commercial burglary was, nevertheless, preferred...partly because the courts were more severe on residential burglars, and partly because commercial burglary was more profitable".

Considering the relationship between offending pattern and security equipment it seems that the offenders are not put off by conventional burglar alarms or by door and window locks (Walsh, 1986; Wiersma, 1996). Burglars are more likely to be deterred by a physical presence such as security staff or members of the public or by guard dogs. In terms of the level of professionalism displayed by commercial burglars the results of the research to date are somewhat ambivalent.

Wiersma (1996) pointed out that many offenders were motivated by the thrill and excitement and that the criminal profits were spent on drugs, alcohol and high living issues, that imply less professionalism. Nevertheless, Wiersma (1996) also noted that most of the burglars who broke into commercial premises displayed behaviour linked to professionalism and put a considerable amount of effort into planning the crime. Indeed, he found in his sample that over 80% collected advance information on access points, alarms, where valuables were stored, etc.

Still in relation to professionalism, Mawby (2001) reported that ram-raiding was a very professional crime, where offences were well planned, with professional skills displayed and where there was a tendency to commit crimes in groups. Donald and Wilson (2000) also studying ram-raiding identified various characteristics of these offenders, who in their sample were all males with a mean age of 23 years, 67% of these offenders committed theft, 63% committed non-dwellings burglary and 53% stole from motor vehicles.

Interestingly, Donald and Wilson (2000) also showed that only a minority of ram-raiders had previous convictions for domestic burglary (30%), robbery (19%) or violent crimes. They concluded that these burglars made a forced-entry, stole the goods and made their gateway within five minutes or so. They also found that these offenders worked largely in groups with a designated leader and a specific role for the other group members.

Donald and Wilson further described six roles related to the members of the group, namely: *leader/planner*, *heavy*, *driver*, *extras*, *apprentices* and *fences/handlers*. The *leader/planner* had several convictions for dishonesty, often with convictions for violence, especially robbery. The *heavy* acted as a guard or helped with the forced-entry and had previous convictions for violence but rarely for dishonesty. The *driver* showed little evidence of previous convictions for violence or anti-social behaviour but some had records for dishonesty. *Extras* tended to drift in and out of the group and had records for anti-social behaviour and in some cases dishonesty. *Apprentices* were often friends or family of the leader and had previous convictions for

dishonesty but few for violence. *Fences/handlers* had previous convictions for handling and/or dishonesty but not for anti-social behaviour or violence.

Whilst recognising the value of these studies on commercial burglary there are two limitations that are important to discuss. Firstly, many of these studies concentrated just on the crime prevention aspect and so issues related to offender identification and the police investigation were not considered. Secondly these studies select a specific type of premises and carried out an analysis on this limited sample such as shoplifting or the burglary of a specific kind of factory. Thus these studies tend to suffer from the same problems as were described for house burglaries (pg. 24).

Considering the problems faced by the victims of commercial burglaries, such as repeat victimisation and extra costs to protect their businesses, more attention should be given and more studies carried out on burglaries against these premises. However, as mentioned before, research has focused on house burglary when examining offenders' characteristics and offending styles. This happens basically, as has been emphasised before, because of the high levels of psychological distress suffered by the victims of domestic burglaries.

However the few existing studies on commercial burglaries have shown that the effects on the victims are similar to those of the victims of house burglaries. In fact the victims suffered the same elements of distress in the case of commercial burglaries, albeit on a smaller scale, as those of house burglaries.

Redshaw and Mawby (1996) when analysing commercial burglaries in relation to the financial impact, identified important issues mentioned by the victims as having an adverse impact on their business. In their sample 26% mentioned damage to the property and emphasised that this damage accounted for a large proportion of their business maintenance costs. Another 22% explained that insurance did not cover all the costs of stolen items, 20% pointed out the increasing cost of insurance premiums and 21% mentioned the loss of business due to restocking time. In addition 7% mentioned the cost invested in increasing security against burglaries.

In relation to the emotional impact on the victim of commercial burglary it can be said that it is not considered to be as strong as it is for victims of domestic burglary. However the emotional impact on victims of commercial burglary is higher than might have been anticipated and contains similar components to those of house burglary (Bunt and Mawby, 1994). More recently, it has been emphasised by Mawby and Simmonds (2000) that the victims of commercial burglary are also affected by the invasion of privacy and have a sense of insecurity afterwards just as with the victims of house burglary. They also mentioned that staff distress, fear and edginess after the burglary affected their work.

Therefore regardless of the degree, there may be an interpersonal interaction between the burglar and the victim in most commercial burglaries. As with house burglary, some offender probably anticipates that his attack on an individual's business causes loss and distress to the victim. This offender is conscious of the fact that his actions against commercial property can disturb the victim emotionally just as with house burglary. Thus, as was emphasised by Canter (1989), most crimes have an explicitly or implicitly interpersonal quality.

It would be a mistake to recognise interpersonality as just being expressed in relation to domestic burglary and not commercial burglary. What will differ will be the level of interpersonal desire displayed. Indeed, it is the different levels of interpersonality expressed by different choices of premises, or even the lack of interpersonality displayed, that is helpful in distinguishing between burglars and their offending styles.

It would seem important therefore to analyse domestic and commercial burglaries in parallel in an effort to find the boundaries of interpersonality. An analysis of the choice of premises would seem to be more helpful in measuring levels of interpersonality than an analysis of the levels of interpersonality in relation to a single type of premises.

In the present study, just as with the case of robbery, the crime of burglary will not be considered as merely an instrumental crime as implied by basic definitions but as an expressive crime with different levels of interpersonal being demonstrated during the offences. Two key concepts will form the basis of the analysis here.

Firstly, it is necessary to consider burglars' behaviour in terms of expressing interpersonal desires. In other words, the way that they treated their victims during the offences, if and when there is an encounter between victim and burglar. This behaviour refers to the offenders' need for interpersonal contact with the victim as expressed by the degree of aggressive behaviour displayed during the offence. It is hypothesised that interpreting this behaviour will help in distinguishing between different burglars and their offending styles.

Secondly, the choice of the type of premises may be an expression of the burglar's level of interpersonal desire. Therefore some burglars are likely to be conscious of the fact that an alternative way of attacking people is to attack their property. Thus the choice of premises can be linked to and express the interpersonal context. The analysis of the interpersonal approach demonstrated by burglars will be based on an examination of acts against the victim and the choice of premises.

Thus, far, it has been explained that the present research will consider instrumental and interpersonal perspectives when examining burglary. However, a third component will also be considered to help define and distinguish between burglars and their offending styles and that is the burglars' lifestyle characteristics, and these are discussed next.

CHAPTER 4

THE LIFESTYLE OF ROBBERS AND BURGLARS

4.1 - The Lifestyle Approach to Robbers' Behaviour

The lifestyle lived by the criminal can be directly related to criminal behaviour. For example several studies in the literature support the concept that a lifestyle of drug abuse can be related to crime in general and in particular to property crimes. Bennett and Sibbitt (2000) found that nearly a half of the arrestees for property crimes committed the crimes because of the need for money to buy drugs.

Feldman (1993) concluded that addicts are increasingly likely to support their habit by criminal means. Goldstein (1985), when talking about different ways in which drugs and crimes relate, refers to 'economic compulsive crimes' and stated that drug users will engage in economically motivated crimes in order to support the costs of their addiction. Thus, it can be observed in these studies that a lifestyle of drug addiction is being recognised as at least motivating the commitment of the crimes.

Other studies go further and do not just suggest a lifestyle of drug abuse as motivating criminal activity but as also defining criminals. In the case of robbery this drug abuse can even be related to types of robbers. Matthews (2002) sees a lifestyle of drug abuse, as being related to 'amateurs', who are, according to his classification, the least professional robbers who steal small amounts of money. Walsh (1986) related a lifestyle of drug taking to the 'opportunist' robbers, who are in his view the least professional ones who choose more vulnerable targets. Indeed Matthews (2002; pg. 34) pointed out that on the contrary "amongst the more

organised and professional robbers, the interest in drugs was mainly in relation to drug dealing”, so implying that these professional robbers were not drug addicts.

Another lifestyle characteristic usually related to crime is that of violence. When the literature considers a lifestyle of violence in relation to crime it often refers back to the individual’s childhood (Morgan, 1975; Ainsworth *et al*, 1978). In this case, background issues such as violent parents, broken homes, parental rejection, etc, are analysed in relation to a lifestyle of crime.

However, these studies are usually simplistic and merely try to establish at a primary level that a lifestyle of violence generates violence. As a consequence, a lifestyle of violence is more strongly related to extreme forms of violent crimes. When this is related to property crimes it is considered that a lifestyle of violence is just the trigger to engage in crime. Also these studies that consider a lifestyle of violence are often descriptive accounts that make little effort to prove empirically their findings. Furthermore they do not analyse the relationship between a lifestyle of violence and more specific actions displayed during the commitment of the crime. For example the levels of violence displayed during a crime may give clues about the offenders’ lifestyle characteristics and help in the process of their identification.

In the case of robbers, a lifestyle of violence may be related to specific actions performed during their robberies. For example, are more violent robbers likely to steal small or large amounts of money and why? Which are the preferred kinds of target for violent robbers and why? Are violent robbers the ones who consider the profitability of the crime and how does the level of violence relate to the crime? As mentioned before some of these questions are answered in the literature when focusing on a lifestyle of drug abuse. Those robbers linked to a lifestyle of drug addiction are expected to steal small amounts of money to support their addiction. Thus, why not try to answer questions like these when focusing on a lifestyle of violence or other lifestyles?

4.2 - The Lifestyle Approach of Burglars' Behaviour

In this study the need to consider lifestyle in relation to a burglar's behaviour is based on the concept that their instrumental criminal actions and interpersonal desires are both influenced by lifestyle characteristics, which are brought to and expressed at the scene of the crime. Thus, as with robbery, it is hypothesised that the lifestyle lived by the burglar can be directly related to criminal activities and to his interpersonal needs and the linking of these aspects can help in identifying him. However it is important to note, as mentioned previously (pages 1 to 5), that robbery and burglary are formally different, the former involves the use or threat of violence and the latter does not.

As with any other individual, robbers and burglars will have lifestyle characteristics that influence their general behaviour pattern. Thus, it is believed that the examination of distinct lifestyles may help in identifying and differentiating between these criminals. The literature mentions a possible link between lifestyle characteristics and criminality (see Jones, 2001). For example, as mentioned before when analysing robbery, the main concept in the literature is one of a lifestyle of drug abuse and/or violence being related to criminal behaviour.

Bean (2002) when examining the link between drugs and crime mentioned the term 'secondary criminality', especially in relation to property crimes, and suggested that "the *prima facie* evidence for the links are clear: drug users require large amounts of money to support their habits" (Bean, 2002; pg. 7). There is a common perception in the literature that financing a drug habit is a primary motive behind property crimes and, in England at least, the public support this idea and blame drug misusers for crime (Charles, 1998). However it is more difficult than is supposed to determine the link between drugs and crime particularly if the focus is on trying to determine between cause and effect. As Bean (2002; pg. 11) conclude "to say drugs cause crime is to say nothing more than there is a tendency or a trend to associate drug use with criminal behaviour".

Bean (2002) examined numerous explanations for the link between drugs and crime and pointed to the psychological, sociological and economic explanations. The psychological explanation suggests two types of drug users, one type is said to be 'enslaved' by the drug and the other to behave 'out of character' i.e. behaving in ways unlike they have done before. Thus, the 'enslaved' commits offences with little or no control over his actions but behaves in a criminal way in order to satisfy the craving. The 'out of character' type might abuse close members of the family, show no concern for their personal appearance or hygiene and commit offences above the need to pay for the drugs (i.e. the user may become violent or damage property).

In the case of the economic explanation, the main implication in the literature is that drug users commit crime to fund their habit (Charles, 1998; Rengert and Wasilchick, 2000). However, Bean (2002) brought attention to an important issue that drug users might believe, or want *us* to believe, their claims to be seen as being somehow *forced* into crime to fund their habits. In relation to the sociological explanation for the link between drugs and crime, Bean pointed to the fact that social scientists have a deterministic view of the problem. They explain that drugs and crime have a causal connection and suggest that the drug user will wish to create the impression of somehow being trapped in certain social or psychological circumstances so that they can do nothing other than become drug users.

Overall, evidence from research supports the link between drugs and crime. In the USA, Johnson *et al* (1985) found that up to two thirds of burglars were either addicts or drug misusers. Dobinson (1986) interviewed 225 property offenders in prisons in New South Wales, Australia, and found that 40% were regular drug users. In fact, Parker and Newcombe (1987) studying heroin users in Merseyside, England, showed that burglary rates increased when heroin use increased.

The then Shadow Home Secretary produced evidence showing that the growth in the rate of crime was accompanied by the growth in the rate of substance abuse (see Bean, 2002; Labour Party, 1996). Additionally, Bennett and Sibbitt (2000) found

that offenders seen at police stations often tested positive for drugs. Cromwell *et al* (1991) considering a sample of burglars found that the majority were drug misusers with heroin and cocaine the most common drugs used.

A more recent comparison lent further support to the link between drugs and crime. Taylor and Bennett (1999), considering English and American prisoners, found, for example, that 71% of US and 64% of English prisoners arrested for property crimes tested positive for drugs. They also pointed out that the offenders who tested positive had higher illegal incomes than those who tested negative. In the study of Bennett and Sibbitt (2000), 47% of arrested drug misusers supported their habits through property crimes, 19% supplemented their income through drug dealing and 9% of heroin and crack-cocaine users admitted committing at least 20 offences per month to support their addiction.

Bennett and Sibbitt (2000) also concluded that drug-misusers were three times more likely to commit burglary than were non-users. The work of Rengert and Wasilchick (2000) also supported the close association between drug use and burglary. Bean (2002) concluded that there was strong evidence that offenders who used large amounts of multiple types of drugs (i.e. Polyaddicts or Polyusers) committed crimes at higher rates over longer periods than did less drug-involved offenders.

However, the literature also draws attention to issues such as the fact that not all drug users are offenders and not all offenders are drug users. Bean (2002), for example, emphasised that a large number of drug users were not criminals, did not commit property offences and had no convictions except perhaps for illegal possession. He stated that the fact “that some drug users *are* criminals does not lead to the conclusion they are criminal because of their drug use” (Bean, 2002; pg. 11).

Mawby (2001; pg. 68), in his book on burglary, stated “not all burglars use drugs and certainly not on a regular basis” and concluded that “this raises the question of why some people commit burglaries? ”. In a study, in California, Penn and Hegner (1973) could not find any peculiar offending pattern relating to those arrested for

burglary and drug offences that could indicate any relationship between burglary and drugs. Studies in Britain and America also showed that about 50% of drug users were criminals before they started taking drugs (see Bean and Wilkinson, 1988).

However many studies that have examined this problem in depth continue to support the link between drugs and criminality and even emphasised a lifestyle of drug abuse as being related to certain types of criminals. Mathews (2002) point to a lifestyle of drug abuse as being related to 'amateurs' and less related to 'professional' criminals. Walsh (1980) similarly concluded that a lifestyle of drug abuse was linked to opportunist offences and not to the planned ones. Cromwell *et al* (1991) concluded that narcotics and drug abuse influenced the way property crimes were performed and, when considering burglars, also concluded that drugs play a role in target selection and in the level of risk to be taken.

Other studies see the link between drugs and crime from a different and interesting perspective. There is evidence from these studies for example that the relationship between drugs and crime is better analysed by considering the individuals' background, personal circumstances and lifestyle characteristics (see Bean, 2002). For example, users of the drug Ecstasy are not usually associated with crime, this is because of their social-demographic characteristics.

According to these studies, Ecstasy users are more likely to use the drug occasionally, are employed, of a higher social class and are unlikely to use multiple drugs. In contrast, heroin users are usually from a working class background, are unemployed, homeless and polyaddicts; but it also needs to be remembered that these individuals are in a socio-demographic group which, according to the sociological view, is linked to a higher risk of criminality (see Bean, 2002).

In this present study it is believed that to avoid the tendency to explain the link between drugs and crime just in relation to the socio-demographic conditions, it is important to concentrate on analysing lifestyle issues. This is because in fact the great majority of the criminal population live in socio-demographic conditions

which put them at a greater risk of becoming involved in crime (i.e. a low level of education, unemployment, poverty, etc), but not all of these individuals 'choose' to have a lifestyle of, for example, drug abuse. Indeed, as was mentioned by Chaiken and Chaiken (1990), if there is a link between drugs and crime the most useful inference that can be made is that both are expressions of the same deviant lifestyle.

In this present study it is hypothesised that drug abuse is a reflection of some offender's distinct lifestyle characteristics and that this can help in distinguishing them from those criminals who, despite coming from a similar socio-demographic population, are not drug users or drug addicts. It is also hypothesised that it will be possible to link this lifestyle of drug abuse to peculiar criminal activities and offenders' behaviour that reflect for example levels of planning and levels of interpersonal desire. In other words, the lifestyle characteristics are brought to the crime scene and this will influence offenders' behaviour displayed during the crime. Another lifestyle characteristic usually related to crime in the literature is that of a lifestyle of violence (see Blackburn, 1993; Jones, 2001).

In general, studies considering a lifestyle of violence in relation to crime focus on background issues such as violent parents, broken homes, parental rejection, etc. However, as mentioned before when analysing the crime of robbery, the literature often relates a lifestyle of violence to extreme forms of violent crime and not to property crimes. Thus, levels of violence displayed in crimes are usually examined in relation to crimes such as rape and murder (Holmes & Holmes, 2002).

Very few studies have considered levels of violence in relation to property crimes and those that have are usually studies which also examined interpersonal desires displayed during the property crimes (Walsh, 1986; Alison *et al*, 2000; Merry and Harsent, 2000). Some of these studies suggested that extreme violent acts are more likely to be related to less professional property offenders while the more professional ones will avoid gratuitous violence (Alison *et al*, 2000). However, these studies do not analyse violent actions as originating from a lifestyle of violence.

Indeed, it is also proposed in this present study that considering levels of violence displayed during the offences is an important issue in helping to define variation within offending styles. The present study also proposes that a lifestyle of violence will be related to specific actions performed during the burglaries. In other words, it is being implied that the different levels of violence displayed can be linked to a specific lifestyle characteristic and this may lead to the identification of different burglars and their offending style.

Taking the crime of burglary, then examining the levels of violence displayed in relation to a specific lifestyle characteristic may help in answering certain questions. For example, do the more violent burglars have a lifestyle of violence? If so, which characteristics does this lifestyle demonstrate and which characteristics will these individuals have? What pattern of criminal behaviour is linked to a lifestyle of violence? How do such criminals behave towards their victim? What kind of premises will these violent burglars tend to choose as targets? What is the role of the premises chosen in relation to their violent desires? Are these violent burglars the more or less professionals ones? Is it possible to relate levels of violence displayed to levels of interpersonal desire and then to lifestyle characteristics? In trying to answer these questions the present study will analyse levels of violence as related to lifestyle characteristics.

In summary, the present study will examine which distinguishable lifestyle characteristics can be linked to which types of burglars' offending style. Certain specific actions displayed at the crime scene will be analysed in relation to specific lifestyle characteristics, such as a lifestyle of drug abuse, a lifestyle of violence, etc. It is suggested that analysing offenders' criminal actions in relation to their lifestyle characteristics will lead to important inferences about the offenders' identity. In other words, it is being implied that what is brought to and expressed in a crime situation in the form of behaviour is a reflection of the offender's lifestyle and identity.

4.3 - Distinguishing Between the Instrumental, Interpersonal and Lifestyle Context

The literature often refers to the Instrumental and Interpersonal context using different terminologies. To some the interpersonal context may be link to non-material gain from the crime and in this case it will be referred to as 'expressive crime'. In contrast the instrumental context may be linked to material gain and in this case will be referred to as 'instrumental crime' (see Blackburn, 1993).

Others suggest that material gain is not all that the offenders may seek from the offences and that a kind of interaction with the victims may even be the reward (see Walsh, 1980). In this case the interpersonal context may be link to a psychological dimension and the instrumental context to craft-related actions. Thus it is being suggested here that the material gain can be achieved by many forms of craft ability demonstrated during the crimes whereas the psychological gain can be achieved by the expression of particular psychological needs during the crimes.

Other work refers to the interpersonal context in terms of 'interpersonal consistency' and the instrumental context in terms of 'cognitive capability consistency' (see Canter and Alison, 2000).

In this case the interpersonal context will refer to an interaction between the offender and the victim and to the perspective that this 'interpersonal consistency' will "derive from the individuals' past experience and will be manifested in degrees of domination or power and hostility or intimacy shown towards the victim" (Canter and Alison, 2000; pg. 40).

On the other hand the instrumental context referring to the 'cognitive capability consistency' relates to the level of organization of the crimes and to the perspective that the ability of offenders to plan their crimes in advance "requires 'means-end thinking' and 'consequential thinking'" (Canter and Alison, 2000; pg. 40).

In some cases the interpersonal context is referred to as being related to impulsive-emotional characteristics and the instrumental context to planning less-emotional characteristics. For example, Canter and Alison (2000) suggested that a comparison could be made between offenders who prepare carefully in advance of a crime with those whose actions are impulsive and opportunistic. Alison *et al* (2000) showed that there were distinctions between the planned-sophisticated and the impulsive-violent criminals. In these examples the careful planning reflected the instrumental context and the impulsive-opportunistic characteristics the interpersonal context (see Canter and Alison, 2000).

Thus, crimes and criminal activities can be scaled between expressive-impulsive-emotional behavior/characteristics, i.e. interpersonal, at one extreme and professionalism-planning-thinking behavior/characteristics, i.e. instrumental, at the other extreme. Indeed, Walsh (1980) suggested that the crime scene will reflect the offender's character, both in terms of craft ability and interpersonal need.

In this present study the term 'interpersonal' will be used in relation to behavior and characteristics that include expressive, impulsive, emotional, opportunistic and unplanned actions, etc. On the other hand, the term 'instrumental' will be used in relation to behavior and characteristics that include professionalism, planning, thinking ability, etc. Thus the term interpersonal will be used here to refer to impulsive lifestyle characteristics or to unplanned criminal actions. In contrast the term instrumental will be used to refer to less impulsive lifestyle characteristics and to planned criminal actions.

CHAPTER 5

THE DATA

5.1 - The Prisons Where the Data Were Collected

The data used in this present study were collected in prisons in Northeast Brazil. The prisons that collaborated in this research were:

- Presídio do Serrotão, in the city of Campina Grande, Paraíba
- Presídio João Chaves, in the city of Natal, Rio Grande do Norte
- Penitenciária Estadual de Alcacuz, in Natal, Rio Grande do Norte
- Presídio Instituto Prof. Olavo Oliveira, in the city of Fortaleza, Ceará

These institutions are big prisons each holding approximately 600 prisoners distributed across all types of crimes. The physical structure of the prisons was precarious, often comprising old buildings with small, multi-occupancy cells and a quadrangle in the central area where the offenders spent most of the day.

Strategically placed watchtowers surrounding these quadrangles permitted surveillance by the security staff. Since there was no separation of the offenders based on the offences they committed, these quadrangles acted as meeting places where all types of criminals could interact. Thus robbers, burglars, rapists and murderers could meet each other and talk about their crimes probably learning from each other's experience.

The prisons often had schoolrooms where some training and occupational courses were provided. However, the offenders were not forced to participate and in most cases the majority did not participate in any formal training activity. The most common courses offered were teaching offenders how to read and write since many of them were illiterate. Other common courses included carpentry, theatre and the teaching of basic computer skills, but usually with heavy surveillance in the latter case, to avoid offenders using the Internet to contact the outside criminal community or download pornographic material. Certain courses such as the teaching of English were in some cases given by graduate inmates.

The most popular course amongst the criminals was learning how to read and write. The criminals also appreciated the computer courses, but few computers were provided and the waiting list made the offenders give up participating. The majority of the offenders were involved in courses to promote manual skills such as carpentry. However, the most popular activities were those related to religious issues of all kinds. This was for several reasons, which included the offenders' search for some spiritual advice to deal with the remorse related to the commitment of their crimes, and because the volunteers going into the prisons to help the criminals were from all religious persuasions.

In the majority of the prisons there are the so-called "luxury" and "simple" areas. The "luxury" areas were usually called "the up part" and the offenders accommodated there had better-sized cells usually located close to the management departments. The offenders accommodated in this area often worked in the prison management area cleaning or tending the garden around it, etc. These offenders were considered to be of "good behaviour" and were called in prison slang "from home".

Interestingly, these offenders were usually murderers and rapists who indeed were confirmed by the prison staff, to be the best behaved ones in the prison environment. Prison staff also reported that fights and disagreements inside the prison were most frequently amongst robbers and burglars. This was usually because of some debt-

related issue linked to previous crimes where the agreed sharing of spoils was not honoured. In contrast murderers and rapists tended to be solitary offenders with no monetary sharing involved and this might partly explain why they were better behaved in prison.

Because of the access of these better-behaved criminals to the management area, when the researcher arrived in a prison to collect the data, first contact with offenders was often with rapists and murderers. These offenders were responsible for the contact between the researcher and the other criminals in the prisons. This was basically because one of the researcher's strategies for data collection was to ask the director of the prison for permission to have assistance from these criminals. In fact, it was observed by the researcher that to establish confidence between the researcher and the criminals this kind of approach was better than relying on assistance from the prison staff.

5.2 - Access and the Visits to the Prisons

The collaboration of the prison staff in this research and access to the prison buildings were first obtained by informal conversations between the directors of the prisons and the researcher during which the researcher explained the aim of the study and the procedures for data collection. These initial informal agreements with the prison directors were reinforced by formal documents from them stating the periods for the visits and conditions for the data collection. In the case of the institution Presídio do Serrotão, in the city of Campina Grande-Pb, this formal document was obtained from the local judge whose duties included responsibility for the prison. Permission was granted only after a series of discussions in which the researcher explained to the judge the aim of the study and the procedures of data collection. The formal document provided by this judge also pointed to the necessity for confidentiality in relation to the data collected.

A relevant point to the research was the guarantee of confidentiality related to the data collection. Thus, the data were collected only in prisons that agreed to the condition that there was to be no access to the questionnaires by prison staff, police or any other authority once the criminals had completed them and this was stated in the formal documents. The researcher presented the relevant document referring to the confidentiality of the questionnaire to all those criminals who participated in the study.

Also to help guarantee the confidentiality of the material to be collected the researcher asked the directors of the prisons not to exaggerate the security procedures related to the researcher's protection. When prison warders were assigned for the researcher's protection these individuals were not present in the room where the questionnaires were completed and informal interviews took place. Despite the danger of this approach the researcher understood that this was the only way in which the criminals were going to agree to expose their criminal experiences, particularly those not known to the police.

The data were collected between the years 1999 and 2002 and each data collection period in Brazil comprised two months with two weeks being spent in each prison. Prison visits by the researcher were allowed between 08.00 and 17.00 hours to collect the data. Six months after a data collection period the researcher returned to the same prisons to collect more data. During each visit the questionnaire was applied to different criminals. Thus the same criminals did not answer the questionnaire a second time.

5.3 - The Way the Data were Collected

In three of the four prisons the researcher was offered a room for data collection and usually the room had a table and chairs that were arranged strategically so the offenders could not see each other's questionnaires. Sometimes the researcher was allowed a maximum of five criminals in the room at the same time, but in other

prisons up to ten criminals were permitted to answer the questionnaire at the same time. In one of the prisons, not identified here for ethical reasons, the researcher did not have a room in which to work. In this prison the questionnaires were completed by the volunteer sample in the open quadrangle that contained, at times, as many as 300 other criminals. In this case any kind of efficient protection for the researcher was impossible.

As mentioned before, the way in which the data were collected initially involved the assistance of one or two criminals. The criminals who assisted the researcher were responsible for asking the other criminals for volunteers to participate, explaining to them that it was a research project. Then the volunteers who freely agreed to collaborate were brought to see the researcher. The role of the criminal assistants ended at this point and they were not allowed to be in the room where the questionnaire was applied. The criminal assistants were usually the same individuals over the four years of data collection. This strategy worked very well and helped to establish and even increase over the years the level of confidence between the researcher and the subjects of the research.

The researcher explained to the criminals who wanted to participate in the project the aim of the research and stressed the confidentiality involved. After being made aware of these issues the criminals were allowed to read the questionnaire if they so wished before deciding if they still wanted to participate in the study. It was also explained to the criminals the importance to the reliability of the research and its findings that they answered the questionnaire truthfully. The researcher asked the criminals that if they did not think they were able to give truthful answers to the questionnaire then they should not participate in the research.

It was also explained that if the researcher noticed strong ambivalences in the answers to the questions then the completed questionnaire in some cases was going to be checked against the criminal's files and a decision made as to whether to include it in the study. In the majority of cases the criminals were even more motivated to participate in the research after reading the questionnaire. In about 10%

of the cases the criminals, after reading the questionnaire, asked to make their decision after a few days and then subsequently came back to answer the questionnaire. Only on about three occasions did offenders decide they did not want to participate after reading the questionnaire.

None of the prison staff in any of the prisons directly assisted the researcher. They were just involved when the researcher wanted access to the criminals' files to compare with some questionnaires. But this comparison was not made in their presence or in the presence of any other individuals. Just on one occasion in one prison did the prison staff ask the researcher to have access to the completed questionnaires but this was denied.

The researcher reported this fact to the prison director who kindly asked his staff not to interfere in the confidentiality of the research. The non-involvement of the prison staff was based on the criminals' wishes that none of the staff should be involved or present during the data collection. These wishes relating to confidentiality were expressed by the criminals when the researcher informally visited each prison before starting the data collection and asked the criminals what were the best conditions for them to participate in the research.

In summary, the researcher encountered no relevant problems or interferences related to the data collection. It is believed that this was due to the clear information given to the directors of the prisons and to the subjects of the research that stressed the aims of the study, the demands of the data collection to produce an efficient research project and the necessity to guarantee confidentiality. Furthermore the views of the prison directors, staff and offenders voiced during the initial visits were taken into consideration when shaping the project.

5.4 - The Data Collection and the Characteristics of the Data

The data were collected using an anonymous questionnaire completed by prisoners who freely agreed to collaborate in the research. Thus, the data are based on the self-reported information provided by the criminals' answers to the questionnaire and not on official police files. The data rely heavily on what information and understanding the criminals have and offered themselves about their crimes. The self-report method of data collection was preferred here basically because of the several criticisms relating to data collection from police files and official statistics. The main issue here is that the criminals' conviction history and the offender's classification according to their records (index offence) do not reflect the offender's true criminal background (Maguire and Bennett, 1982; Bennett and Wright, 1984). Thus, the literature emphasises that a large number of the crimes committed by the offenders do not end in convictions so the true number of crimes they have committed are not included in police files or official statistics.

One way to overcome the doubt about which is the better method for data collection, be it self-report or police files and /or official statistics, is to combine these different sources to obtain information. Thus, despite the fact that this present study relied heavily on a self-report questionnaire the police files were also considered. When necessary and when possible, the questionnaires were later compared with the police files basically to search for relevant ambivalences which if detected were responsible for eliminating suspicious questionnaires/data.

There are other issues related to the method of data collection in studies on criminals. One of the main points of discussion is about the use of incarcerated rather than non-incarcerated offenders, where the latter refers to offenders who have served their sentences and are back in the community. The main criticism is that offenders should be interviewed in their natural environment and that research involving incarcerated offenders will be less reliable because of the influence of the prison environment upon the offenders' behaviour (Cromwell *et al*, 1991).

However, Nee and Taylor (1988) emphasised the importance of considering practical issues that make it very difficult to collect data from non-convicted offenders. They point to the high cost and time needed to search for these individuals to produce results from these researches. Furthermore, Cromwell *et al* (1991) could offer no evidence that offenders will think or act differently when incarcerated. The other criticism is related to the concept that incarcerated offenders are the “unsuccessful criminals”. However, serving time for a crime is not necessarily linked to “unsuccessful criminals” since those who commit a large number of crimes are clearly at a greater risk of apprehension (see Bennett and Wright, 1984; Farrington and Lambert, 1997).

It is believed that the important aspect of any data collection should be to reach the desired and appropriate subjects for the research. Therefore, whether the offenders are incarcerated or not would seem to be secondary to other more important issues related to the procedures applied for data collection. Thus, the way in which the subjects are selected for the data collection process is more relevant. For example, if the subjects for a given study are selected on the basis of their convictions for burglary then those who committed burglary but have no convictions for it would not form part of the sample under study. Wright and Decker (1994) reported that in a study on burglary 75% of the burglars would not have been included if they had relied just on information from the criminal justice system referring to convictions. From this perspective, data collection using criminals’ self-report questionnaires is of great importance since it covers those offences not known by the system.

In summary, the data collection here was based on self-reporting that was preferred because the aim was to acquire additional information often just known by the criminals themselves and not included in any official statistics. The other purpose of the present data collection process was to acquire specific personal information that again was not usually available in police files. Consequently the questionnaire used here provided not just information about criminal activities, but also information on such issues as the offender’s personal background, family history and lifestyle characteristics.

CHAPTER 6

THE SAMPLE

6.1 - Characteristics of the Sample

The sample used in this present study comprised 210 imprisoned Brazilian offenders who were all post-sentence, that is they were not on remand. From this total of 210 offenders, 168 reported committing robbery and 148 reported committing burglary (Table 6.1.1). Not all of these 168 robbers and 148 burglars had necessarily been charged with or had been convicted of robbery or burglary, but all reported having committed robbery and/or burglary when completing the questionnaire. Hence the subjects could be in prison for other reasons but if they reported having committed robbery and/or burglary then they were included in the data analysis for the respective data sets.

Table 6.1.1 - The Sample Data Sets

Sample Total	Robbery Data Set	Burglary Data Set
210	168	148

The 210 subjects were all males between 18 and 54 years of age. In the robbery sub set 46% were less than 25 years old, and in the burglary sub set 48% were less than 25 years old. Therefore although the sample of 210 subjects represents adult offenders not juveniles nevertheless nearly half of the robbers and burglars were under 25 years of age (Table 6.1.2).

Table 6.1.2 - The Offenders' Age

Total Sample (210 subjects) Age range	Robbery (168 subjects) 18 to 25 years	Burglary (148 subjects) 18 to 25 years
18 – 54 years	46%	48%

The reason the sample contains only adult offenders is because in Brazil only offenders aged 18 years or over go to the kinds of prisons where the data were collected. However, the research could also have been carried out in institutions holding non-adult offenders. Nevertheless, access to young offenders is always more complicated due to such issues as the increased protection of juveniles by the courts for reasons referring to confidentiality of identity for these young criminals. The purpose of the present study was also to examine extended periods of criminal activity and lifestyle, which could show consistency between past and present experiences, which will be better expressed by adult rather than by juvenile offenders, since the former are likely to have more experience.

6.2 - Selection of the Sample

The first issue to be discussed in relation to the selection of the sample for this present study refers to the aim of reaching those offenders who had committed robbery and burglary rather than those who had been convicted for these crimes. Therefore, all those criminals who freely wanted to participate in the research were welcomed and no pre-requisites were demanded in relation to the type of crimes they had committed. Thus, criminals who had committed different types of crimes and had different convictions answered the questionnaire. A total of 360 questionnaires were obtained and from this total 210 questionnaires were used in the present study since these were completed by offenders who admitted to committing robbery and/or burglary.

The strategy of using a questionnaire completed by the offenders without making a distinction based on the type of crime committed was used for three main reasons. Firstly, as a way to establish confidence between the researcher and the criminals by not excluding those who wished to participate because exclusion could promote a sense of rejection which could affect participation on subsequent visits. Secondly, because the material obtained, that was not necessarily referring to robbery and burglary but to other crimes, could be used in subsequent studies. Thirdly, and as mentioned before, to reach the “hidden” robbers and burglars who committed these offences but had no convictions for them.

Another issue related to the sample selection refers to the offenders’ level of literacy. Initially, the researcher’s assistants were instructed to invite only those criminals who could read and write to participate in the study. This was done to gain time in relation to the data collection since working with those who are completely illiterate demands a considerable amount of time being spent in assisting the subjects. However, despite this initial preference for selecting literate offenders because of the reason mentioned, the researcher’s assistants were subsequently instructed to also accept subjects who wanted to participate even if they could not read or write.

In these cases, where the offenders could not read or write the researcher helped the offender to complete the questionnaire alone in the room and the researcher read each question to the offender who after listening and understanding the question gave his answer to each question verbally and the researcher wrote it down. In this way the right of confidentiality of the illiterate offenders was guaranteed. This procedure for data collection was repeated many times by the researcher, since it is a common fact that in Brazil the criminal population includes many illiterate individuals.

CHAPTER 7

THE PROCEDURES AND METHODS

7.1 - The Instrument for Data Collection

The full questionnaire applied to the criminals comprised more than 200 questions. The questionnaire contained seven sections each dealing with specific issues related to a particular type of crime. However, only some parts of the questionnaire were used in the present study, more precisely those related to the property crimes of robbery and burglary. The three sections of the questionnaire included in the present study are presented in Appendix I (Appendix I: a) translated into English; b) in Portuguese) and discussed below, they are:

- **Section 1:** This includes thirty-two questions relating to the offenders' lifestyle and general criminal characteristics. This section deals with issues such as personal background, family background, criminal history and minor criminal behaviour. The questions about personal background included marital status, level of education and skills, abuse of drugs, psychiatric history, etc. Family background issues referred to questions about the relationship between offenders and their parents, violence and criminality in family, etc. Questions referring to criminal history include the offenders' age at the time of the first conviction, number of convictions, types of convictions, etc. Minor criminal behaviour included questions about the theft of wallets on the street, the stealing of chequebooks, etc. These questions required a "yes" or "no" answer from the respondents.

- Section 2: This section contains thirteen questions addressing issues more specifically related to the crime of robbery. It provides information such as the kind of items stolen, exchange of stolen items, amounts of money stolen, the planning of the crimes, selection of the victims, behaviour towards the victim, etc. Thus, this section investigates the criminal activities used to commit the crime, the *modus operandi*, and relationships with the victims. The majority of the questions required a “yes” or “no” answer and with the other questions the respondent was asked to tick the appropriate boxes (see section 2, Appendix I).
- Section 3: This section contains nine questions addressing issues more specifically related to the crime of burglary. It deals with issues such as the kind of premises targeted by the burglars, amounts stolen, the planning of the crime, behaviour towards the victims, etc. Thus, basically these questions examine how the burglars commit their crimes, their *modus operandi*, and their relationship with the victims, etc. Again, the majority of the questions required a “yes” or “no” answer but others required the ticking of the appropriate boxes referring to different categories (see section 3 of the questionnaire in Appendix I).

Two important points need to be discussed in relation to the questionnaire. Firstly, the questions containing categories demanded that the respondent choose and tick the appropriate boxes. However, in none of these questions were the respondents forced to choose just one category. Thus, it was explained that the respondent could tick more than one box if appropriate. This strategy was used to avoid statistical problems associated with multiple exclusive variables. This occurs if a question is arranged in such a way as to force the respondents to choose just one of the categories, thus denying the existence of other categories related to the specific question. For example, if a given question contains the categories A, B and C and the respondent is forced to choose just one of these categories then the other two categories will of necessity be absent. Accordingly, when these three categories are later transformed into variables and all three included in the same statistical procedure they will deny each other’s existence, so that if A occurs then B and C cannot and so on.

The other important point that needs to be discussed in relation to data collection refers to the choice of using a questionnaire. The use of a questionnaire as the instrument of data collection in the present study was preferred for two reasons. The first reason was the time factor, since using the questionnaire was quicker than conducting interviews. Indeed in this present study some initial interviews were carried out when searching for the best conditions for data collection from the offenders' point of view.

On these occasions it was observed that many offenders vacillated before they finally "reached the point" so wasting a considerable amount of time. Secondly, as reported by the offenders to the researcher, the majority of the offenders were suspicious of interviews because in their view they exposed more clues about their formal identity in interviews than in questionnaires. For example, they thought their voice could be recognised in the tape recordings of the interviews. In fact, many offenders in this sample would not agree to be interviewed if the interviews were to be recorded.

However, preliminary informal conversations and interviews were carried out, with those offenders who agreed, without tape recording these conversations and with the taking of only brief notes. This material was used in this study to complement the information/data in the questionnaires. To have some control over the validity of what was said in the interviews the interviewer's notes were, when possible, checked against the police files. Also those who agreed would often be interviewed more than once to verify if there was ambivalence in their statements given in the previous interview. The interviews were semi-structured since they followed the format of the questions in the questionnaire but they were presented informally.

Some offenders wrote statements on the back of their questionnaires and these provided interesting additional information that was quoted here when interpreting the data and when applicable.

However, the offenders still reported feeling much better about giving information in an anonymous questionnaire, particularly when they were not required to sign it, than in giving verbal interviews. Therefore after preliminary informal conversations and interviews with the criminals it became clear that the questionnaire was going to be the most convenient and efficient instrument of data collection that could be used. Furthermore this did not preclude the use of additional interviews being carried out with the agreement of some of the offenders if or when necessary.

The questionnaire's validity was tested in a pilot study conducted in the prison Presídio do Serrotão, Campina Grande, where 10 offenders completed the questionnaire. This was done to verify if the questionnaire met the aims of the proposed research. The ten completed questionnaires were then examined to see if there were any problems with how the questions were formulated and if the respondents had problems understanding the questions. Completion of the questionnaire was also accompanied by interviews with the same offenders to check the validity of the answers given to the questionnaire.

After making the necessary corrections, the final version of the questionnaire was completed by the sample under study. In different sections of the questionnaire some questions were formulated in a different way and repeated to verify the consistency of the answers. For example in section 2 dealing basically with the crime of robbery, question 4 asked "Do you commit theft as part of a group?" and in section 3 dealing basically with the crime of burglary question 9 asked "Do you usually commit burglary as part of a group?"

7.2 - The Procedure for Data Coding

One hundred and five variables were encoded from the questionnaire used in this present study. Fifty-five of these variables were used in the main analysis on robbery (see Appendix II for these variables) and fifty in the main analysis on burglary (see Appendix III for these variables). Thirty-five of the variables were

common to both robbery and burglary and were included in the section referring to robbery as well as in the section referring to burglary.

In the data encoding process when a variable was present it was coded as 1 and if it was absent it was coded as 0. For example, if the question was “Do you make plans before committing the crime?” and the subject answered “yes” then the variable “plan” received the code 1 to show the occurrence of this variable. On the contrary if another subject gave the answer “no” to this question then the variable “plan” received the code 0 to show the non-occurrence of this variable. In the case of questions containing various categories each category was considered as a separate variable.

If a box referring to a category was ticked then the variable received the code 1 and if it was not ticked then it received the code 0. For example, if the question was “Which of these things did you steal?” and it contained different categories such as car, credit card and food and the categories car and credit cards were both ticked then the variables “car” and “credit card” received the code 1 while “food” received the code 0. Therefore, the coding of the variables produced a matrix such as the one presented in table 7.2 (see Appendix IV for the Data Matrix used for the analysis on robbery and Appendix V for the analysis on burglary).

Table 7.2: An Example of the Matrix Produced by the Encoding of the Variables Used in the Present Study

Subject No.	Variables			
	Plan	Car	Credit Cards	Food
1	1	1	1	0
2	0	0	0	1
3	1	1	0	0

The encoded variables will now be discussed in more detail in relation to the issues they represent.

7.2.1 - Variables Dealing with Criminal Activities

A number of variables reflect the characteristics of the offenders' criminal activities. In the case of robbery the variables reflecting criminal activities basically refer to what was stolen and how these stolen items were disposed of. In the case of burglary these variables specifically focused on the kind of premises targeted by the burglars. Table 7.2.1 shows the variables reflecting criminal activities in relation to robbery and burglary (see Appendix II for the variables used for robbery and Appendix III for burglary).

Table 7.2.1 - Variables Dealing with Criminal Activities

ROBBERY	BURGLARY
Variable Label	
£-5	House
£10-100	Office
£+100	School
Object Low	Flat
Object High	Restaurant
Food	Factory
Credit Card	Petrol Station
Money	Shop
Car Parts	Club
Car	Garage
Pass On	
Change Drugs	
Take Money	

7.2.2 - Variables Dealing with Criminal History

Some of the variables reflect the offenders' criminal history, for example the offenders' convictions and imprisonment characteristics. Accordingly, these variables show if the offender received his first conviction when less than 20 years old, if he had more than three convictions and if he had been in maximum security prisons and/or in institutions for young offenders. In the case of the variables reflecting a criminal history of robbery the variables also show the commitment of minor criminal behaviour such as the stealing of a wallet on the street, or stealing a chequebook or money from someone at home. Table 7.2.2 shows the variables reflecting criminal history in relation to robbery and burglary (for a description of these variables see Appendix II for robbery and Appendix III for burglary).

Table 7.2.2 - Variables Dealing with Criminal History

ROBBERY	BURGLARY
Variable Label	
Conv-20	Conv-20
Conv+3	Conv+3
Security	Security
Young	Young
Crime Person	Crime Person
Change	
Money Home	
Wallet	
Cheque	

7.2.3 - Variables Dealing with Criminal Actions Related to the Commitment of the Crimes

A number of variables reflect the offenders' actions performed in relation to the commitment of the crime. Some of these variables refer to actions carried out in advance of the crime, such as planning and preparing escape routes. Others refer to actions during the crime such as the use of a disguise and a weapon. Others refer to actions performed after the crime such as running away immediately. Table 7.2.3 shows these variables reflecting behaviour related to the commitment of the crimes of robbery and burglary (see Appendix II for a description of the variables on robbery and Appendix III for burglary).

Table 7.2.3 - Variables Dealing with Criminal Actions Related to the Commitment of the Crimes

ROBBERY	BURGLARY
Variable Label	
Plan	Plan
Weapon	Weapon
Group	Group
Disguise	Disguise
Select Victim	Select Premise
Run Away	Escape Route
Public Place	£10,000
	Mess
	Leave Tool

7.2.4 - Variables Dealing with Actions Towards the Victims

Five variables address the offenders' actions towards the victims of their crimes. These variables reflect different levels of action from threatening, humiliating and verbally attacking the victims to actions where the offender physically hurts the victim. These variables express the offenders' desire to establish some kind of contact with the victims of their crimes. The same five variables involving actions towards the victims were used in the analysis of both robbery and burglary and are presented in table 7.2.4 (see Appendix II for details of the variables on robbery and Appendix III for burglary).

Table 7.2.4 - Variables Dealing with Actions Towards the Victims

ROBBERY	BURGLARY
Variable Label	
Threat	Threat
Verbal	Verbal
Physical	Physical
Scares	Scares
Humiliate	Humiliate

7.2.5 - Variables Dealing With Personal Background

Some of the variables dealing with the offenders' personal background refer to marital status, level of education and skills. Other variables reflect the offenders' lifestyle characteristics and refer, for example, to drug and alcohol abuse, addiction to gambling and barbiturates and to a history of psychiatric treatment. These same variables were used in both the robbery and burglary studies and are presented in table 7.2.5 (see Appendix II for the details of the variables on robbery and Appendix III for burglary).

Table 7.2.5 - Variables Dealing with Personal Background

ROBBERY	BURGLARY
Variable Label	
Married	Married
Married Plus	Married Plus
EducElem	EducElem
Unskilled	Unskilled
Alcohol You	Alcohol You
Gambling	Gambling
Glue	Glue
Drugs	Drugs
Barbiturates	Barbiturates
Psychiatric	Psychiatric

7.2.6 - Variables Dealing With Family Background

These variables show general characteristics of the family such as did the offender live with both parents when a child, were there siblings living with them and what was the employment condition of the father. This set of variables also included if the offenders' parents were divorced, the offenders' relationship with their mother, abuse of alcohol by parents, etc. Other variables showed more chaotic and disturbed characteristics such as criminality, abuse and violence within the family. Again these variables were the same ones used to analyse both robbery and burglary and are presented in table 7.2.6 (see Appendix II for the variables on robbery and Appendix III for burglary).

Table 7.2.6 - Variables Dealing with Family Background

ROBBERY	BURGLARY
Variable Label	
Mum / Dad	Mum / Dad
Brother	Brother
Unskilled Father	Unskilled Father
Mum / Dom	Mum / Dom
Divorced Parents	Divorced Parents
Mum / Bad	Mum / Bad
Alcohol Parents	Alcohol Parents
Criminal Family	Criminal Family
Violent Parents	Violent Parents
Violence Family	Violence Family
Abused	Abused

CHAPTER 8

THE HYPOTHESES OF THE PRESENT STUDY

8.1 - The Framework for Testing the Hypotheses

The main aim of this present study was to search for clues that could help identify robbers and burglars by combining information referring to the instrumental aspects of the crimes (i.e. level of planning, amounts stolen, premises selected, etc) with the interpersonal side of the crimes (i.e. behaviour showing the levels of interpersonality displayed) and then linking these to different lifestyle characteristics of these criminals. Therefore it is hypothesised that those issues of an instrumental nature and levels of interpersonal contact displayed during the offences are both going to be related to lifestyle characteristics and that the analysis of these aspects can help in differentiating between criminals.

In fact, it is being hypothesised here that the lifestyle of the criminals, influences and even defines criminal activity and interpersonal desires and that these as a whole are expressed at the scene of the crime. It is believed, that distinguishable lifestyle characteristics are expressed at the scene of the crime that are directly linked to psychological issues which define consistent behavioural patterns referring to criminal behaviour. Thus, the aim here was to search for a model or framework that could be used to examine which distinct behavioural characteristics of robbers and burglars could be related to which lifestyle characteristics to help in the process of their identification. Each of the components of this hypothetical scheme will now be discussed.

8.1.1 - The Structure of Robbers and Burglars' Behaviour According to Instrumental Criminal Actions

Instrumental criminal actions will be considered here as referring to a consistent thematic structure showing levels of craft ability and planning issues. This is based on previously highlighted major perspectives in the literature that emphasise an instrumental approach to crime as being linked to those actions showing craft and planning (see chapter 2). The hypothesis posed in the present study is that there will be distinct thematic structures linked to the instrumental side of the crime that can be identified and interpreted from the analysis of the co-occurrence of these instrumental actions.

Thus, common sets of actions (variables) are expected to show distinct themes referring to the instrumental nature of the crimes. Therefore it is hypothesised that actions reflecting instrumental issues will group and so co-occur together showing different levels of instrumental behaviour. For example, if an action referring to the instrumental nature of the crime is present in a distinct theme, such as the action of planning the crime, then it will be expected that other instrumental actions will co-occur, such as the preparation of escape routes, so supporting the planning issue and reinforcing the instrumental nature of the crime.

Thus, it is believed that there will be consistency in the patterns of behaviour identifying thematic structures referring to an instrumental approach to the crime. However, the main aim of this present study is to differentiate between robbers and burglars by considering their different patterns of behaviour. Thus, it is also hypothesised that some offenders will behave in terms of this instrumental approach, but not all. Therefore different structures of robbers and burglars' behaviour, which are not instrumental ones, also need to be considered and these are discussed next.

8.1.2 - The Structure of Robbers and Burglars' Behaviour According to Interpersonal Actions

The search here is for consistent thematic structures reflecting actions of an interpersonal nature. Major concepts in the literature which point to an interpersonal approach to the crime as reflected by actions showing a desire to establish contact or a kind of relationship with the victim during the crimes will be considered (see chapter 3). Again, it is being hypothesised here that there will be distinct thematic structures linked to the interpersonal side of the crime that can be identified and interpreted from the analysis of the co-occurrence of these interpersonal actions.

Thus, common sets of actions (variables) reflecting different themes referring to an interpersonal approach to the crime will be expected to co-occur. For example, if an action of interpersonal nature such as the verbal attack on a victim occurs then other actions of an interpersonal nature such as threatening or even physically attacking the victim should also be present, so reinforcing the interpersonal context of the crime. However, and as mentioned before, the main aim here is still to differentiate offenders by their patterns of behaviour.

So what about if the instrumental and interpersonal approaches are not well defined when examining the crime situations? What if some actions are doubtful and so are related to both the instrumental and interpersonal nature? In order to try to answer these questions the present study will consider other structure which could be related to and reinforce robbers and burglars' behavioural patterns as being of an instrumental or of an interpersonal nature and these will be discussed next.

8.1.3 - The Structure of Robbers and Burglars' Behaviour According to their Lifestyles Characteristics

The literature suggests that some lifestyles promote criminality (see chapter 4). However, it usually just sees lifestyle characteristics as influencing criminal behaviour in general but does not point to which specific lifestyles are related to which specific types of criminal behaviour. In the present study the lifestyle characteristics will be tested in combination with specific instrumental and interpersonal actions to examine which of the lifestyle characteristics co-occur with which actions.

It is hypothesised here that the lifestyle will be consistent and cohesive with the behaviour displayed by the criminals, thus reinforcing a given instrumental or interpersonal pattern of behaviour. It would be expected for example that behaviour showing interpersonal desires towards the victims will be linked to and so co-occur with lifestyle characteristics reflecting this interpersonal nature. For example those who display violent acts towards the victims during the crime would be linked to a violent lifestyle. While, it is expected that those more instrumental crimes would be related to offenders with a less chaotic lifestyle, in which disturbed events are less common.

Thus, it is hypothesised that the lifestyle characteristics influence and define behaviour and that these characteristics are brought to the crime scene. It is believed that the pattern of behaviour of an offender will be related to his lifestyle and that his pattern of behaviour will be responsible for the consistent theme of his actions. Thus, it is being hypothesised that the analysis of different themes of actions in relation to lifestyle characteristics will help reinforce the differences between offenders.

The possibility of examining instrumental, interpersonal and lifestyle structures to help define robbers and burglars' behaviour proposed here will rely on the analysis of the co-occurrence of actions reflecting these structures. Thus, the statistical

methods for testing the hypotheses need to show not just primary correlations between actions but also the co-occurrence of these actions and level of associations in order to help define distinct thematic structures. The statistical methods used in this present study will now be discussed.

8.2 - Statistical Methods for Testing the Hypotheses

Fifty-five variables were used for the analysis on robbery and fifty variables for the analyses on burglary (see chapter 7 for data coding). These variables deal with criminal activities, criminal history, criminal behaviour related to the commitment of the crimes, actions towards the victims, and personal and family background (see Appendices II and III for description of the variables used for robbery and burglary, respectively).

In order to examine the relationship between the variables and to test the hypotheses of the present study two main statistical computer procedures were used. Firstly, the data examined were analysed using the computer program called Smallest Space Analysis – SSA. Then further analyses of the data were made using Partial Order Scalogram Analysis – POSA.

However since the programme Smallest Space Analysis (SSA) shows the overall relationship between the variables based on rank order some of the relationships between the points (variables) can be weak even though the points are contiguous. To deal with this problem other statistical methods were used to test the strength of the associations between the variables within the SSA structure.

The Phi coefficient of correlation and Binary Logistic Multiple Regression Analysis were used to verify the strength of the associations within the facets elements identified by the SSA structure. The Point-biserial correlation test was used to verify the associations across the facets elements. These tests were calculated using the computer programme SPSS for Windows.

Subsequently the POSA computer procedure was also used to obtain information in relation to the subjects. This is because SSA looks at the relationship between the variables not between individuals and the purpose of the POSA analysis is to show that the patterns that exist between the variables can work at the level of individuals. The statistical procedures used are discussed in detail next.

8.2.1 - Smallest Space Analysis - SSA

Smallest Space Analysis – SSA (Lingoes, 1973) is a non-metric multidimensional scaling procedure that examines the relationship between each variable and every other variable and represents the relationships in a geometrical visual space. The SSA procedure is based on the assumption that the underlying structure of a complex system is better understandable if the relationship between each and every variable is examined. Thus, SSA allows the hypotheses to be tested by considering the co-occurrence of every variable with every other variable.

SSA computes correlation coefficients between all variables and then rank orders these correlations creating a triangular matrix consisting of correlation coefficients for each variable as correlating with every other variable. Because SSA operates using the rank order of the correlations between variables, and not on their absolute values, it is able to produce solutions in the smallest possible space and represents the correlations as a rank of distances. These correlation coefficients are used to form a spatial representation of items with points representing variables. SSA represents the correlation between variables as distance in a geometric space.

Therefore the more highly correlated two variables are, the closer will be the points that represent them in the SSA geometric space. The pattern of points representing regions can then be examined by looking at the way the variables group together. Thus, the variables that share the same facet elements should appear together in the same region of the multidimensional space showing their high correlation. Variables

that have low interrelation will appear in different regions of the SSA plot and thus not share the same facet elements (see Canter and Heritage, 1990).

SSA provides the opportunity of analysing the data in different dimensions, with 2 and 3 dimensional solutions more commonly used. A 3-dimensional solution was used in this present study because the regions were better defined in 3-dimensions than in two. The degree of fit for a pre-determined dimension is called its coefficient of alienation. The coefficient of alienation indicates how well the spatial representation fits the co-occurrence of the variables. The smaller the coefficient of alienation, the better the fit, with 0 representing a perfect fit. However the value of the coefficient of alienation will also for example depend upon on the complexity of the variables and the number of variables being analysed. Thus, as Borg and Lingoes (1987) emphasised, it is difficult to say how “good” or “bad” the representations are and so which value the coefficient of alienation may have.

SSA also provides a choice of different coefficients of association for the analysis. The more commonly used one in studies in Investigative Psychology is Jaccard’s coefficient of association. It is an appropriate measure of association for data that may be incomplete or as stated by Canter (1994) when the data is “muddy”. Thus, Jaccard’s coefficient is appropriate for use with reports that do not contain all the information and where there is doubt that the absence of data actually represents its absence. Also Jaccard’s coefficient is used for incomplete data that usually come from police records and some interview procedures.

However, when the researcher is not using incomplete data and when the absence of data represents the true case then Yules Q coefficient is the appropriate coefficient of association to be used. Thus, in this present study the Yules coefficient of association was used because the absence of data represents the true case, because there was no incomplete data and because the data comes from a self-reported questionnaire rather than from police files.

It is important to explain that the SSA statistical procedure of looking for regions defining distinct groupings of variables is linked to the Facet Theory approach (Shye, 1978) that also proposes searching for grouping of variables representing distinct facets. Thus, by considering facets that will be represented by regions of the SSA space the hypotheses of a given study can be tested. The SSA space can be defined by partitions into regions that represent distinct facet elements that refer to the hypotheses under study. Hence all the variables within a particular SSA region should represent distinct facet elements while variables in another region should represent another facet element. Thus, Facet Theory and SSA statistical procedures offer a different way of examining associations between variables by making a geometric visual representation of the relationships.

In the past, studies on crime that considered this inter-relationship between variables commonly used Factor Analysis. However, Factor Analysis considers the mathematical linear combination of the factors and in doing so, according to Donald (1985), fails to reveal the qualitative nature of the inter-relationships between variables. In the present study SSA was preferred as the procedure for data analysis rather than Factor Analysis mainly because SSA will be related to an association matrix rather than to linear combinations of factors, while Factor Analysis considers the quantitative but not the qualitative inter-relationship between the variable. It was also preferred because the SSA procedure considers low and highly correlated variables grouped according to facet/theme while Factor Analysis tends to ignore variables that do not correlate highly with the factors proposed.

Thus, in summary, SSA provides the possibility of identifying elements of the same facet by looking at the position of the points in the SSA plot. The more highly correlated two variables are then the closer will be the points that represent these variables in the SSA plot. The aim then is to search for regional space in the plot where variables are included by their degree of correlation.

Two SSA analyses were carried out in the present study; one containing the fifty-five variables for the analysis of robbery and the other containing fifty variables for the analysis on burglary. The results from these SSA analyses will be presented and discussed in the results section. The other statistical procedures used are discussed next.

8.2.2 - Tests for Correlations and Strengths of Association Between Variables

The Phi Coefficient correlation test was used to test the strength of the relationships between the variables within each of the facets elements, identified by the SSA Analysis. The Phi Coefficient is obtained by dividing the value of chi-square by the total frequency and taking the square root (see Kinnear and Gray, 1997). The Phi coefficient was chosen instead of other correlation tests such as Pearson, because the variables were all dichotomous. Binary Logistic Multiple Regression Analysis was used to determine the strength of the associations between the variables within the facets elements. This method predicts the value of one variable in relation to another.

Thus, the strength of the associations between variables was considered from different statistical perspectives. One, the Phi test calculates a single number (a coefficient of correlation) to express the strength of the association. The other, the Regression Analysis, calculates the association between variables by predicting the values of one (the dependent variable) from those of another (the independent variable).

The Point-biserial correlation was used to examine the associations of the variables across the facet elements identified by the SSA analysis. It was chosen because the point-biserial test can consider in the same analysis, dichotomous and continuous variables, as was the case here when examining variables across the facet elements.

8.2.3 - Partial Order Scalogram Analysis - POSA

Partial Order Scalogram Analysis – POSA was used in this present study to further investigate the thematic structures suggested by the SSA results (for full details on POSA see Shye, 1978). Dancer (1990) describes POSA as a method of analysis especially suited to investigating structural relationships among people who differ in degree and type with respect to some well defined behaviour. This “well defined behaviour” represents a conceptual scale on which the behaviour occurs.

In other words, and considering the procedures here, some variables from the SSA analysis were further examined by POSA to search for this conceptual scale on which these behaviours/variables happened. In order to do so POSA considers a common and meaningful order, which in this current study came from and will refer back to the thematic structures identified by the SSA analyses.

The main principle behind POSA then is to “compare individuals with respect to their similarities across a number of variables simultaneously” (Porter & Alison, 2001; pg. 485). POSA generates numerical profiles for each individual in relation to the score for each selected variable and thus demonstrates the underlying structure of the selected variables by considering a meaningful conceptual scale referring to the individuals’ profiles on these selected variables. In other words, POSA considers the profiles generated for each case for the selected variables and scales them according to their cumulative scores across the variables.

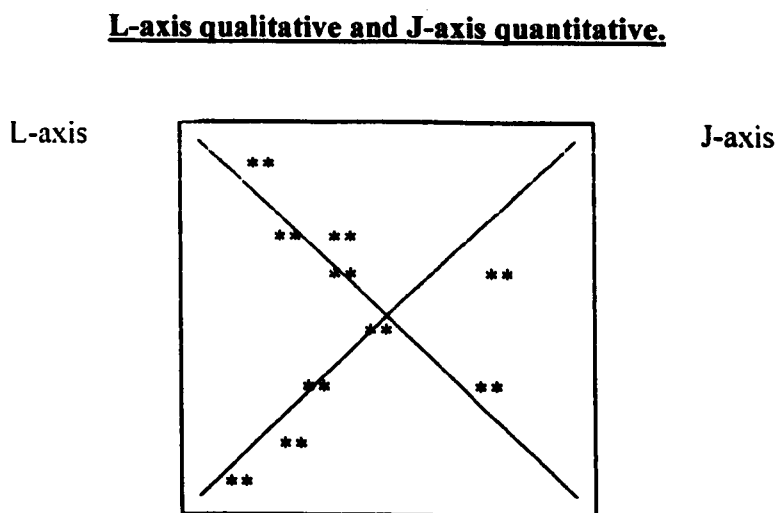
For example, if 5 variables are selected for a specific POSA analysis and if all these 5 variables were present for a particular case then the profile would be 22222 (i.e. 2=Present). However, if all these 5 selected variables were absent from a case then the profile would be 11111 (i.e. 1=Absent). It is also important to understand that because POSA also considers the qualitative differences the profile will differ when taking into account this qualitative context. For example, the profiles 22111 and 11122 have the same sum so they are quantitatively the same (e.g. $2+2+1+1+1=7$; and $1+1+1+2+2=7$).

However, these profiles differ qualitatively since different sets of variables are present/absent in different combinations in these profiles. In the profile 22111 the first two variables are present and the last three variables are absent; while in the profile 11122 the first three variables are absent and the two last ones are present; which make these profiles qualitatively different despite being quantitatively equal.

Thus, in the POSA analysis the profiles are being considered and measured both quantitatively and qualitatively and are differentiated along two main scales, the L-axis and the J-axis. The L-axis measures each profile qualitatively while the J-axis measures each profile quantitatively, as showed in figure 8.2.1, and a two-dimension scale is produced to represent these measurements by considering the profiles of the individuals.

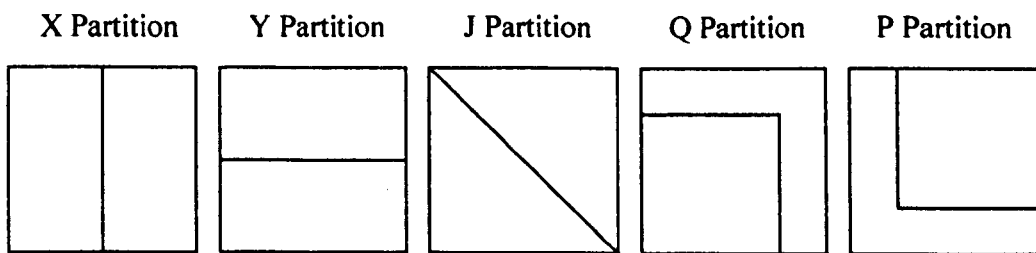
POSA further provides a main plot for all the cases and a series of item plots for each of the variables. The item plots maintain the same configuration of points as the main plot, but each item plot shows in more detail the structure of the scale in relation to the presence or absence of each variable. Thus, this present study is using what is called POSAC or POSAX and not a simple POSA (for details of POSAC and examples of its use see Dancer, 1990).

Figure 8.2.1: POSA Analysis - Profiles Measurements:



The underlying relationship between the variables is interpreted by examining the divisions between the particular variables that are either present or absent. POSA suggests different types of partition by considering the order and/or sub order imposed on the variables under examination. Partition along the X-axis and Y-axis indicates that an essential factor underlies the relationship between the variables. The Q-axis partition accentuates these essential factors, whilst the P-axis partition moderates these essential factors and partition along the J-axis reveals the quantitative differences (figure 8.2.2).

Figure 8.2.2: Different Types of POSA Analysis Partition



CHAPTER 9

THE STUDY OF ROBBERY

9.1 - Objectives of the Study of Robbery

The overall aim of this chapter is to analyse general patterns of robbers' behaviour in terms of levels of instrumentality and interpersonality in relation to their lifestyle characteristics. It is hypothesised that issues such as the degree of craft employed, target selection and the amount of money or goods stolen are related to psychological issues such as levels of impulsivity and of interpersonality displayed during the offence which can all be related to a distinct lifestyle. In other words, it is believed that distinct lifestyle characteristics are expressed at the crime scene which are directly linked to psychological issues such as levels of interpersonality and impulsivity also displayed and which as a whole influence and even define behavioural patterns of criminal behaviour. Thus, the aim here is to marry the issues referring to the interpersonal, the instrumental and the lifestyle approaches to produce a model that reflects distinct behavioural characteristics helpful to the process of criminal identification.

9.2 - The Data and Sample on Robbery

This chapter on robbery is based on the analysis of data that were collected by anonymous questionnaire completed by a total of 210 imprisoned Brazilian offenders of which 168 reported committing robbery (for details on the overall

sample see chapter 6). Thus the data sub-set on robbery being considered in this chapter comprises 168 robbers. Not all 168 offenders had been charged with or had been convicted of robbery but all reported having committed robbery when completing the questionnaire. Thus, the sample expresses the commitment to robbery more than merely convictions for it, since the subjects reported a much larger number of offences than they have convictions. Hence, they could be in prison for other reasons but if they reported having committed robbery then they were included in the data analysis of this chapter.

9.3 - The Method and Procedure for the Analyses of Robbery

In order to test various hypotheses relating to the crime of robbery (see chapter 7), variables were considered which related to the robbers' criminal activities (e.g. items stolen, distribution of stolen items), criminal history (e.g. records, convictions, imprisonment), criminal behaviour (e.g. actions showing planning, degree of interpersonality displayed towards the victim) and personal and family background (as referring to lifestyle characteristics). Thus, the main aim of this chapter is to examine if there were relationships between different themes of robbers' behavioural style as expressed by the co-occurrence of the variables. The search will be for characteristics of the robbers that could be helpful in identifying them.

The main statistical procedure used was the computer program Smallest Space Analysis (SSA), to determine the relationships between the variables in terms of their co-occurrence and grouping (see chapter 8, topic 8.2.1, for details on SSA analysis). The other statistical procedure used was Partial Order Scalogram Analysis (POSA) to verify accumulative scales that could support the observed correlations between variables (for details on POSA analysis see chapter 8, topic 8.2.3). In these analyses the specific themes referring to the underlying thematic groups of variables were considered. Also other complementary statistical tests were used to examine the strength of the associations between the variables (see chapter 8, topic 8.2.2 for details on these tests).

CHAPTER 10

DESCRIPTIVE ANALYSIS OF ROBBERY

10.1 - The Descriptive Analysis of the Robbery Data Set

Before moving on to the examination of the results of the SSA and POSA analyses and the more complex relationships between the variables under study, other features of the data set will be explored. Firstly the percentages of the variables will be presented to allow familiarity with the sample on robbery. Secondly, for the purpose of generalization, these percentages will make it possible to compare the results from the analysis of the data sample of the present study with trends in the literature on robbery. These percentages refer to variables relating to the main issues under consideration and the topics comprising these issues.

The topics considered are:

- Criminal activities (e.g. stolen items, distribution of the stolen items);
- Criminal history (e.g. minor criminal behaviour and dishonest actions, criminal records, convictions and imprisonment);
- Criminal behaviour (e.g. robbers' actions related to the crime scene, robbers' actions towards the victims);
- Personal background (e.g. education, employment and marital status; drugs, other addictions and mental status);
- Family background (e.g. general characteristics of family and parents; violence, abuse and criminality in the family).

In order to facilitate this process of descriptive analyses table 10.1.1 contains the variables in relation to these main topics (see Appendix II for description of the variables used on robbery).

Table 10.1.1: Variables for the Descriptive Analysis on Robbery
According to Main Topics Proposed

CRIMINAL ACTIVITIES	CRIMINAL HISTORY	CRIMINAL BEHAVIOUR	PERSONAL BACKGROUND	FAMILY BACKGROUND
Stolen Items	Minor Criminal Behaviour and Dishonest Actions	Robbers' Actions Related to the Crime Scene	Education, Skills and Marital Status	General Characteristics of Family and Parents
£5 £10-100 £+100 Object Low Object High Food Credit Card Money Car Parts Car	Wallet Cheque Change Money Home	Run Away Select Victim Weapon Plan Group Public Place Disguise	EducElemen Unskilled Married Married Plus	Mum-Dad Brothers Unskilled Father Alcohol Parents Divorced Parents Mum-Dom Mum-Bad
	Criminal Records		Drugs, Other Addictions and Mental Status	
	Crime Person Property Crime Robbery Only		Drugs Barbiturates Glue Gambling Alcohol Psychiatric	Violence Family Violent Parents Abuse Criminal Family
Distribution of the Stolen Items	Convictions and Imprisonment	Robbers' Actions Towards the Victims		
Take Money Pass On Change Drugs	Conv-20 Conv+3 Young Security	Scares Threat Humiliate Verbal Physical		

The percentages referring to the variables relating to these topics under consideration will be presented next. Note that the percentages do not count 100% because the offenders could choose more than one of the categories in the questions of the questionnaire. This procedure was applied to avoid the statistical problem of multiple exclusive variables (see chapter 7, topic 7.1, for details).

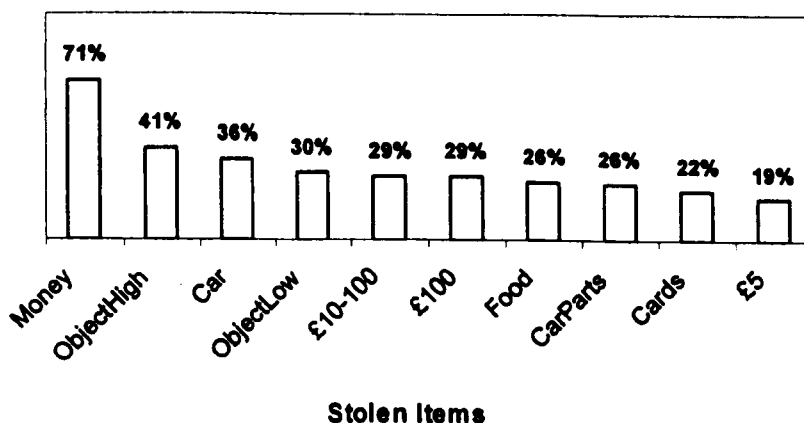
10.2 - Criminal Activities of the Robbers

10.2.1 - Stolen Items

The percentages referring to the stolen items (figure 10.2.1 below) reveal that among the main objectives of any robbery is the acquisition of money. In this study 71% of the robbers reported having stolen money in the form of cash. In the literature several studies on robbery, and those which considered issues such as stolen items, also found that money in the form of cash was the main aim (Feeney, 1986; Kapardis, 1989).

For example, Kapardis (1989) found that 82% of the robbers in his sample stole cash. At this point what is important to understand about money stolen, as stated by Matthews (2002; pg. 32), is that “money has a number of different meanings and uses amongst different types of robbers” and this will distinguish them. Feeney (1986) explained for example that some of those seeking money wanted it for drugs, others to buy specific things such as clothes, or food and others just have a general desire for money.

Figure 10.2.1: Percentages of Variables Indicating the Stolen Items



Considering other aspects of stealing money in this study, 29% of the robbers always stole cash of a value greater than £100 pounds (see figure 10.2.1) and 29% stole money between £10 and £100 pounds while 19% reported stealing £5 or less. Other relatively popular items to the robbers in this sample were objects of high value such as jewellery (41%) and cars (36%). Here, objects of low value, e.g. clothes or bicycles, were stolen by 30% of the robbers.

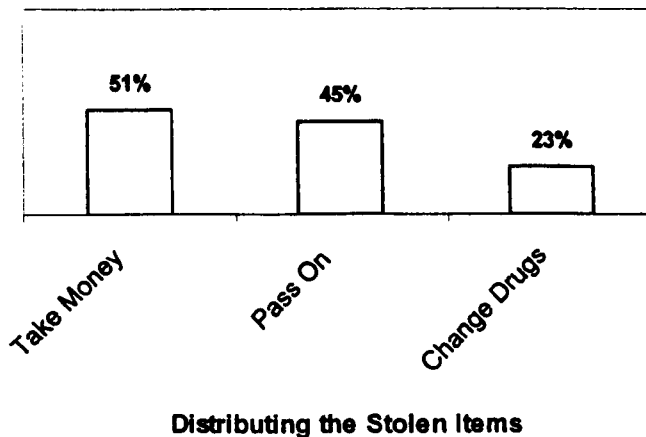
In this sample 26% of the robbers stole food, 26% stole car parts and 22% stole credit cards. Thus, the percentages for stolen items shows that the robbers in this sample concentrate more on stealing money (71%), objects of high value (41%) and cars (36%) rather than in stealing for example food (26%), car parts (26%), credit cards (22%) and small amounts of money such as £5 (19%).

10.2.2 - Distribution of the Stolen Items

Another issue considered as important in helping to distinguish between robbers was the different ways in which they distributed the stolen items. Figure 10.2.2 shows that here about half of the robbers (51%) just accepted money as payment when passing on the stolen items. However, 23% preferred to exchange the stolen items for drugs and, in either case if taking money or changing for drugs, nearly a half of the sample (45%) will pass on immediately the stolen items.

Few studies in the literature explore different ways in which robbers distribute stolen items. When it is considered it is by studies that examine the structure of criminal networks (Naylor, 1995; Kock, Kemp & Rix, 1996). However, these researches usually focus on the dispose of the property taken as basically relating to offenders' role in a network and thus concentrate in making a general distinction between those who steal and those who handle stolen goods.

**Figure 10.2.2: Percentages of Variables Indicating
the Distribution of the Stolen Items**



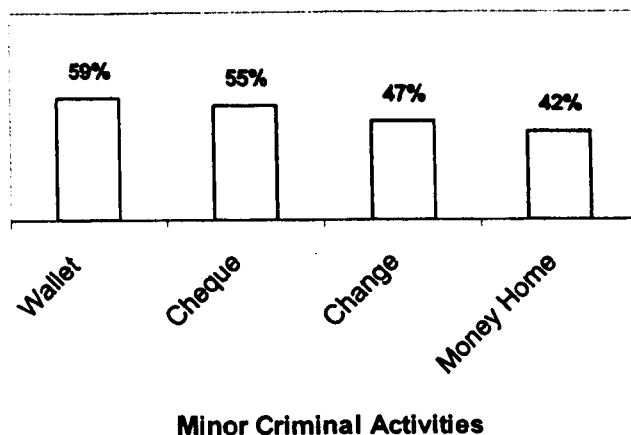
10.3 - Criminal History of the Robbers

10.3.1 - Minor Criminal Behaviour and Dishonest Actions of the Robbers

According to the sample under study here (figure 10.3.1) robbers admitted to minor criminal behaviour during their criminal careers and some dishonest actions during their lives. More than half (59%) stole a wallet from someone passing on the street and also reported stealing chequebooks (55%) which they later used to pay a bill or to buy goods. In relation to dishonest actions, about half of the sample (47%) reported that they did not return extra money that a cashier gave them by mistake and nearly a half (42%) stole money from someone at home.

These percentages show that more than half of the robbers in this sample have been involved in minor criminal activities. In the literature most studies emphasise minor criminal behaviour and dishonest actions as related to young offenders and few make effort to link the findings to these offenders later when they are adults (see Muncie, 1999).

**Figure 10.3.1: Percentages of Variables Indicating
Minor Criminal Activities and Dishonesty Actions of the Robbers**

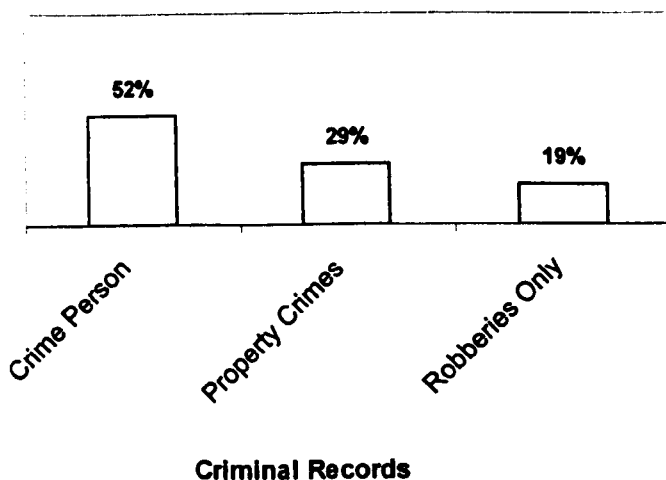


10.3.2 - Criminal Records of the Robbers

The great majority of the offenders in this sample (81%) reported having committed other crimes not just robbery. Figure 10.3.2 below shows that few committed only robberies (19%) and 29% reported having committed other property crimes as well. Importantly, about half of the robbers in this sample (52%) reported having convictions for crimes against the person.

Just considering the crime of robbery in this chapter, the results, presented here as percentages, are not in accordance with the notion of specialization amongst offenders as in relation to criminal careers (see Farrington, 1992). This approach states that specialization will occur and that offenders who commit property crimes will tend to commit similar types of crime. Thus, for example the majority of offenders who commit robberies will tend to commit other property crimes and not crimes against the person, but here this was not the case.

**Figure 10.3.2: Percentages of Variables Indicating
Criminal Records of the Robbers**

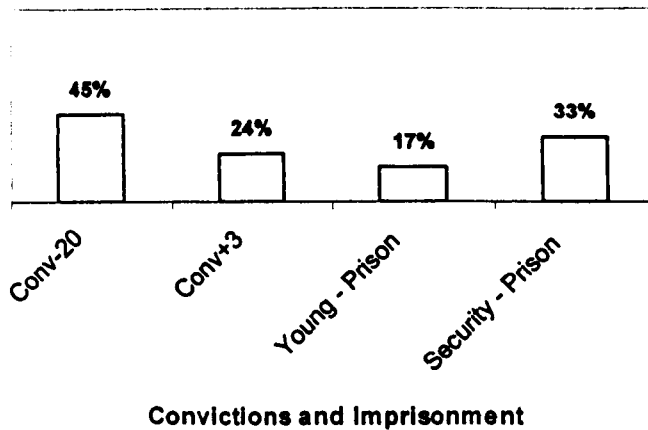


10.3.3 - Convictions and Imprisonment of the Robbers

Nearly half of the robbers in this sample (45%) received their first conviction when less than 20 years old (figure 10.3.3). In many studies in the literature (Farrington, 1986; Kapardis, 1989) this percentage is even higher, between 60% and 70%. In the present study a considerable number of the robbers (25%) reported having at least three convictions.

In the Kapardis study (1989) 42% had been to prison more than twice before participating in his research. In relation to imprisonment, in this present study few had been in institutions for young offenders (17%) but a considerable number (33%) had already been in maximum-security prisons by the time these data were collected.

**Figure 10.3.3: Percentages of Variables Indicating
Convictions and Imprisonment of the Robbers**



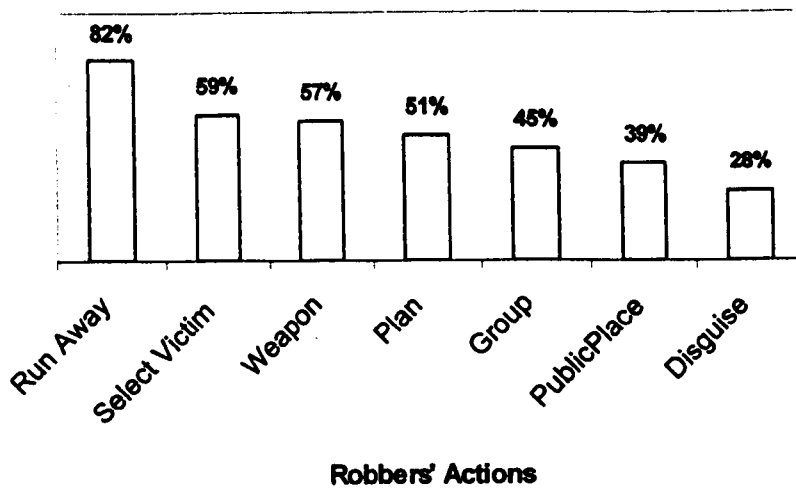
10.4 - Criminal Behaviour of the Robbers

10.4.1 - Robbers' Actions Related to the Commitment of the Crimes

The first percentages to be presented here refer to variables that are believed by the literature to be related to planning. Figure 10.4.1 shows that in this present study 51% of the robbers said they had planned their robberies. This finding contrasts with the results of Feeney (1986) who found that in a study of 113 Californian robbers, 75% stated that they *did not* plan at all. However, in the editor's note in Feeney's study it was in fact concluded that this lack of explicit planning may be more apparent than real. The editor argued that a serious crime such as robbery should not be frequently linked to such apparent lack of deliberation on the part of the offender.

In a parallel perspective, Alison *et al* (2000) stated that working in groups is a characteristic of those robbers who plan their crimes. In the present study 51% of the sample planned their crimes and 45% worked in groups to commit their crimes.

**Figure 10.4.1: Percentages of Variables Indicating
Robbers' Actions Related to the Commitment of the Crimes**



Alison *et al* (2000) also mentioned that many believe that wearing a disguise is the norm, however in their view this is a fictional account. In fact, they found that nearly half (46%) wore no disguise. In the present study the great majority of the robbers wore no disguise (72%) and just 28% reported using a disguise. Alison *et al* (2000) considered that wearing a disguise was a control tool like a weapon and that there would be a strong relationship between disguise and the weapon. In the present study over a half of the robbers used a weapon to commit their crimes (57%) and in the study of Alison *et al* (2000) over a half of the robbers also used a weapon (67%).

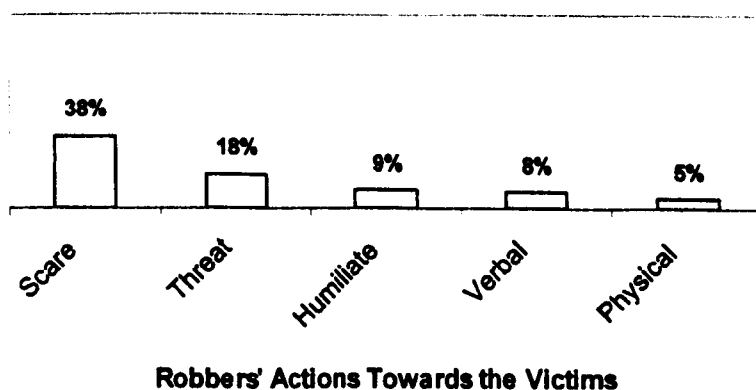
Referring to the sample under study in this chapter, it can be said that a considerable number of the robberies in Brazil happened in public places (39%). In America more than half of the robberies take place in the open (Conklin, 1972). In England there is a tendency to study in separation commercial and street robberies. Thus, of course, robberies in public place are not specifically considered in studies focusing on commercial robberies (see Jones 2001; Matthews, 2002), making it difficult here to establish percentages for the total of robberies in England that occur in public places.

Considering other features related to the robbers' actions in the sample under study here, it can be observed that more than half (59%) select carefully the victims to steal from and that the great majority of the robbers (82%) run away immediately from the scene of the crime after committing the robbery.

10.4.2 - Robbers' Actions Towards the Victims

As regards robbers' behaviour towards the victims during the offences, some offenders displayed actions that are related to a desire to establish at least some contact with the victim and more specifically to hurt the victim. As figure 10.4.2 shows, a considerable number of the robbers (38%) in the present study reported making the victim feel fear during the attack. Some robbers (18%) reported using the approach of threatening the victim, such as threatening to kill, to cut their throat, etc. Some reported using actions meant to humiliate the victim (9%), such as taking the victim's clothes and leaving them naked before leaving the crime scene. Some reported verbally insulting the victims by using demeaning words (8%) and others reported physically assaulting and injuring the victims (5%).

Figure 10.4.2: Percentages of Variables Indicating Robbers' Actions Towards the Victims



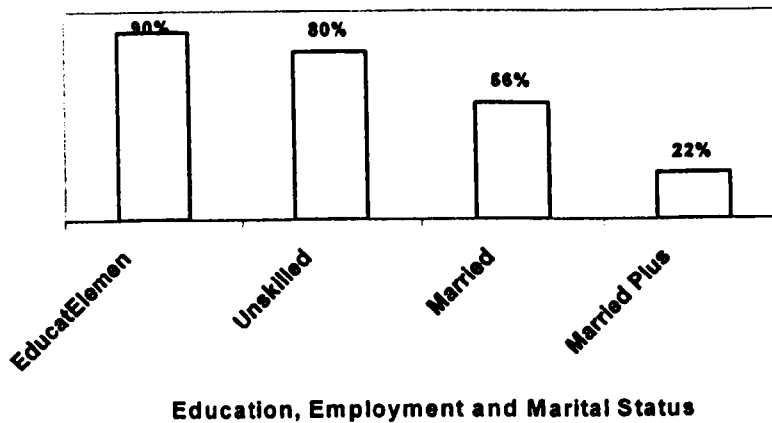
If the behaviour of scaring the victims is excluded, it can be observed that the other percentages are low and this suggests that the great majority of the robbers will probably try to avoid contact or cause injuries to their victims (figure 10.4.2). This is in agreement with the literature that states that robbery is in essence an economically motivated crime and extra contact with the victim is uncommon. For example Feeny (1986) concluded that generally the robbers do not appear to take any abstract pleasure in hurting people. In a study by Kapardis (1989) it was found that in 82 per cent of the robberies, the victims sustained no physical injury. The percentages here are in fact showing that when the robbers in this sample displayed actions directly towards the victims it was more likely to be actions to scare the victims (38%) and/or even threaten them (18%), but few went to the extreme of physically hurting their victims (5%).

10.5 - Personal Background of the Robbers

10.5.1 - Educational Level, Skills and Marital Status of the Robbers

In this sample, as shown in figure 10.5.1 below, the great majorities of the robbers had an elementary education (90%) and were unskilled (80%), which in general is indicative of these types of individuals. Indeed most studies in the literature on robbers show low levels of education and that the majority are unskilled (Hochstetles, 2001; Matthews, 2002). In Kapardis' study (1989) 75% of the robbers possessed no employment skills and the great majority had low levels of education. Indeed 78% dropping out of school before the age of 15 with 91% dropping out of school by the age of 16. In the present study a little more than a half of the robbers were married (56%) and of those nearly half reported having been married at least twice (i.e. 22% of the total). The results differ in the literature in terms of the percentages of robbers married, considering issues such as average age of the sample, etc; however a similar percentage was found in relation to how many times the robbers will marry, in general the literature states that usually half or more will marry more than once (see Kapardis, 1989; Shover, 1996).

Figure 10.5.1: Percentages of Variables Indicating Educational Level, Skills and Marital Status of the Robbers



10.5.2 - Drugs, Other Addictions and Mental Status of the Robbers

In this sample a great majority of the robbers (76%) used or use some kind of drugs (figure 10.5.2) but despite this the link between crime and drugs in a causal context is not clear. Several studies in the literature also show high level of drug use between offenders in general and in particular among those committing property crimes (see Moore 1983; Feldman, 1993; Bean, 2002). Nearly half of the robbers in the present study (41%) also reported taken barbiturates without medical prescription.

Few studies in the literature examine the relationship between robbers and the use of barbiturates and again a causal context is not clear, but Goldstein (1985) made some observations about taking barbiturates or other related substances as related to crime in general. A considerable number of the robbers in this sample also reported having sniffed glue (40%).

**Figure 10.5.2: Percentages of Variables Indicating
Drugs, Other Addictions and Mental Status of the Robbers**

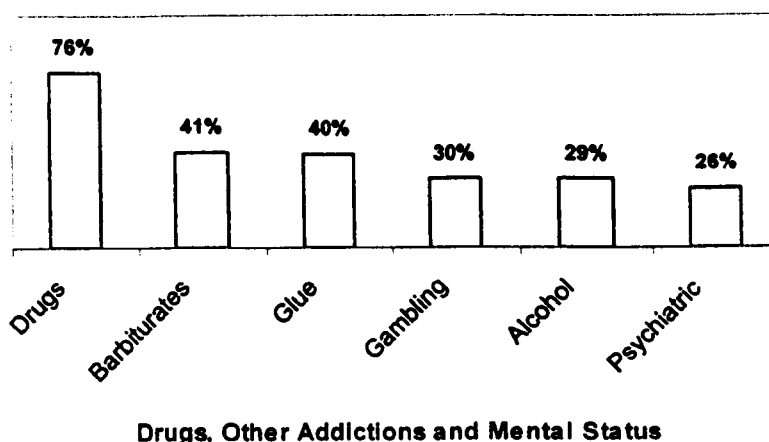


Figure 10.5.2 shows that 29% of the robbers reported being addicted to alcohol. A similar percentage was found by Kapardis (1989) where 30% reported having serious problems with alcohol. In the present study 30% of the robbers also reported being addicted to gambling. Matthews (2002) also found a considerable interest amongst robbers in different forms of gambling.

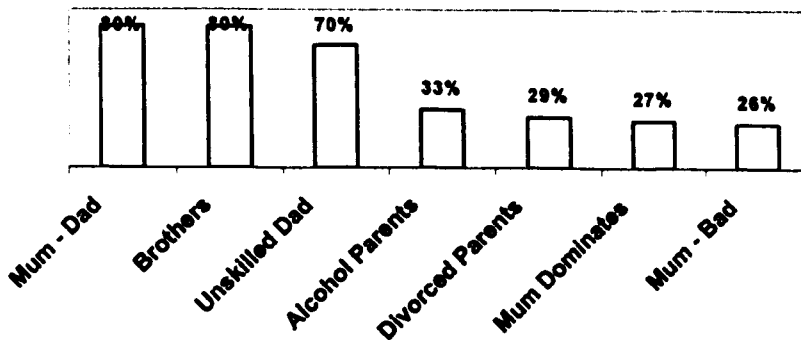
When considering the robbers' mental status in this sample, 26% reported having a history of psychiatric treatment. Gibbens (1981) studied the relationship between property offenders, mental disorder and psychiatric treatment and found a significant link, which was even stronger in the case of shoplifters and Kleptomaniacs. Thus Figure 10.5.2 shows some relevant personal characteristics of robbers in relation to addictions and mental status. The majority abused drugs (76%), a considerable number used barbiturates (41%) and sniffed glue (40%), some were addicted to gambling (30%) and alcohol (29%) and a considerable number had a history of psychiatric treatment (26%).

10.6 - Family Background of the Robbers

10.6.1 - General Characteristics of Family and Parents of the Robbers

Figure 10.6.1 below shows that the great majority of the robbers in this sample lived with both parents during their childhood (80%) and had brothers living with them (80%). However, 29% of the robbers reported having experienced divorce between their parents at some stage in their youth. Kapardis (1989) also found that 29% of the robbers reported having come from broken families i.e. where the parents had divorced. In the present research 70% of the robbers had unskilled fathers. A similar result was obtained by Kapardis (1989) who found that 75% of the robbers had unskilled fathers. In the present sample whilst still considering the parents' characteristics, 33% of the robbers reported having alcoholic parents. A considerable number of the robbers (27%) reported having the mother as the dominant figure in the family and 26% reported having a bad relationship with their mothers, where the mother was cold, aloof or even hostile. In the literature these last issues are usually considered in relation to crime in general (see chapter 4) and are not necessarily or specifically related to robbery, as is the case here (Jones, 2001).

Figure 10.6.1: Percentages of Variables Indicating General Characteristics of Family and Parents of the Robbers

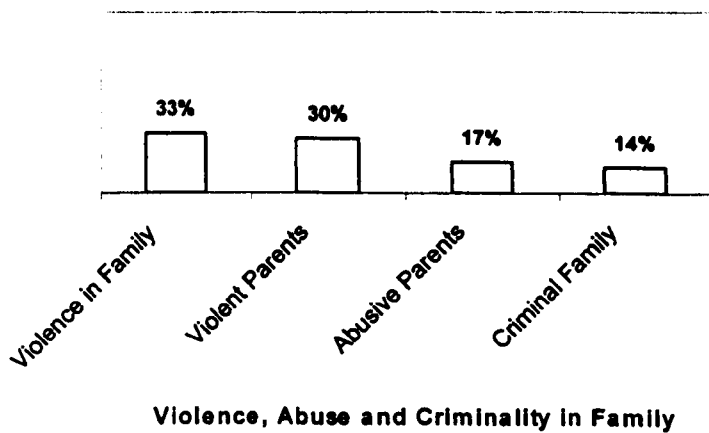


General Characteristics of Family and Parents

10.6.2 - Violence, Abuse and Criminality in the Family of the Robbers

In the present sample 33% of the robbers reported having witnessed violence in family (figure 10.6.2). A considerable number of the robbers also reported having suffered from parental violence (30%) and/or being abused verbally or physically by their parents (17%). Some of the robbers also reported criminality in the family having parents or brothers who committed crimes (14%). Again the percentages presented in the literature on these issues are usually related to crime in general and not specifically to the study of robbery (see chapter 4).

Figure 10.6.2: Percentages of Variables Indicating Violence, Abuse and Criminality in the Family of the Robbers



10.7 - The Nature of Brazilian Robbers

The descriptive statistics showed that in relation to criminal behaviour, the prime motivation of the great majority of the robbers in this Brazilian sample was the acquisition of money. This was supported by the facts that Brazilian robbers tended to steal money (71%) and objects of high value (41%) with only a minority stealing items of low value such as food (26%) and car parts (26%). In this respect Brazilian robbers conformed to the general finding in the literature that money is the main reason for committing robbery (Feeney, 1986; Matthews, 2002), and thus, as in other countries, robbery in Brazil is an instrumental crime rather than an emotional one.

This motivation for the acquisition of money also affected the way in which they disposed of stolen items since a large percentage (51%) just accepted money as a payment for the stolen items.

Still in relation to their criminal behaviour, another characteristic of many Brazilian robbers was that they also tended to commit minor criminal actions. More than half the sample stole wallets (59%) and chequebooks (55%) on the streets.

The results also showed that only 19% of Brazilian robbers specialised in robbery with 81% therefore committing other types of crime such as other property crimes (29%) and crimes against the person (52%), such as rape and murder. Therefore the results for this sample of Brazilian robbers are contrary to the idea that robbery is a specialised crime.

The statistics on Brazilian robbers seemed to suggest that many were individuals who did not start to commit crimes early in life. More than half of the sample (55%) received their first conviction when older than 20 years of age and just a few (17%) had been in institutions for young offenders. However, this could also mean that these individuals were not apprehended because of the lack of efficiency in the

police investigations that is indeed a fact in Brazil. In contrast 33% of the sample had been in maximum-security prisons by the time of this study.

Half or more of the Brazilian robbers planned their crimes (51%), used a weapon while committing their crimes (57%) and selected their victims carefully (59%). They were also preoccupied with concealing their identity by either using a disguise (28%) and/or leaving the crime scene immediately after committing the crime (82%). According to the literature these are the characteristics of the more professional criminals (Walsh, 1986; Blackburn, 1993; Alison *et al*, 2000). Another characteristic of the more professional criminal is the avoidance of violent actions towards the victim and in the present study only a few robbers were physically violent towards their victims (5%) while committing robbery. Thus it would seem that the Brazilian robbers in this sample were professional criminals.

According to the literature, robbers generally have only an elementary education and are unskilled (Blackburn, 1993; Jones, 2001). This was also observed in the majority of cases in this present study on a Brazilian sample, where 90% were poorly educated and 80% were unskilled.

Another indisputable characteristic of robbers mentioned in the literature is the use of drugs (Been, 2002). Indeed, the literature states that many robberies are motivated by the need to get money to buy drugs. Brazilian robbers are no different with a large percentage (76%) making use of drugs although the significance of this is not clear. The same cannot be said about alcohol abuse (29%) and gambling (30%) however, as these were not common characteristics of the majority of Brazilian robbers.

Only a relatively small percentage appeared to have suffered from psychiatric disturbance with a history of psychiatric treatment (26%).

On first examination it appeared that Brazilian robbers tended to come from a so-called “normal” family background since they were not orphans or street children, nor did they live in institutions but in fact lived with their parents as children (80%) with siblings living with them (80%). However, the great majority had unskilled fathers and this was likely to have put them in a difficult economic and social situation.

About a third of the Brazilian robbers came from families where the parents were alcoholics and where they had experienced divorce between their parents at some stage of their lives. A considerable number also came from violent families where they witnessed violence between the members of the family (33%) and were themselves victims of parental violence (30%). Some came from families with a history of criminality where parents and/or brothers had committed crimes (14%).

Thus, whilst a large proportion of the Brazilian robbers came from family backgrounds with economic problems only about a third of them were from a disturbed family background of violence, alcoholism and criminality. Being part of such a disturbed family environment may however have relevant implications for the robbers’ behavioural pattern and this will be examined later in more detail.

Thus, having presented the percentages in a general description of the present data set, the results from the SSA on the relationship between the variables in this study on the crime of robbery will be examined next.

CHAPTER 11

SSA ANALYSIS ON ROBBERY

11.1 - The Results of the SSA Analysis on Robbery

The SSA plots to be presented here represent the two facets robbers' criminal behaviour and robbers' lifestyle and it was possible to identify different elements within each of these facets. The partitioning of these SSA plots identifying the elements was made in relation to the co-occurrence of the variables reflecting a model to analyse robbery. The facets of robbers' criminal behaviour and robbers' lifestyle and their elements will be discussed next.

11.2 - The Facet of Robbers' Criminal Behaviour

The results of the SSA plot (figure 11.2.1) showed that two distinct regions or elements could be identified in the facet of robbers' criminal behaviour. The groups of variables related to these facet elements differ in relation to the levels of instrumentality and interpersonalness displayed when committing the robberies and in the nature of the objects stolen. For example, instrumentality refers to the craft ability displayed and interpersonalness to the degree of interpersonal contact between the offender and the victim. These two different elements of the facet of robbers' criminal behaviour were named: the *Interpersonal* and the *Instrumental*.

SSA - The Elements of the Facet of Robbers' Criminal Behaviour

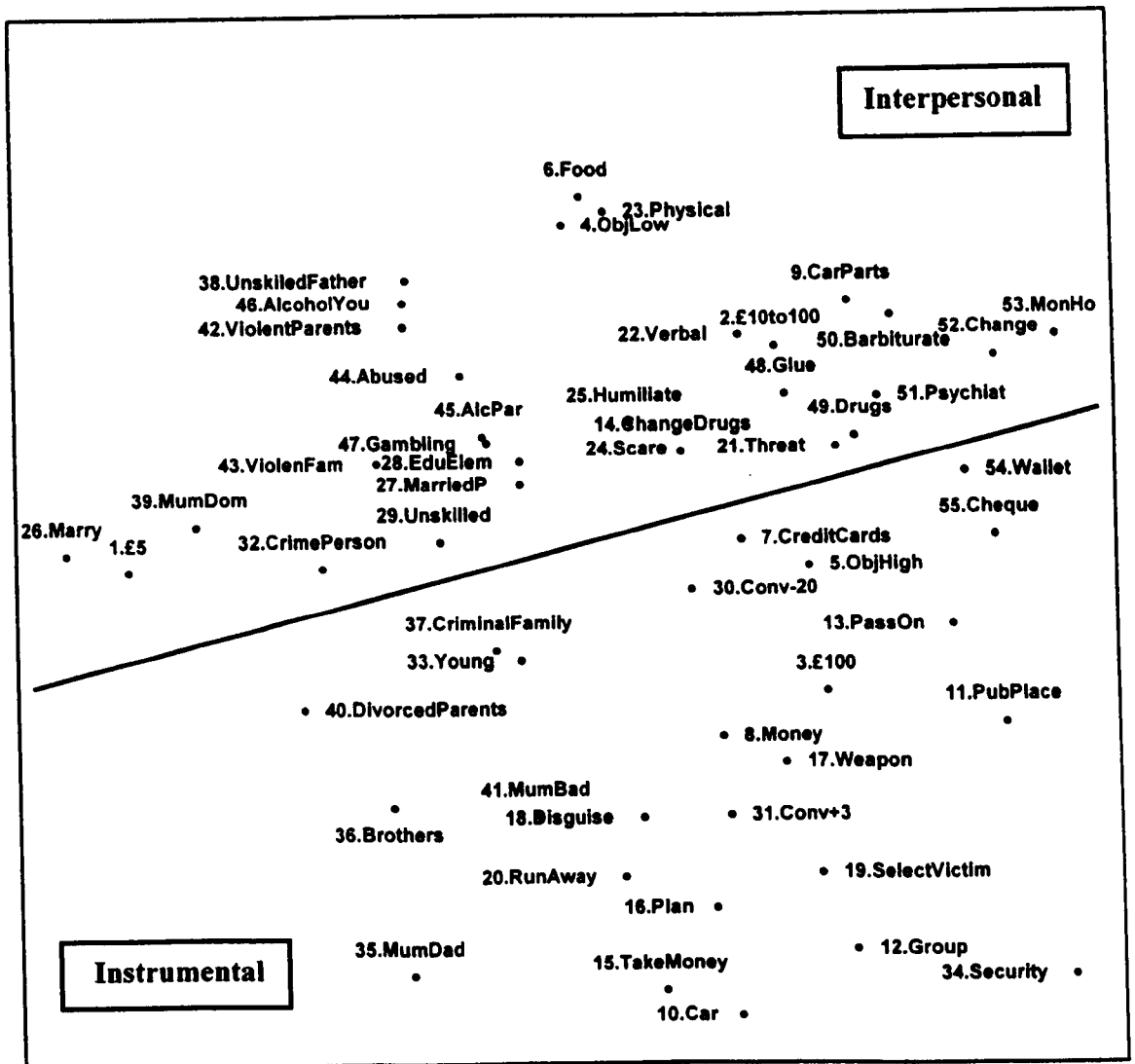


Figure 11.2.1: SSA Plot Illustrating the Facet of Robber's Criminal Behaviour and the Facet Elements: Interpersonal and Instrumental. The sample comprises 168 Subjects. The plot contains 55 variables. (see Appendix II for details of the variables). Coefficient of Alienation: 0.29; Vector 2 against 1; 3D; Yule's Q.

Towards the top of the SSA plot (figure 11.2.1) is a group of variables of a more interpersonal nature with actions directed towards the victim during the crime as well as variables referring to the theft of low value items. This group of variables was named *Interpersonal* to reflect a behavioural pattern related to the focus being on the victim and a lack of interest in the profit the crime may provide. On the opposite side of the SSA plot at the bottom is a different group of variables (figure 11.2.1). This group of variables expresses the planning of the crime and the stealing of high valuable objects. Accordingly, this region was called *Instrumental* to reflect a behavioural pattern related to the focus being on planning and the profitable nature of the crime.

These two elements of the facet of robbers' criminal behaviour, different in nature, reflect the existence of a possible distinctiveness in robbers' patterns of action. These facet elements and their peculiarities will be considered next in more detail, but before this it is important to make some additional comments about the classification of interpersonal or instrumental.

It is important to explain that these two elements relate to a differentiation in terms between emotional-impulsive and skill or craft aspects and they try to show how the actions/characteristics can be differentiated in terms of emotional intensity and consequences (Canter and Alison, 2000). Thus here the facet element *Interpersonal* relates to emotional-impulsive aspects and the facet element *Instrumental* to skill or craft aspects. This explanation is necessary because in the literature these interpersonal and instrumental terms often receive different terminologies. For example the interpersonal may refer to emotion and impulsivity whilst the instrumental to planning and professionalism (see pg. 40).

This also explains why some variables were classified in this study as interpersonal or instrumental. For example the criminal behavior of physically attacking the victim, having a background of drug addiction and experiencing violence are considered here to be linked to an interpersonal context since both reflect impulsive-emotional characteristics. On the other hand the criminal behavior of planning the

crime and coming from a background where neither drug addiction nor experience of violence were apparent are considered here to be linked to the instrumental context since both reflect more planning-thinking and less impulsive-emotional characteristics.

It is also important to understand that the distinction between interpersonal and instrumental aspects is not always clear. Thus some characteristics may be related to both aspects or to none of them. For example in this present study it will be observed that the characteristic of scaring the victim during the crime was related to the interpersonal context. However some would argue that this action has a clear instrumental function since it could be used to control the crime situation instead of expressing emotional actions. Taking these arguments into consideration, the *Interpersonal* and *Instrumental* elements and their peculiarities will now be discussed in more detail.

11.3 - Interpersonal Element of the Facet of Robbers' Criminal Behaviour

The top of the SSA plot (figure 11.2.1) contains the group of variables that refers to actions focusing on the victim's presence at the crime scene. Thus, the patterns of action in this region reflect the attention paid by the criminal to the victim and because of this, the region was called *Interpersonal*, to place emphasis on the actions towards the victim. The nature of the variables of this *Interpersonal* element demonstrates well that the committing of the crime involves actions establishing a relationship with the victim.

In this *Interpersonal* region, and related to an interpersonal approach, are the variables "threat", "verbal", "physical", "scares", and "humiliate" (see Appendix II for a description of the variables). These variables demonstrate that the strategies used by the robber during the crime involved threatening the victims, verbally insulting them, physical attack, humiliating the victim and scaring them stiff (see offender's statement below).

Offender's Statement: "I always have this idea of scaring them stiff so they will behave and do what I want. I also scream at them using swearwords. Sometimes I will hit them a bit just so that they know who is the boss. At other times, when I'm drugged up, I hit them just to have a bit of fun. I may also humiliate them by stripping them and leaving them naked".

The other variables in this region suggest that the lifestyle related to the pattern of behaviour of this *Interpersonal* element involves some sort of drug abuse and psychiatric problems. Thus, it suggests that the maltreatment of the victims during the execution of the crime is likely to be linked to a lifestyle related to a high level of impulsiveness and emotion.

It may also be that the offenders who over exaggerate the interpersonal approach towards their victims are likely to be the individuals who bully and maltreat people in their everyday lives. This inference is supported by the Narrative Theory, when applied to criminals, which suggests that the way offenders behave during a crime will be related to the way they behave in other areas of their lives (see McAdams, 1988 and Canter, 1994). Thus, it is being implied here that there is a consistency in behaviour such that if an offender uses a violent approach towards the victim as a strategy to get what he wants from the crime then he may use this same strategy to get what he wants in other life situations.

Another variable of an interpersonal nature found in this top region of the SSA plot was "crime person". The lifestyle characteristic that seemed to be linked to this action of committing crimes against the person was one of having personally experienced violence. Considering the grouping of variables in this region, the lifestyle characteristics related to this *Interpersonal* element included having violent parents (variable "violent parents"), having been abused by them (variable "abused") and witnessing violence in the family (variable "violence family").

The behavioural pattern of this element also showed lifestyle characteristics involving experience of alcohol abuse by the offenders (variable "alcohol you"), and by their parents (variable "alcohol parents"), having just an elementary education

(variable “educelem”), being unskilled (variable “unskilled”) and also having unskilled fathers (variable “unskilled father”). Thus, it seems that the commitment of crimes against the person during the crime of robbery may relate to the lifestyle characteristics mentioned here and to a disturbed and violent background.

These patterns of actions related to the *Interpersonal* element therefore focuses on the relationship between the offenders and their victims. Some may physically and verbally attack the victim whilst others may go to the extreme and commit crimes against the person. Analysis of these actions implies that the focus is on the possibility of forming an interpersonal relationship with the victim more than on the crime of robbery itself and this is what is driving the offender’s actions.

Another fact that supports the over attention on the victim rather than on material gain is the low value of the items stolen during the robberies. The *Interpersonal* region (figure 11.2.1) contains the variables reflecting a much lower expectancy in terms of the value of the objects taken from the site of the crime namely: “£5”, “£10-100”, “object low”, “car parts” and “food”.

The stealing of these low valuable things is also probably suggesting that less professional skills are needed to steal these things. This idea is supported by the presence of the variables “object low”, “£5” and “£10-100” in this *Interpersonal* region. An object that costs more than one hundred pounds will probably be better protected and thus demands a more professional approach to steal it. For example, an expensive jewel will be locked inside a showcase, whilst a £50 ring may be displayed on an open stand. Similarly, the stealing of “car parts” and “food” (other variables of the *Interpersonal* region) do not seem to reflect the demand for any specialised criminal skills.

Thus in summary the *Interpersonal* element of the facet of robbers’ criminal behaviour contains variables that are related to a high interpersonal desire which may include acts of violence towards the victim that may go as far as committing crimes against the person. These actions appeared to be linked to an impulsive and

emotional lifestyle involving drug and alcohol abuse. The grouping of variables also suggested a lack of planning (since the variable “plan” did appear in this region) and of little interest in profit or the instrumental side of the crime.

Therefore it is suggested that the pattern of actions displayed during criminal activities may be linked to, and be an expression of the offender’s lifestyle. This may be the case when interpersonal desires are shown towards the victim since the pattern of actions will probably be linked to a lifestyle of disturbance, addiction and violence.

11.4 - Instrumental Element of the Facet Robbers’ Criminal Behaviour

Towards the bottom of the SSA plot is the region called *Instrumental* because the variables positioned there reflect a strategy of planning of crime. This facet element contains not only the variable “plan”, but also the variables “disguise”, “runaway”, “weapon”, and “select victim” (description of these variables in Appendix II). Thus, the pattern of actions here includes the planning of the offence, and also the use of a disguise, use of a weapon, careful selection of the victim to be attacked and of leaving the crime scene immediately after acquiring the desired objects.

Most importantly in relation to this *Instrumental* element and emphasised in the literature (see pg. 40) is that these abilities of planning, thinking, and self-control, because they are less impulsive characteristics, help the individual to focus on achieving the goal (Blackburn, 1993). Accordingly, those offenders who are able to plan are likely to be focusing on the crime itself and will probably avoid unnecessary violence in achieving their criminal goal of theft. Alison *et al* (2000) stated for example, when analysing robbers’ behaviour, that their capacity to plan is related to a desire to be more professional and accordingly they will avoid gratuitous violence as a way of establishing dominance over their victims. Walsh (1986) also stated that the offenders who show a degree of planning would avoid violence.

In the present study the variables referring to planning are found on the opposite side of the plot to the variables relating to violence towards the victims and to crime against the person implying that actions related to planning do not seem to be linked to the desire to use an interpersonal approach.

The *Instrumental* region (figure 11.2.1) also contains the variables “car”, “£+100”, “object high”, “credit cards”, and “money”, all of which tend to express the goal or desire for more valuable objects (see Appendix II for a description of these variables). The expectation seemed to be high in that the objects stolen were of a relatively greater value than those variables found relating to the *Interpersonal* element. Therefore the *Instrumental* element also seems to encompass the desire for more valuable objects and the desire for committing a robbery here will be related to the search for valuable objects and the criminal activity will reflect this goal. What matters is the achievement of the goal, which seems to be the possession of the object rather than a desire to engage in interpersonal relationships with the victim. The cognitive thinking will be directed towards planning and avoiding emotional-impulsive actions. Thus, here a degree of rationality seems to be present rather than an emotional need to make the crime an “excuse” for achieving desired interpersonal relationships.

Because of the nature of the variables co-occurring in the *Instrumental* region, it can be supposed that this pattern of behaviour exhibits a more professional approach to crime. Katz (1988) has argued that these types of robbers will spend weeks rather than days planning a robbery and that they are likely to have a perception of themselves as career robbers. In fact, in cases where the robbers plan their actions, the focus seems to be on the crime itself and on a desire to be more professional and less emotional when committing the crime (Walsh, 1986; Alison *et al*, 2000).

In this study the planning actions did not appear to be linked to the interpersonal actions (see figure 11.2.1) showing that these planning actions seem not to be driven by a desire to engage in a relationship with the victim or to perform thoughtless, impulsive and violent actions. This is not in accordance with the findings of a study

on robbers carried out by Matthews (2002; pg. 29) which stated that more professional robbers will demonstrate their violent capabilities “by engaging in apparently gratuitous or ‘irrational’ violence...”. However in the Matthews study the robbers’ lifestyle was not considered in relation to their behavioural pattern.

In this present study the analysis of the lifestyle characteristics as related to and as an expression of the behavioural patterns served to explain why and to support the hypothesis that a high level of violence is probably not the central feature of the instrumental approach. For example the variables related to having come from a disturbed family background with experience of violence and of suffering parental abuse are not found in the *Instrumental* region of the SSA plot (figure 11.2.1). This may explain why instrumental behaviour is not linked to violent actions against the victims, as the offenders had not suffered from violence at home.

The instrumental approach to crime seems to be linked to a higher level of education and skills since the variables “elementary education” and “unskilled” appeared in the opposite top region of the plot. The grouping of variables in this *Instrumental* region is also suggesting that the robbers who displayed instrumental actions may come from broken homes (variable “divorced parents”) and from a criminal family background (variable “criminal family”) and this may account for their more developed criminal skills.

11.5 - The Interpersonal Element as Opposed to the Instrumental Element of the Facet of Robbers’ Criminal Behaviour

The present research suggests that by considering different themes of criminal behaviour it is possible to distinguish between different styles of offending. Canter (2000) suggested that it is possible, for example, to make a comparison between offenders who prepare carefully in advance of a crime with those whose actions are impulsive and opportunistic. Indeed, the results presented here suggest, by the grouping of variables, that it is possible to distinguish between offenders whose

patterns of actions are more emotional and impulsive from those who are more rational and professional in the execution of their crimes.

Thus related to the *Instrumental* element is the achievement of the goal that is the possession of the objects. In the case of the *Interpersonal* element there will be underlying desires behind the basic desire to steal objects from the crime scene such as the need to satisfy a desire for engaging in ill-formed interpersonal relationships with the victim. Despite not being supported here by formal evidence, it seems that the possession of the desired objects in this case might be secondary to the need to fulfil interpersonal desire.

This finding implies that these distinct desires will influence the pattern of actions and may define even issues such as for example what is taken from the crime place. Here the implication is that the actions related to the *Interpersonal* element such as the stealing of small amounts of money and low value items are more likely to co-occur with actions such as threatening, verbally insulting, humiliating and physically attacking their victims. In contrast those actions related to the *Instrumental* element such as the stealing of high value objects seem to be linked to actions related to planning, preoccupation with the risk of apprehension and avoiding violent actions.

When comparing the groups of variables referring to the two distinct facet elements just in relation to what is stolen it is possible to make other inferences about the robbers' criminal behaviour. For example, the action of stealing credit cards (variable of the *Instrumental* element) does not co-occur with the action of stealing small amounts of money e.g. "£-5" or "£10-100" (variables of the *Interpersonal* element). In fact, the grouping of variables here suggests that the stealing of credit cards may be linked to the stealing of large amounts of money. This inference is supported by the co-occurrence of the variables "credit cards", "money", "£+100" and also "car" in the *Instrumental* region. These results would also suggest that in the Brazilian context (where the data were collected), credit card theft and car theft tend to be well-organised activities rather than petty crimes as seem to be the case in Britain. However, again there is no formal evidence to support this inference here.

Also it is important to explain now that the variables “£5”, “£10-100” and “£100” were considered just to imply a range, from the lower (£5) to the higher (£100 and over). The variable “£100” (£100 and over) was used because in Brazil this is a meaningful value since the minimum monthly salary in Brazil is less than £100 (i.e. R\$ 260/ approximately £60). Thus, the value of £100 is a substantial sum of money, since in Brazil the majority of the population lives on a minimum salary or less per household.

The study of different patterns of behaviour in relation to distinct facet elements can be helpful when making possible inferences about offending styles and even offenders' identity. For example, Canter (1994) identified three different elements of the facet of criminal behaviour considering the role the criminals assign to their victims. He suggested that offenders would differ in the way they relate to their victims according to the identified elements “victim as an object”, “victim as a vehicle”, and “victim as a person”.

The findings in this present study resemble in some ways the findings of another study carried out by Alison *et al* (2000) who also considered facet elements related to criminal behaviour. They found three types of robbers in relation to robbers' behavioural style, namely: “Bandits”, “Cowboys”, and “Robin's Men”. They concluded that “Bandits” would use demeaning language, carry out acts of gratuitous violence and show a lack of planning. Similarly, the “Cowboys” showed little planning, used opportunistic violence, abused their victims and did not bother to disguise themselves. These actions have commonalities with the actions relating to the *Interpersonal* element identified in this present study for example, verbally insulting and humiliating the victims, the use of gratuitous violence and a lack of preoccupation with both the use of disguise and of planning the crime.

The other category “Robin's Men” seems to relate to the *Instrumental* element of the present research since this group will demonstrate non-impulsivity, plan the crime, use a disguise and unlikely use of violence or demeaning language.

However the work of Alison *et al* (2000) did not include variables relating to the robbers' lifestyle, as was considered in the present study, which could have explained the impulsive versus planning actions in relation to the criminals' lifestyle characteristics. In the present study this is considered to be an important tool in discovering a criminal's identity by making a bridge between the criminal's actions performed during the crime and "non-criminal" characteristics relating to daily life. It is suggested here that the lifestyle will be expressed and influence the way a criminal performs during the commitment of the crime and indeed may drive and define the criminal activity.

Thus, the relationship between the variables in the SSA plot showed the possibility of identifying distinct facet elements (*Interpersonal and Instrumental*) in relation to distinct patterns of robbers' criminal behaviour, which reinforces the hypothesis that a relationship exists between the criminals' lifestyles and their criminal activity. According to the results discussed so far, the group of variables related to the *Interpersonal* element at the top of the plot is very different in nature from the group of variables related to the *Instrumental* element at the bottom of the plot. This difference in the pattern of actions implies differences between types of robbers in terms of the characteristics of their criminal activities and their lifestyles and this may be helpful in identifying them and this will be discussed in detail next.

11.6 - The Facet of Robbers' Lifestyles

The previous SSA plot (figure 11.2.1) was divided into two elements related to the grouping of variables referring to the facet of robbers' criminal behaviour. This same plot can now be further subdivided into four distinct elements in relation to the facet robbers' lifestyle (figure 11.6.1). These four elements are: *Family/Violence* and *Casual/Drugs*, corresponding to the previously identified *Interpersonal* element, and the elements *Family/Criminality* and *Financial/Property*, corresponding to the previously identified *Instrumental* element.

SSA - The Elements of the Facet Robbers' Lifestyles

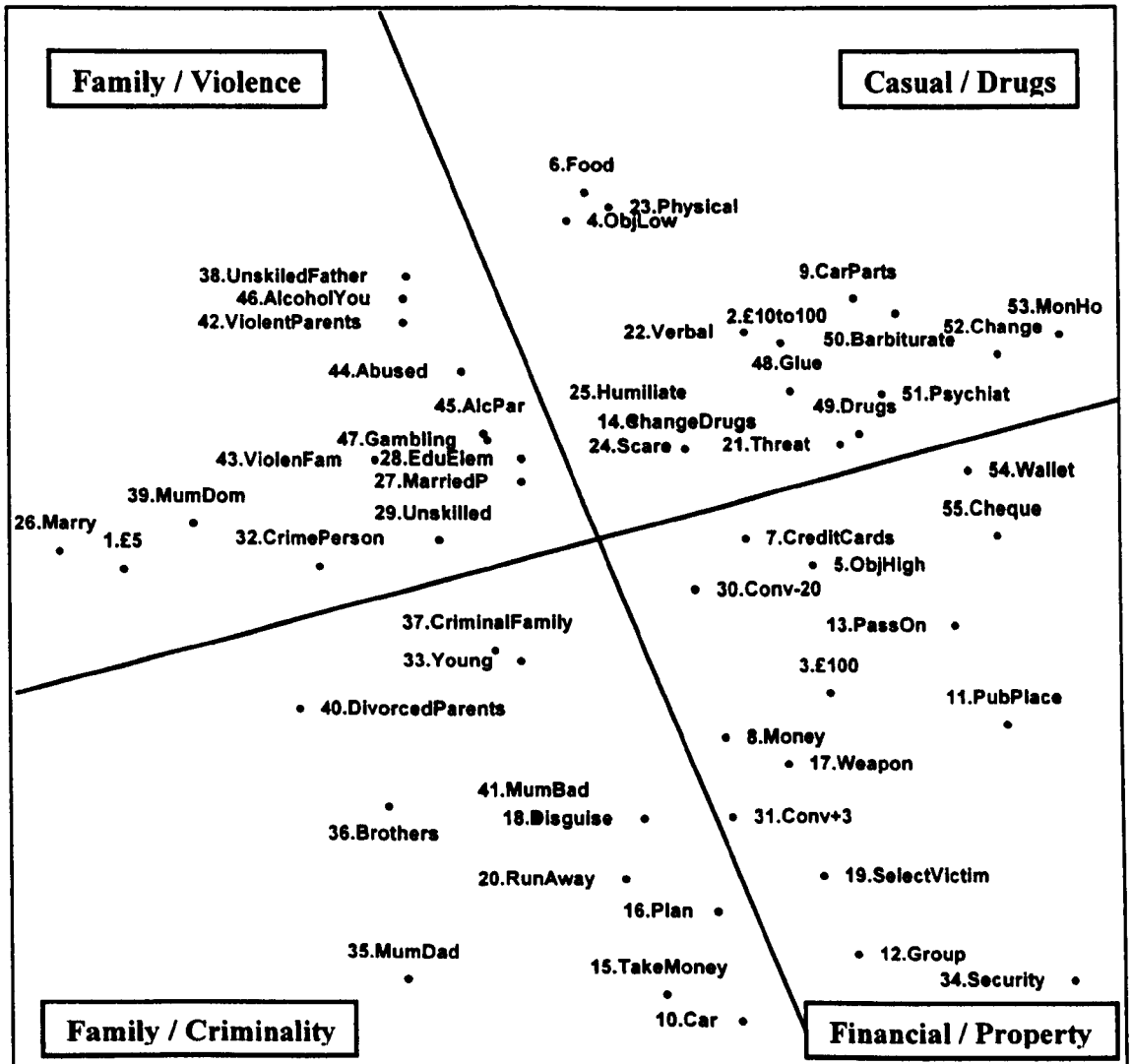


Figure 11.6.1: SSA Plot Illustrating the Facet of Robbers' Lifestyles and the Facet Elements: Family/Violence, Casual/Drugs, Family/Criminality and Financial/Property. The sample comprises 168 subjects. The plot contains 55 variables (see Appendix II for details of the variables). Coefficient of Alienation: 0.29; Vector 2 Against 1; 3D; Yule's Q.

11.6.1 - The Element Family / Violence of Robbery

Related to the element *Family/Violence* in the top left region of the SSA plot (figure 11.6.1) can be found the variables “violent parents”, “violence family”, “abused”, “alcohol parents”, “alcohol you”, “gambling”, “unskilled father”, “mum dominate”, “education elementary”, “unskilled”, “married”, “married plus”, “£-5” and “crime person” (see Appendix II for the description of these variables). The co-occurrence of these variables is expressing a lifestyle related to a disturbed family background and to a history of violence in family. It is hypothesised here that this lifestyle will probably influence the behavioural pattern and this will be reflected in the criminal lifestyle. Thus, by examining the relationship between these variables some inferences can be made about the behavioural pattern referring to the element *Family/Violence*.

Within the *Family/Violence* region are the characteristics of witnessing violence in the family and having violent and abusive parents, corresponding to the variables “violence family”, “violent parents”, and “abused”. Also related to this region are the characteristics of being unskilled with only an elementary education and of being “ married” and in fact having been married at least twice (variable “married plus”) suggesting a history of broken relationships.

Also within this region corresponding to the element *Family/Violence* are the characteristics of coming from a family background where the father is unskilled and where the mother is the dominant figure, perhaps because she is the one who works and provides the money to support the family. Thus, it is probable that a dominant mother is also an absent mother since she needs to be out of the home working. Indeed, the data for this research were collected in Northeast Brazil, a region of Brazil noted for having families frequently supported by working mothers.

The Northeast is one of the poorest areas of Brazil with high unemployment and a high incidence of alcohol problems, notably in the case of the father (see *Veja*, 1996). Indeed, the results here also showed that another characteristic related to this

element *Family/Violence* is the possibility of coming from families where the parents have or had a history of addiction to alcohol. The offender himself may also be addicted to alcohol and gambling. This is supported by the presence of the variables “alcohol parents”, “alcohol you” and “gambling” in this region of the SSA.

When considering the criminal background, it seems that related to this theme is the stealing of low value items (variable “£5”) when committing the crimes. Therefore the criminal actions referring to the element *Family/Violence* seems to reflect the notion that financial gain from the robbery is not a very important feature of the crime. Thus, it can be inferred that there may be other underlying causes related to the commitment of the crime, which are probably not of a financial nature. For example, and most importantly, it was found that convictions for crimes against the person were related to the pattern of behaviour within the element *Family/Violence* as supported by the presence of the variable “crime person” in this region of the SSA plot (figure 11.6.1).

The performing of violent acts against the person, expressing an interpersonal desire during the crime, seems to be linked to the experience with violence in the family and to the fact that committing acts of violence towards other individuals, may be because these offenders recognise violence as a “normal” feature of personal relationships. They probably do not care about the well being of others since they do not seem to care about themselves, as their lifestyle seems to be based on self-abuse such as the uncontrollable use of alcohol. The grouping of variables in this region of the element *Family/Violence* shows that abuse and violence are central to the offenders’ experience in life and these are brought to their criminal lifestyle. In fact it can even be hypothesised that this pattern of actions may be related to the move on to specialising in crimes against the person since this aspect here seems to be the real focus of the criminal activity.

Therefore related to the element *Family/Violence* will be some distinct lifestyle characteristics that may be linked to criminal actions that are based on an interpersonal desire rather than financial gain. These lifestyle characteristics include

impulsiveness and addictions to gambling and alcohol. Related to this element are also primary education and the lack of development of personal skills, other than those learned from the parents' lifestyle. Thus the grouping of variables in this element *Family/Violence* demonstrates a lifestyle of alcohol abuse and violence towards others and the fact of having been victims of parental abuse and violence.

11.6.2 - The Element Casual / Drugs of Robbery

Related to the element named *Casual/Drugs* in the top right region of the SSA plot are found the variables "drugs", "glue", "barbiturate", "psychiatric", "£10-100", "object low", "car parts", "food", "change", "money home", "change drugs", "threat", "verbal", "physical", "scare" and "humiliate"(see Appendix II for a description of these variables). The co-occurrence of the variables in the element *Casual/Drugs* referring to drug abuse is expressing a lifestyle related to addiction. It can also be observed (figure 11.6.1) that this region includes the variable "psychiatric", denoting a history of psychiatric treatment. Thus, the lifestyle related to this element *Casual/Drugs* seems to be one of addiction and psychiatric problems. Again it is hypothesised that this lifestyle will probably influence the behavioural pattern of criminal actions.

Related to the element *Casual/Drugs* seem to be the stealing of low value items and small amounts of money to support the addiction to drugs, since the variable "change drugs" refers to the fact that the robbers change the items they steal directly for drugs. Low value objects and small amounts of money are represented in this element by the variables "£10-100", "object low", "car parts" and "food" in this region (see Appendix II for a description of the variables). These variables also reflect a much lower expectancy in terms of financial gain from the crime.

Indeed the action of stealing small amounts of money and low value items probably refers to the urgent need to buy drugs rather than thinking about making crime a really profitable business. Moore (1983) concluded that addicts are increasingly

likely to support their habit by criminal means. Feldman (1993) suggested that because of the urgent need for drugs it is likely that these offenders will select less appropriate targets and steal less profitable items. Matthews (2002; pg. 22) called these robbers who steal low value items ‘amateurs’ and stated, “the robberies appear as little more than acts of desperation...to buy necessities or to support drug habit”.

The element *Casual/Drugs* also includes the actions of stealing money from someone in the home (the variable “money home”) and a history of minor dishonesty such as not returning excess change a cashier gave by mistake (the variable “change”) which might also be linked to a lifestyle of drug addiction.

Importantly the co-occurrence of variables related to the element *Casual/Drugs* demonstrates a need for some kind of interpersonal contact with the victim during the crime. This is supported by the presence of the variables “threat”, “verbal” “physical”, “scare” and “humiliate” in this region of the plot (see Appendix II for description of the variables). Thus, this pattern of variables is suggesting an interpersonal approach to crime.

It seems that although the pattern of actions related to the element *Casual/Drugs* probably does not seem to be linked to the extreme of committing a crime against the person during the robbery, these actions are nevertheless the ones referring to the need to engage in some kind of interpersonal contact with the victim during the execution of the crime. As was the case with the previous element *Family/Violence*, this element *Casual/Drugs* seems also to be driven by interpersonal desires during the commitment of the crime. Since both elements appear to be related to the individuals’ high levels of impulsivity, it can be hypothesised that the boundary between committing or not committing crimes against the person seems to be a very narrow one. Maybe having a violent family and having experienced violence directed towards them, as in the case of the element *Family/Violence*, is the trigger that leads impulsive individuals to commit crimes against the person.

Thus in summary the behavioural pattern of the element *Casual/Drugs* has some distinct lifestyle characteristics related to the criminal actions. The stealing of low value objects to support drug addiction seems to be related to impulsive individuals with a history of psychiatric treatment and to the use of barbiturates to help to calm down. There is also an apparent need to engage in some kind of interpersonal contact with the victim during the execution of the crime.

11.6.3 - The Element Family / Criminality of Robbery

The variables “mum-dad”, “brothers”, “mum-bad”, “divorced parents”, “criminal family”, “young”, “take money”, “car”, “disguise”, “runaway” and “plan” (see Appendix II for variables) are found in the element *Family/Criminality* (figure 11.6.1). This region of the plot is expressing a lifestyle related to having experienced parental divorce, of having a bad relationship with the mother (variable “mum-bad”) and to a history of close members of the family committing crimes (variable “criminal family”) and this may influence these robbers’ criminal activity.

The variable “plan”, in the *Family/Criminality* element seems to speak for itself and is showing that the behavioural pattern expressed here refers to a planning approach to crime. The important point in relation to the capacity to plan is that it seems to be opposite to impulsiveness. Other studies have shown that impulsive individuals tend to act without thinking and on the spur of the moment and do not plan their crimes (see Eysenck, 1977; McGuire and Priestly, 1985; Blackburn, 1993). However, SSA does not consider single items as defining the region, so the grouping of the variables always needs to be considered when analysing the relationships. This is because particular individual items can be equally at home in other regions and so care needs to be taken when referring to them in isolation.

The actions of planning and using a “disguise” to avoid recognition are more instrumental in nature and the exhibition of such characteristics is linked to rationality, the ability to think at a higher level, more self-control and less emotional

and impulsive actions (see chapter 2). Indeed, in this study the offending lifestyle related to impulsive behaviours such as addiction to drugs, alcohol, gambling is related to the elements *Family/Violence* and *Casual/Drugs* as discussed previously and not to the element *Family/Criminality*. Also the criminal lifestyle related to a more impulsive-emotional nature, referring to behaviours such as hurting the victim or stealing low value objects to support the addiction, were also linked to the previous elements and do not appear in the element *Family/Criminality*.

The hypothesis that the behavioural pattern related to the *Family/Criminality* element is probably not related to the establishment of any unnecessary contact with the victim may be also supported by the presence of the variable “run away” in this region of the plot. This variable refers to the fact that once the robber possesses the desired object he will immediately leave the crime scene. An offender who wishes to have any kind of additional contact or establish any relationship with the victim is likely to spend more time at the crime scene to achieve this desire.

Another feature related to the ability to plan and show less impulsive behaviour is a higher level of development in terms of cognitive skills and thinking patterns (Blackburn, 1993). Perhaps this is why the planning of the crimes implies an ability to consider the overall features of the crime. For example, the use of a disguise, another variable (“disguise”) that appears in the *Family/Criminality* region.

In the element *Family/Criminality*, “car” is the only variable referring to stolen objects to occur in this region of the plot (figure 11.6.1). Thus, the variable “car” could be interpreted as an expression of a specific action that does not necessarily go together with for example, stealing other objects of either a low or high value. This isolated variable suggests that stealing cars might be a specialized crime and that criminals who concentrate on car theft tend not to commit other sorts of crime.

It might be inferred that the robbers who reported committing car robbery may have already decided to specialise in car theft and have already left behind them the general activity of stealing other objects or now only do so occasionally. These

offenders are probably more professional in their approach e.g. by planning the crime but they are also becoming more specialised in relation to the objects they prefer to steal. Thus in practice if just a car was stolen despite the offender having the opportunity to take other valuable objects as well, it could be inferred that the search should be for an offender who is already a specialist in car robbery. However, any formal evidence such as correlations does not support this here as SSA considers the interrelationship between the variables rather than significant correlations between them.

Since it was hypothesised here that the general lifestyle of the individual influences the criminal activity, and considering the grouping of variables in this element, it can be also inferred that car theft is likely linked to planning of the crime, avoidance of recognition by using a disguise and to the possibility of coming from a background of criminality within the family. Certainly in Brazil, car robbery seems to be a specialised crime, an activity that demands specific professional skills from the robber, which he could acquire through his experience with criminality inside the family. Thus, it is being suggested here that related to the behavioral pattern of the element *Family/Criminality* is the specialization in car robbery. However just considering single items is not recommended as a way of proving a relationship.

The behaviour of just accepting money in exchange for stolen goods (variable “accept money”) coupled to the lack of interest in the acquisition of drugs since the variable “change drugs” occurs in the element *Casual/Drugs*, re-enforces the idea that the characteristics found within the element *Family/Criminality* are more related to an interest in monetary gain and to a rational approach to crime.

The characteristics of planning crimes and using a disguise to avoid recognition are probably examples of skills learned from within the criminal family and could explain the early start to a criminal career and thus experience of having been in institutions for young offenders (variable “young”). However it is important to remember that these statements are being made based on the co-occurrence of the variables in this region *Family/Criminality* not on significant correlations.

Thus the characteristics found within the element *Family/Criminality* refer to coming from criminal families, being interested in monetary gain, with little interest in drugs and the avoidance of unnecessary violence towards the victims. That seems a rational rather than an impulsive-emotional approach to crime that indeed may include specialization in car theft within the Brazilian context.

11.6.4 - The Element Financial / Property of Robbery

The element *Financial/Property* positioned at the bottom right side of the SSA plot (figure 11.6.1), contains the variables “object high”, “credit cards”, “money”, “£+100”, “wallet”, “cheque”, “public place”, “pass on”, “conv-20”, “conv+3”, “select victim”, “weapon”, “group” and “security ” appear (see Appendix II for variables description). Here the general lifestyle and the criminal lifestyle are cohesive and are expressed by a strong commitment to crime. The criminal lifestyle is one of financial gain from robbery as way of living and it seems that the only life known is one of crime

The literature suggests that a busy criminal life is related to a history of several arrests (see Petersilia *et al*, 1977; Walsh, 1986). This is supported by the findings of this present research where the element *Financial/Property* is associated with a lifestyle of a strong commitment to crime with several arrests (variable “conv+3”). The characteristics related to this element *Financial/Property* include having been in maximum-security prisons (variable “security”) and to having received a first conviction when less than 20 years old (variable “conv-20”) at the time these data were collected. The literature also suggests that a history of several arrests can be linked to the more active criminals who show more professional criminal skills (Walsh, 1986), which were basically learned in prison. Thus, these individuals are full-time criminals who live only by crime and who are going to get caught now and again because of the high number of crimes they commit.

The published literature also supports the fact that more professional skills are linked to those offenders who steal more valuable items (Maguire, 1982; Matthews, 2002). Indeed in this present study the element *Financial/Property* includes the stealing of more valuable items (variable “object high”) and larger amounts of money (variables “£+100” and “money”). Thus it can be hypothesised that the pattern of behaviour referring to this element is linked to the more professional robbers who stole valuable items and larger amounts of money.

Financial/Property contains the action of passing on the stolen goods immediately (variable “pass”) and this may demonstrate a certain degree of professionalism by being part of an organised criminal network that makes it easier to pass on stolen objects. It also includes committing crimes in public places (variable “pub place”), perhaps because these robbers feel confident to do so, and this confidence may be related to professionalism. This region also contains the variable “group” suggesting that there is a link between professionalism and working in groups. Alison *et al* (2000) as well as Matthews (2002) also found that the more professional robbers were more likely to commit their crimes in groups.

However it was also found in the present research that despite this professionalism, apparently less professional actions such as stealing a wallet from someone passing on the street (variable “wallet”) also occurred. This could be explained by the fact that the variables denoting the stealing of credit cards (“credit card”) and chequebooks (“cheque”) both occurred close to the variable “wallet” and thus perhaps these items were taken from the wallets. Matthews (2002) attempted to explain this by stating that the more “professional” criminals sometimes take on unusual targets if they promise high rewards. This type of criminal therefore seems to be demonstrating a wish to expand his spectrum of criminal activity. Indeed the fact of choosing to steal credit cards may imply a certain degree of professionalism from the robber. A credit card is just a piece of plastic if the offender does not know how to use the card later on to provide him with cash or goods. Equally, the offender also needs to have some professional criminal skills to avoid being captured when using the credit card.

The close proximity of the variables “credit cards” and “object high” in the *Financial/Property* region also implies that the stealing of credit cards is likely to be linked to the stealing of high value objects such as jewellery. This re-enforces the concept of professionalism in this element since it is necessary to know how to dispose of (fence) the jewellery stolen and hence the necessity for having well-established criminal contacts. The element *Financial/Property* also contains the variable “select victim” and this also suggests a certain degree of professionalism as the choice of victim is considered an important factor in maximising financial gain.

The presence of the variable “weapon” in this region of the plot is probably inferring intimidation of the victim to gain control of the situation rather than to cause injury. Indeed the behaviour here seems to be to avoid unnecessary contact and violence towards the victim since none of the variables related to contact and violent acts towards the victim appeared in the *Financial/Property* element. The focus seems to be much more on the financial gain the crime can provide than in establishing contact with the victim. Therefore it’s probable that in this case the weapon is instrumental as suggested by Walsh (1986). In fact, Lobato (2000; pg. 136) found that from an instrumental and therefore less emotional perspective “the weapon is a tool to facilitate the crime” not to cause injuries. It is also important to explain here that the professional aspect is being encompassed by the instrumental term in this study because in the literature the instrumental context encompasses professionalism and thus includes planning, craft ability, etc (see pg. 40).

Thus, by analysing the co-occurrence of the variables it was possible to examine the pattern of actions related to the element *Financial/Property* of the facet of robbers’ lifestyles. Here the lifestyle seems to be linked to a considerable level of criminal activity suggesting a strong commitment to a life of crime. This is supported by the history of several arrests with convictions from an early age. Also related to the behavioural pattern of this element is the avoidance of unnecessary contact and violence towards the victims basically because the focus during the commitment of the crime seems to be on the acquisition of valuable items and on the financial gain these may provide.

CHAPTER 12

ASSOCIATIONS OF THE VARIABLES ON ROBBERY

12.1 - The Strength and Prediction of the Associations on Robbery

The programme Smallest Space Analysis (SSA) shows the overall relationship between the variables based on rank order and thus some of the relationships between the points (variables) can be weak even though the points are contiguous. It is important to understand that SSA deals with a pattern of relative relationships so some relationships can be weak. Although some of the relationships can be weak, it is fundamental to understand that SSA is searching for the theoretical framework related to the grouping and co-occurrence of the variables under study. However, to deal with this problem of some of the relationships being weak it is usual practice to use other statistical tests to show the association between the variables within the SSA structure. The SSA structure was therefore analysed in two ways.

Firstly, the relationships between the variables within each of the facet elements were examined using the Phi coefficient of correlation, to test the strength of the associations between the variables, and then a Binary Logistic Multiple Regression Analysis test was used, to predict the value of a dependant variable in relation to other independent variables.

Secondly, the relationships between variables across the facet elements were examined using the Point-biserial correlation test. In this way the strength of the partitions suggested by the SSA plot could be tested and it could also be verified which variables, if any, influenced facet elements other than the one they were allocated (chapter 8 for the details on the statistical tests).

12.2 - The Strength of the Associations within the Facet Elements of Robbery

In this section the correlations between the variables within each of the facet elements are examined to identify which variables are the most important in defining the different elements. To examine the significant correlations between the variables within the elements the Phi coefficient was used and to estimate the impact of the variables on the elements Regression Analysis was used (see chapter 8, methodology, for details).

12.2.1 - Associations Within the Element Family/Violence of Robbery

In the SSA structure the element *Family/Violence* contains the variables “£5”; “crime person”; “married”; “married plus”; “educem”; “unskilled”; “unskilled father”; “mum/dom”; “violent parents”; “violence family”; “abused”; “alcohol parents”; “alcohol you” and “gambling” (see Appendix II for description of these variables). The grouping of these variables in the SSA structure suggested that the main feature of this element *Family/Violence* would be experience with violence and abuse in the family, addiction to alcohol and gambling, having only an elementary level of education and being unskilled, the commitment to crimes against the person and the stealing of low value items (variables “£5”). Many significant correlations can be observed between these variables that form the element *Family/Violence*.

There is a relationship between violence and abuse in the family and addiction to alcohol and gambling. For example, it can be observed in table 12.2.1 that there are significant correlations between the variable “violent parents” and the variables “alcohol parents” “alcohol you” and “gambling”. The variable “violence family” correlates with “alcohol parents” and “alcohol you” whilst “abused” correlates with “alcohol parents”, “alcohol you” and “gambling”. Thus, as suggested by the SSA structure, violence, abuse in the family and addiction to alcohol and gambling are characteristics that form the behavioural pattern of the element *Family/Violence*.

Table 12.2.1 - Significant Correlations Between the Variables Within the Element Family/Violence of Robbery

Variables	Violent Parents	Violence Family	Abused	Alcohol Parents	Alcohol You	Gambling	EducElem	Unskilled	Unskilled Father	Married	Married Plus	Mum/Dom	Crime Person	£5
Violent Parents		0.58**	0.47**	0.25**	0.26**	0.16*	---	---	---	---	0.18*	---	---	---
Violence Family	0.58**		0.29**	0.33**	0.30**	---	---	---	---	---	---	-0.19*	---	---
Abused	0.47**	0.29**		0.23**	0.24**	0.16*	---	---	---	---	---	---	---	---
Alcohol Parents	0.25**	0.33**	0.23**		0.55**	---	---	---	---	---	---	---	---	---
Alcohol You	0.26**	0.30**	0.24**	0.55**		0.15*	---	---	---	---	---	---	---	---
Gambling	0.16*	---	0.16*	---	0.15*	---	---	---	---	---	---	---	---	---
EducElem	---	---	---	---	---	---	---	0.63**	0.21**	---	---	---	---	---
Unskilled	---	---	---	---	---	---	0.63**	---	0.32**	---	---	0.19*	---	---
Unskilled Father	---	---	---	---	---	---	0.21**	0.32**	---	---	---	---	---	---
Married	---	---	---	---	---	---	---	---	---	---	---	0.21**	---	---
Married Plus	0.18*	---	---	---	---	---	---	---	---	---	---	---	---	---
Mum/Dom	---	-0.19*	---	---	---	---	---	0.19*	---	0.21**	---	---	---	---
Crime Person	---	---	---	---	---	---	---	---	---	---	---	---	---	---
£5	---	---	---	---	---	---	---	---	---	---	---	---	---	---

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

Other significant correlations can be observed in table 12.2.1 between the variables of the element *Family/Violence*. For example, there is a significant correlation between the variables “married plus” and “violent parents”, suggesting that having violent parents is probably related to the subsequent characteristic of having been involved in many broken relationships. Also there are significant correlations between the variable “mum/dom” and the variables “married” and “unskilled”. This suggests that the individual who comes from a family where the mother is the dominant figure is likely to be married and unskilled. But there is a negative correlation between the variables “mum/dom” and “violence in family” and thus, experience with violence in the family is an unlikely characteristic of those families where the mothers are the dominant figures.

The SSA structure suggested that an elementary level of education and being unskilled were characteristics that form part of the behavioural pattern of the element *Family/Violence* and thus would be related to the other characteristics of this element. However, table 12.2.1 shows that there were no significant correlations between the variables “educem”, “unskilled”, “unskilled father”, “violent parents”, “violence family”, “abused”, “alcohol parents”, “alcohol you” and “gambling”. Thus, having only an elementary level of education and being unskilled may or may not be related to violence and abuse in the family and to addiction to alcohol and gambling.

The SSA structure also implied that the criminal actions of committing crimes against the person and stealing small amounts of money and low value items would also be part of the behavioural pattern of the element *Family/Violence*. However, as can be seen in table 12.2.1, there were no significant correlations between the variables “crime person” and “£5” and the other variables of the element *Family/Violence*. Thus, committing crimes against the person and stealing small amounts of money and low valuable items are criminal actions that may or may not be related to lifestyle characteristics such as violence and abuse in family, addiction to alcohol and gambling, elementary education and unskilled condition.

In summary, experience with violence and abuse in the family and addiction to alcohol and gambling are likely to be behavioural characteristics that form the element *Family/Violence* of the facet of robbers' lifestyles. Whereas an elementary level of education, being unskilled and the criminal actions of committing crimes against the person and stealing low value items and small amounts of money are characteristics that may or may not belong to this behavioural pattern. However, despite lacking significant correlations in the Phi test, other statistical procedures may show the relevance of these variables to the element *Family/Violence*. Also as explained before (pg. 119) SSA is searching for the theoretical framework related to the grouping and co-occurrence of the variables under study and thus the variables represent a coherent set of interrelationships rather than significant correlations. Other statistics will be used later to verify the impact of these variables in forming the element *Family/Violence*.

12.2.2 - Associations within the Element Casual/Drugs of Robbery

The element *Casual/Drugs* contains the variables “£10-100”; “object low”; “food”; “car parts”, “change drugs”; “threat”; “verbal”; “physical”; “scare”; “humiliate”; “glue”; “drugs”; “barbiturates”; “psychiatric”; “change” and “money home” (see Appendix II for description of these variables). The grouping of these variables in the SSA structure suggested that the main features of this element would be the stealing of small amounts of money and objects of low value; an approach to crime based on threatening behaviour, scaring and humiliating the victims, verbal and physical attack; a lifestyle of addiction to glue, drugs and barbiturates; a history of psychiatric treatment; and minor criminal activities such as not returning change when undercharged by mistake and stealing money from someone at home.

The significant correlations between these variables that form the element *Casual/Drugs* are presented in table 12.2.2. Indeed the significant correlations in this table confirm for example, a relationship between the stealing of small amounts of money and low value object with an addiction to glue and drugs. Significant

correlations are also found between the variable “£10-100” and the variables “object low”, “car parts”, “glue” and “drugs” and between “object low” and the variables “food”, “car parts” and “glue”. Similarly “car parts” correlated significantly with “food”, “glue” and “drugs”. Thus, as suggested previously by the SSA structure, the actions of stealing low value items including food and car parts and small amounts of money are likely to be related to a lifestyle of drug addiction and so form the same behavioural pattern, as the one here called *Casual/Drugs*.

In the SSA structure a lifestyle of addiction to drugs and glue seemed to be related to characteristics such as barbiturate abuse, psychiatric treatment and to minor criminal activities. Table 12.2.2 shows that the variable “glue” correlates significantly with “drugs”, “barbiturates”, “change” and “money home” whilst “drugs” correlates with “barbiturates”, “change” and “money home”. This tends to confirm the relationship between a lifestyle of addiction to glue and drugs with the abuse of barbiturates and with minor criminal activities of dishonesty.

However, in table 12.2.2, there are no significant correlations between the variables “psychiatric” with “glue” and “drugs”. Thus, addiction to glue and drugs does not necessarily relate to a history of psychiatric treatment. There are significant correlations between the variable “psychiatric” and the variables “barbiturates”, “change” and “money home”. Thus, these robbers are likely to abuse barbiturates and indulge in minor dishonest actions, such as not returning excess change and stealing money from home, and have a history of psychiatric treatment rather than being addicted to glue and drugs.

Indeed minor criminal activities were very common feature of robbers and so these actions correlate significantly with many other characteristics of the element *Casual/Drugs*. For example, the variable “change” correlates significantly with the variables “£10-100”, “car parts”, “glue”, “drugs”, “barbiturates”, “psychiatric” and “money home” whilst the variable “money home” correlates with “£10-100”, “object low”, “car parts”, “change drugs”, “glue”, “drugs”, “barbiturates” and “psychiatric”.

Table 12.2.2 - Significant Correlations Between the Variables within the Element Casual/Drugs of Robbery

Variables	\$10-100	Object Low	Food	Car Parts	Change Drugs	Threat	Verbal	Physical	Scare	Humiliate	Glue	Drugs	Barbitur	Psychiatr	Change	Money Home
Casual/Drugs																
£10-100		0.27**	—	0.26**	0.28**	—	0.19*	—	0.22**	0.22**	0.29**	0.24**	—	—	0.22**	0.15*
Object Low	0.27**		0.20**	0.21**	0.19*	—	—	—	—	—	0.20**	—	—	—	—	0.19*
Food	—	0.20**		0.24**	—	—	0.16*	—	—	—	—	—	—	—	—	—
Car Parts	0.26**	0.21**	0.24**		—	0.15*	—	0.16**	—	—	0.27**	0.17*	0.34**	—	0.24**	0.24**
Change Drugs	0.28**	0.19*	—	—	—	0.22**	—	—	0.19*	—	0.36**	—	—	—	—	0.15*
Threat	—	—	—	0.15*	0.22**		—	—	0.22**	—	0.22**	—	—	0.19*	—	—
Verbal	0.19*	—	0.16*	—	—	0.25**	—	—	0.21**	0.36**	—	—	—	—	—	—
Physical	—	—	—	0.16*	—	0.23**	—	—	—	—	—	—	—	—	—	—
Scare	0.22**	—	—	—	0.19*	0.22**	0.21**	—	—	—	—	—	—	—	—	—
Humiliate	0.22**	—	—	—	—	—	0.36**	—	—	—	—	—	—	—	—	—
Glue	0.29**	0.20**	—	0.27**	0.36**	0.22**	—	—	—	—	0.38**	0.38**	0.40**	—	0.35**	0.26**
Drugs	0.24**	—	—	0.17*	—	—	—	—	—	—	0.38**	—	0.30**	—	0.28**	0.18*
Barbiturates	—	—	—	0.34**	—	—	—	—	—	—	0.40**	0.30**	—	0.29**	0.30**	0.24**
Psychiatric	—	—	—	—	—	0.19*	—	—	—	—	—	—	—	—	0.21**	0.27**
Change	0.22**	—	—	0.24**	—	—	—	—	—	—	0.35**	0.28**	0.30**	0.21**	—	0.33**
Money Home	0.15*	0.19*	—	0.24**	0.15*	—	—	—	—	—	0.26**	0.18*	0.24**	0.27**	0.33**	—

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

The changing of stolen items for drugs (variable “change drugs”) was also a common behaviour of robbers and so exchanging items for drugs correlated with many other characteristics of the element *Casual/Drugs*. For example there are significant correlations between the variable “change drugs” and the variables “£10-100”, “object low”, “threat”, “scare”, “glue” and “money home”. Interestingly, there is no significant correlation between the variables “change drugs” and “drugs” showing that the action of changing the stolen items for drugs is not necessarily related to drug addiction. Thus, robbers may change the stolen items for drugs not to consume but to re-sell.

The SSA structure also suggested that in relation to the element *Casual/Drugs* the committing of the crimes would involve threatening behaviour, verbal and physical attack, scaring and humiliating the victims. However the significant correlations in table 12.2.2 show some peculiarities in terms of these variables. For example, there are significant correlations between the variable “threat” with the variables “verbal”, “physical”, and “scare” but not between “threat” and “humiliate”. There are also significant correlations between “verbal” and the variables “scare” and “humiliate” but not between “verbal” and “physical”.

Thus the variable “physical” shows a significant correlation with the variable “threat” but not with any of the other variables reflecting the approach to the crime. Similarly the variable “humiliate” just correlates significantly with the variable “verbal”.

Considering the relationship between criminal actions and the approach towards the victim other significant correlation can be observed in table 12.2.2. For example there are significant correlations between the variable “threat” and “car parts” and “change drugs”; thus it can be suggested that the robbers who steal car parts are likely to threaten their victims during the crime. There are also significant correlations between the variable “verbal” and the variables “£10-100” and “food” suggesting that those robbers who steal small amounts of money and/or food are likely to verbally attack their victims during their crimes.

There are also significant correlations between the variables “physical” and “car parts”. Thus robbers who steal car parts are not just likely to threaten the victim, but also physically attack them. The variable “scare” also correlates with “£10-100” and “change drugs” suggesting that those robbers who steal small amounts of money are likely to use the approach of scaring their victim to facilitate the crime. Those who steal small amounts of money are also likely to humiliate their victims since there is a significant correlation between the variables “£10-100” and “humiliate”.

However, despite the significant correlations between the variables referring to the approach towards the victims and certain criminal actions, there are no significant correlations between the variables referring to the approach toward the victims and the variables referring to the abuse of glue, barbiturates, drugs and to psychiatric treatment. Except for “threat” that correlates significantly with the abuse of glue and with psychiatric treatment.

Thus, in summary, a lifestyle of abuse of glue, barbiturates and drugs is related to actions of stealing small amounts of money, objects of low value and things such as food and car parts, as was suggested initially by the SSA structure. Thus, these characteristics as a whole likely form the behavioural pattern of element *Casual/Drugs*.

However in relation to the approach towards the victims during the crimes, and because of the lack of correlations between the variables referring to the approach and the variables referring to addictions, it can be said that the distinct approach can be more precisely defined by considering the value of the things stolen rather than in relation to lifestyle characteristics of addiction. Furthermore as previously stated SSA is searching for the theoretical framework related to the grouping and co-occurrence of the variables under study and thus the variables represent a coherent set of interrelationships rather than significant correlations.

12.2.3 - Associations Within the Element Family/Criminality of Robbery

The SSA region referring to the element *Family/Criminality* contains the variables “car”; “take money”; “plan”; “disguise”; “run away”; “young”; “criminal family”; “mum/dad”; “brothers”; “mum/bad” and “divorced parents” (see Appendix II for description of these variables).

The grouping of these variables suggested that the main feature of this element would be the planning of the crimes, the stealing of the valuable object car, an early start to a criminal career and being part of a criminal family.

Some significant correlations between the variables forming the element *Family/Criminality* can be observed in table 12.2.3. For example there are significant correlations between the variable “plan” and the variables “disguise” and “run away” and between “disguise” and “run away”. Thus, as suggested by the SSA structure, the planning of the crime, the use of a disguise and the action of running away immediately from the crime scene are characteristics that probably form the behavioural pattern of the element *Family/Criminality*.

The SSA structure also suggested that car theft and attention to the profitable side of the crime would be part of this same behavioural pattern and so should correlate with other characteristics of the element *Family/Criminality*. Indeed, this seems to be the case since in table 12.2.3, there are significant correlations between the variable “car” and the variables “take money”, “plan” and “run away” and also between “take money” and “plan”, “disguise” and “run away”. Thus, as suggested by the SSA structure, car theft and the attention to the profitability of the crime are characteristics of the element *Family/Criminality* and these also correlate with the planning issues expressed in this facet element.

Table 12.2.3 - Significant Correlations Between the Variables within the Element Family/Criminality of Robbery

Variables	Family/Criminality	Car	Take Money	Plan	Disguise	Run Away	Young	Criminal Family	Mum/Dad	Brothers	Divorced Parents	Mum/Bad
Car			0.26**	0.34**	—	0.19*	—	—	—	—	—	—
Take Money		0.26**		0.25**	0.16*	0.27**	—	—	—	—	—	—
Plan		0.34**	0.25**		0.40**	0.30**	—	—	—	—	—	0.21**
Disguise		—	0.16*	0.40**		0.23**	—	—	—	—	—	—
Run Away		0.19*	0.27**	0.30**	0.23**		—	—	—	—	—	—
Young		—	—	—	—	—	—	—	—	—	0.16*	—
Criminal Family		—	—	—	—	—	—	—	—	—	—	—
Mum/Dad		—	—	—	—	—	—	—	—	0.20**	—	—
Brothers		—	—	—	—	—	—	—	0.20**	—	—	—
Divorced Parents		—	—	—	—	—	0.16*	—	—	—	—	—
Mum/Bad		—	—	0.21**	—	—	—	—	—	—	—	—

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

The SSA structure suggested that living with both parents and siblings when a child, yet subsequently being part of a broken family and having a bad relationship with their mother would also be characteristics of the element *Family/Criminality*. In fact there is significant correlation between the variables “mum/dad” and “brothers”, supporting the concept of living with both parents and with brothers and sisters when a child rather than, for example, being in orphanages. There is also a significant correlation between the variables “divorced parents” and “young”, showing a relationship between an early beginning to a criminal career and a broken family.

However, there are no other significant correlations between the variables referring to lifestyle characteristics. For example there are no significant correlations between the variables referring to planning issues and to profitability of the crime and those variables referring to lifestyle characteristics. The SSA structure also suggested that the lifestyle characteristic of being part of a criminal family would form the behavioural pattern of the element *Family/Criminality* and yet there are no significant correlations between the variable “criminal family” and the variables referring to planning issues and to profitability of the crime or with any other variable of the element *Family/Criminality*.

Thus, and in summary, despite what was suggested by the SSA structure, these lifestyle characteristics do not correlate significantly with other variables of the pattern of behaviour of the element *Family/Criminality*. As explained before, SSA deals with relative relationships so some relationships between the variables can be weak, but they do have a theoretical interest (see pg. 119). For example there are no significant correlations between the variable “criminal family” and the other variables of criminal actions and it was suggested before that these variables would be important in defining this element *Family/Criminality*. However it is important to reiterate that SSA is searching for the theoretical framework related to the grouping of the variables and thus the variables represent a coherent set of interrelationships even if there are no significant correlations.

12.2.4 - Associations within the Element Financial/Property of Robbery

In the SSA structure the element *Financial/Property* contains the variables “£100”; “object high”; “credit card”; “money”; “public place”; “group”; “pass on”; “weapon”; “select victim”; “conv-20”; “conv+3”; “security”; “wallet” and “cheque” (see Appendix II for description of these variables).

The SSA structure suggested that the main features of the element *Financial/Property* would be the stealing of large amounts of money and high value objects, involving the use of a weapon, careful selection of the victims and working in group to commit the robberies. The offenders would also have many convictions for crime and have started their criminal careers at an early age.

Table 12.2.4 shows that there are significant correlations between the variable “£100” and the variables “object high”, “credit card”, “weapon”, “conv-20” and “select victim”. Similarly there are significant correlations for the variable “object high” with the variables “credit card”, “weapon”, “select victim”, “conv-20” and “conv+3” and for “credit card” with the variables “money”, “weapon” and “conv-20”. The variable “money” correlates significantly with “weapon” and “select victim”.

Thus these correlations lend support to the suggestion from the SSA plot that stealing large amounts of money and valuable items is likely to be related to the use of a weapon, selection of the victims, a history of many convictions for crimes and an early beginning to a criminal career.

Table 12.2.4 - Significant Correlations Between the Variables within the Element Financial/Property of Robbery

Variables Financial/Property	£100	Object High	Credit Card	Money	Public Place	Group	Pass On	Weapon	Select Victim	Conv-20	Conv+3	Security	Wallet Street	Cheques
£100		0.27**	0.24**	—	—	—	—	0.16*	0.21**	0.17*	—	—	0.23**	0.26**
Object High	0.27**		0.40**	—	—	—	—	0.29**	0.18*	0.21**	0.20**	—	0.25**	0.20**
Credit Card	0.24**	0.40**		0.25**	0.16*	—	0.18*	0.20**	—	0.18*	—	—	0.30**	0.22**
Money	—	—	0.25**		—	0.19*	—	0.23**	0.16*	—	—	—	—	—
Public Place	—	—	0.16*	—		0.20**	0.22**	0.16*	—	—	—	—	0.20**	0.22**
Group	—	—	—	0.19*	0.20**		0.21**	0.34**	0.20**	—	—	0.19*	—	—
Pass On	—	—	0.18*	—	0.22**	0.21**		0.17*	0.17*	—	—	—	0.20**	—
Weapon	0.16*	0.29**	0.20**	0.23**	0.16*	0.34**	0.17*		0.32**	—	—	—	—	—
Select Victim	0.21**	0.18*	—	0.16*	—	0.20**	0.17*	0.32**		—	0.19*	—	—	—
Conv-20	0.17*	0.21**	0.18*	—	—	—	—	—	—	—	—	—	—	—
Conv+3	—	0.20**	—	—	—	—	—	—	0.19*	—	—	0.19*	—	—
Security	—	—	—	—	—	0.19*	—	—	—	—	—	—	—	—
Wallet Street	0.23**	0.25**	0.30**	—	0.20**	—	0.20**	—	—	—	—	—	—	0.50**
Cheques	0.26**	0.20**	0.22**	—	0.22**	—	—	—	—	—	—	—	0.50**	—

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

At this point it is important to point out some peculiarities referring to the characteristic of working in groups to commit the robberies (variable “group”). The variable “group” does not correlate significantly with the variables “£100”, “object high”, “credit card”, “conv-20” or “conv+3” but does correlate significantly with the variables “money”, “weapon” and “select victim”. Thus, the characteristic of working in groups to commit robbery is related to the stealing of larger amounts of money in the form of cash (variable “money”), the use of a weapon and the careful selection of the victims rather than to stealing moderate amounts of money (variable “£100”) or objects in general. Thus, maybe “to state the obvious” it can be said that working in groups can be related, for example, to a crime such as bank robbery where the desired larger amounts of money in the form of cash are available to the robbers.

The variable “group” also correlates significantly with the variables “public place”, “pass on” and “security”. Thus, the characteristics of working in groups to commit robbery is also likely to be related to the commitment of crimes in public places, to the immediate fencing of the stolen items and to professional robbers who have been in maximum security prisons. In fact there are significant correlations between the variable “security” and the variable “conv+3” (several convictions) reflecting an active criminal career usually associated with the more professional robbers.

There are also many significant correlations between the variables “pass on” and “public place” with the other variables of the element *Financial/Property* (table 12.2.4). The variable “pass on” correlates with the variables “credit card”, “public place”, “group”, “weapon”, “select victim” and “wallet” suggesting that the passing-on immediately of the stolen items relates to the stealing of credit card and wallets, to the commitment of crimes in public places, to the working in groups, to the use of a weapon and to the careful selection of the victims. The variable “public place” correlates with the variables “credit card”, “group”, “pass on”, “weapon”, “wallet” and “cheque” and thus committing crimes in public places relates to the stealing of credit cards, wallets and chequebooks, to working in groups, to the use of a weapon and to the characteristic of immediately passing on the stolen items.

There are also many correlations between the variables “wallet” and “cheque” with the other variables that form the element *Financial/Property*. For example, the variable “wallet” correlates significantly with the variables “£100”, “object high”, “credit card”, “public place”, “pass on” and “cheque”. The variable “cheque” correlates significantly with the variables “£100”, “object high”, “credit card” and “public place”. Thus confirming a relationship between the actions of stealing wallets and chequebooks with the stealing of money around the value of £100 and objects of high value and the committing of crimes in public places.

However there are no significant correlations between these variables “wallet” and “cheque” with the variables “money”, “group”, “weapon”, “select victim”, “conv-20”, “conv+3” and “security”. Thus showing that the characteristic of stealing wallets and cheque books is unlikely to be related to the stealing of larger amounts of money in the form of cash, to working in groups, to the use of a weapon, to the careful selection of the victims, to many convictions for crimes, to an early beginning to a criminal career and to those robbers who have been in maximum security prisons.

Therefore it can be said that the stealing of wallets and chequebooks are characteristics unrelated to a high level of ‘professionalism’ that, according to the literature, is associated with actions such as working in groups, the use of a weapon, the careful selection of victims, etc (see section I, Introduction).

Indeed by examining the significant correlations or lack of them it seems that there are different levels of ‘professionalism’ within the element *Financial/Property*. One level refers more closely to those robbers who steal objects of high value, credit cards, wallets and chequebooks and use weapons. The other level refers more closely to those robbers who steal larger amounts of money in the form of cash, who work in groups to commit crimes, who have many convictions for crimes and are likely to have been in maximum-security prisons.

Thus, and in summary, the many significant correlations between the variables of the element *Financial/Property* tend to confirm the SSA structure referring to the element *Financial/Property*. However, since the SSA works basically on rank order rather than with actual significant correlations (see chapter 8, methodology), every variable will not necessarily correlate significantly with every other variable in the element. Thus as was the case with the other facet elements previously discussed, some inconsistencies in the relationships between certain variables need to be taken into consideration when examining the behavioural pattern of the element *Financial/Property*.

12.3 - The Prediction of the Associations between the Variables of Robbery

In the previous section, correlation coefficients were calculated to express the strength of the associations between the variables. The presence of associations between variables will now be examined by predicting the values of one variable from those of others using the Binary Logistic Multiple Regression Analysis (see chapter 8, methodology, for details of the Regression Analysis).

12.3.1 - Predicted Associations of the Element Family/Violence of Robbery

In the element *Family/Violence* when considering the variable “violent parents” as the criterion variable there is association between this variable and the variables “crime person” ($p < .05$), “violence family” ($p < .0001$) and “abused” ($p < .0001$). These variables describe the variable “violent parents” explaining 54% of its variance ($\text{violentparents} = .96\text{crimeperson} + 2.84\text{violencefamily} + 2.58\text{abused}$; $R^2 = .54$). Thus, related to the robbery sample referring to the element *Family/Violence*, there is an association between having violent parents and having witnessed violence in the family, being abused by the parents (physically, verbally and emotionally) and the action of committing crime against the person during the robbery.

The results also showed that there is association between the criterion variable “violence family” and the variables “mum/dom” ($p < .005$), “violent parents” ($p < .0001$) and “alcohol parents” ($p < .005$), with these variables accounting for 49% of the variance of the variable “violence family” (violence family = $-1.81\text{mum/dom} + 2.91\text{violentparents} + 1.31\text{alcoholparents}$; $R^2 = .49$). Thus, there is an association between witnessing violence in family and having alcoholics and violent parents. However having a mother as the dominant figure in the family decreased the chance of witnessing violence in the family.

When considering “mum/dom” as the criterion variable there is an association between this variable and the variables “married” ($p < .005$), “unskilled” ($p < .005$) and “violence family” ($p < .01$). These variables account for 19% of the variance of “mum/dom” (mum/dom = $1.22\text{married} + 1.80\text{unskilled} - 1.23\text{violencefamily}$; $R^2 = .19$). Thus there is association between having a mother as the dominant figure in the family with being married and being unskilled and again having a mother as the dominant figure in the family decreases the chance of witnessing violence in the family.

However, when considering the variable “married plus” as the criterion variable there is an association between this variable and the variable “violent parents” ($p < .05$), but the variable “violent parents” account only for 4% of the variance of the variable “married plus” (marriedplus = $.88\text{violentparents}$; $R^2 = .04$). Despite the low frequency of the variance, still having a history of having been married many times and thus accumulating broken relationships, is associated with a history of suffering from parental violence.

The Regression Analysis showed an association between the criterion variable “educem” and the variables “£5” ($p < .0001$) and “unskilled” ($p < .0001$), with these variables describing the variable “educem” and explaining 66% of its variance (educem = $9.81\text{£5} + 12.63\text{unskilled}$; $R^2 = .66$). Thus being illiterate or having an elementary level of education associated with being unskilled and with the action of stealing small amounts of money or low value items from the crime scene.

There is also association between the criterion variable “unskilled” and the variables “£5” ($p < .0001$), “educem” ($p < .0001$), “unskilled father” ($p < .0001$) and “mum/dom” ($p < .01$). These variables describe the variable “unskilled” explaining 60% of its variance ($\text{unskilled} = 8.83\text{£5} + 12.08\text{educem} + 2.02\text{unskilledfather} + 2.08\text{mum/dom}$; $R^2 = .60$). Thus, being unskilled is associated with having an elementary education, having an unskilled father and having a mother as the dominant figure in the family.

There is an association between the criterion variable “alcohol parents” and the variables “violence family” ($p < .01$) and “alcohol you” ($p < .0001$), with these variables describing the variable “alcohol parents” explaining 39% of its variance ($\text{alcoholparents} = 1.08\text{violencefamily} + 2.42\text{alcoholyou}$; $R^2 = .39$). Thus, having alcoholic parents was associated with witnessing violence in family and with the offender being alcoholic.

When considering “gambling” as the criterion variable there is an association between this variable and the variable “violent parents” ($p < .05$), but “violent parents” only describes 3% of the variance of the variable “gambling” ($\text{gambling} = .75\text{violentparents}$; $R^2 = .03$). Thus, despite the low frequency of the variance, there is an association between being addicted to gambling and having violent parents.

In summary the results of the Regression Analyses generally supported the SSA structure of the element *Family/Violence* and significant associations that could not be identified by the Phi test could now be defined. For example the Regression Analysis shows association between the variable “violent parents” with the variable “crime person” and between the variables “educem” and “unskilled” with the variable “£5”. These associations were not shown by the Phi test (see chapter 12, table 12.2.1).

12.3.2 - Predicted Associations of the Element Casual/Drugs of Robbery

In the element *Casual/Drugs* Regression Analysis showed an association between the criterion variable “£10-100” and the variables “object low” ($p<.005$), “scare” ($p<.005$) and “glue” ($p<.005$). These variables describe 23% of the variance of the variable “£10-100” ($\text{£10-100} = 1.21\text{objectlow} + 1.07\text{scare} + 1.09\text{glue}$; $R^2=.23$). Thus, the results of the robbery sample are showing that the stealing of items or money with a value between £10 and £100 associates with the stealing of low value items, of using a scaring approach towards the victim and sniffing glue.

The results show association between the criterion variable “object low” and the variables “£10-100” ($p<.005$), “food” ($p<.05$) and “money home” ($p<.05$). These variables describe the variable “object low” explaining 16% of its variance ($\text{objectlow} = 1.07\text{£10-100} + .81\text{food} + .73\text{moneyhome}$; $R^2=.16$). Thus the stealing of low value objects was associated with the stealing of items or money with a value between £10 to £100, food and of stealing money/items from someone at home.

There is an association between the criterion variable “food” and the variables “object low” ($p<.05$) and “car parts” ($p<.01$), but these variables describing only 11% of its variance ($\text{food} = .74\text{objectlow} + 1.01\text{carparts}$; $R^2=.11$). Thus despite the low frequency of the variance, there is an association between the stealing of food from the crime scene and the stealing of low value items and car parts.

When considering “car parts” as the criterion variable there is association between this variable and the variables “£10-100” ($p<.005$), “food” ($p<.01$) and “barbiturates” ($p<.0001$). These variables describe the variable “car parts” explaining 28% of its variance ($\text{carparts} = 1.14\text{£10-100} + 1.03\text{food} + 1.61\text{barbiturates}$; $R^2=.28$). Thus the action of stealing car parts is associated with the stealing of money or items with a value of between £10 and £100, food and the persistent use of barbiturates.

The results show an association between the criterion variable “change drugs” and the variables “£10-100” ($p < .05$) and “glue” ($p < .0001$), with these variables explaining 22% of its variance ($\text{changedrugs} = .95\text{£10-100} + 1.55\text{glue}$; $R^2 = .22$). Thus, the exchange of the stolen items for drugs associates with the action of stealing items or money with a value between £10 to £100 and with an addiction to sniffing glue.

When considering the variable “glue” as the criterion variable there is association between this variable and the variable “change drugs” ($p < .0001$), “drugs” ($p < .0001$), “barbiturates” ($p < .005$) and “change” ($p < .005$). These variables describe the variable “glue” and explain 46% of its variance ($\text{glue} = 1.87\text{changedrugs} + 2.05\text{drugs} + 1.29\text{barbiturates} + 1.14\text{change}$; $R^2 = .46$). Thus, an addiction to glue sniffing associates with an addiction to drugs and barbiturates, the apparently minor action of not returning change received by mistake and with the action of exchanging stolen items for drugs.

The results show association between the criterion variable “drugs” and the variables “£10-100” ($p < .05$), “glue” ($p < .0001$) and “barbiturates” ($p < .01$). These variables explain 31% of the variance of the variable “drugs” ($\text{drugs} = 1.26\text{£10-100} + 1.96\text{glue} + 1.26\text{barbiturates}$; $R^2 = .31$). Thus, addiction to drugs associates with addiction to glue and barbiturates and with the stealing of value between £10 to £100.

When considering “barbiturates” as the criterion variable there is association between this variable and the variables “car parts” ($p < .005$), “glue” ($p < .001$), “drugs” ($p < .01$) and “psychiatric” ($p < .001$). These variables describe 38% of the variable “barbiturates” ($\text{barbiturates} = 1.33\text{carparts} + 1.24\text{glue} + 1.24\text{drugs} + 1.41\text{psychiatric}$; $R^2 = .38$). Thus, the persistent use of barbiturates is associated with an addiction to glue and drugs, the stealing of car parts and a history of psychiatric treatment.

With “psychiatric” as the criterion variable there is an association with the variables “object low” ($p<.05$), “physical” ($p<.05$), “barbiturates” ($p<.001$) and “money home” ($p<.001$), with these variables 24% of its variance ($\text{psychiatric} = .93\text{objectlow} + 1.83\text{physical} + 1.28\text{barbiturates} + 1.40\text{moneyhome}$; $R^2=.24$). Thus, have a history of psychiatric treatment was associated with the abuse of barbiturates, the action of stealing money from home, the stealing of low value items and physically attacking the victim during the robberies.

The criterion variable “change” associates with the variables “glue” ($p<.005$), “drugs” ($p<.05$) and “money home” ($p<.001$). These variables explaining 26% of the variance of “change” ($\text{change} = 1.04\text{glue} + .91\text{drugs} + 1.11\text{moneyhome}$; $R^2=.26$). Thus, the apparently minor action of not returning excess change associates with an addiction to glue and drugs and with the action of stealing from home.

The criterion variable “money home” associates with the variables “object low” ($p<.01$), “car parts” ($p<.05$), “physical” ($p<.001$), “psychiatric” ($p<.001$) and “change” ($p<.001$). These variables thus describe the variable “money home” explaining 33% of its variance ($\text{moneyhome} = 1.00\text{objectlow} + .92\text{carparts} + 3.15\text{physical} + 1.40\text{psychiatric} + 1.19\text{change}$; $R^2=.33$). Thus, the stealing of money from home associates with the action of not returning a change received by mistake, the stealing of objects of low value and car parts, the physical attack on the victim and a history of psychiatric treatment.

When considering the approach towards the victim other associations were found by the application of Regression Analysis. For example there is an association between the criterion variable “threat” and the variables “change drugs” ($p<.05$), “verbal” ($p<.01$), “physical” ($p<.05$) and “psychiatric” ($p<.05$). These variables describe 22% of the variance of the variable “threat” ($\text{threat} = 1.03\text{changedrugs} + 1.68\text{verbal} + 1.58\text{physical} + .96\text{psychiatric}$; $R^2=.22$). Thus, the approach of threatening the victims during the crime associates with the approach of verbally and physically attacking the victims, exchanging the stolen items for drugs and a history of psychiatric treatment.

Taking the variable “verbal” as the criterion variable there is association between it and the variables “threat” ($p < .01$) and “humiliate” ($p < .0001$), with these latter variables account for 25% of its variance ($\text{verbal} = 1.62\text{threat} + 2.38\text{humiliate}$; $R^2 = .25$). Thus, the use of a verbal approach towards the victim associated with the actions of threatening and humiliating the victims during the crimes.

Therefore the Regression Analyses in the main supported the SSA structure for the element *Casual/Drugs* and associations between certain variables that could not be identified by the Phi test (coefficient of correlation) were found using Regression Analysis. For example it showed an association between the variable “psychiatric” and the variables “object low” and “physical” and also between the variable “money home” and “physical” that were not shown by the Phi test (see chapter 12, table 12.2.2).

12.3.3 - Predicted Associations of the Element Family/Criminality of Robbery

In the element *Family/Criminality* Regression Analysis shows association between the criterion variable “plan” and the variables “car” ($p < .0001$), “disguise” ($p < .0001$), “run away” ($p < .01$) and “mum/bad” ($p < .001$). These variables describe the variable “plan” explaining 42% of its variance ($\text{plan} = 1.45\text{car} + 2.03\text{disguise} + 1.29\text{runaway} + 8.65\text{mum/bad}$; $R^2 = .42$). Thus the planning of the crime associates with using a disguise, the action of running away from the crime scene, with car theft and with a lifestyle of having a bad relationship with their mother.

When considering “car” as the criterion variable there is an association between this and the variables “plan” ($p < .0001$) and “take money” ($p < .01$), with these variables accounting for 19% of the variance of the variable “car” ($\text{car} = .86\text{takemoney} + 1.34\text{plan}$; $R^2 = .19$). Thus, car theft associated with the action of planning the crimes and with the characteristic of just accepting money as payment for the stolen items. There is also an association between the criterion variables “take money” and the variables “car” ($p < .01$) and “run away” ($p < .005$). These variables describe

explaining 15% of its variance ($\text{takemoney} = .95\text{car} + 1.36\text{runaway}$; $R^2 = .15$). Thus, the characteristic of just accepting money as payment for stolen items associates with car theft and the action of running away from the crime scene after the crime.

When considering “run away” as the criterion variable there is association between it and the variables “take money” ($p < .005$) and “plan” ($p < .005$), with these variables accounting for 21% of its variance ($\text{runaway} = 1.27\text{takemoney} + 1.50\text{plan}$; $R^2 = .21$). Thus, the action of running away from the crime scene associates with the planning of the crime and the characteristic of just accepting money as payment for stolen items rather than for example changing the stolen items for drugs.

There is an association between the criterion variable “young” and the variable “divorced parents” ($p < .05$), but with a variance of only 3% ($\text{young} = .84\text{divorcedparents}$; $R^2 = .03$). However, despite the low value of the variance, there is still an association between an early start to a criminal career and having divorced parents and thus coming from a broken family.

Thus the results of the Regression Analyses in the main supported the SSA structure for the element *Family/Criminality* and the associations identified by regression analysis complemented the significant correlations between the variables previously presented in chapter 12, table 12.2.3.

12.3.4 - Predicted Associations of the Element Financial/Property of Robbery

In the element *Financial/Property* Regression Analysis shows association between the criterion variable “£100” and the variables “object high” ($p < .01$), “select victim” ($p < .05$) and “cheques” ($p < .005$). These variables describe the variable “£100” and explain 20% of its variance ($\text{£100} = .96\text{objecthigh} + .86\text{selectvictim} + 1.08\text{cheques}$; $R^2 = .20$). Thus, the stealing of money or items with a value greater than £100 associates with the stealing of high value objects and chequebooks and with the careful selection of the victims.

When considering the variable “object high” as the criterion variable there is association between this variable and the variables “£100” ($p < .05$), “credit cards” ($p < .0001$), “money” ($p < .05$), “weapon” ($p < .005$) and “conv+3” ($p < .05$). These variables describe the variable “object high” explaining 35% of its variance ($\text{objecthigh} = .93\text{£100} + 2.03\text{creditcards} + .84\text{money} + 1.17\text{weapon} + .94\text{conv+3}$; $R^2 = .35$). Thus, the stealing of objects of high value associates with the stealing of an item or money with a value more than £100, credit cards, money in the form of cash, the use of a weapon to commit the crimes and three or more convictions : crimes.

When taking “credit cards” as the criterion variable there is association between it and the variables “object high” ($p < .0001$), “money” ($p < .0001$) and “wallet street” ($p < .005$). These variables describe the variable “credit cards” explaining 39% of its variance ($\text{creditcards} = 2.03\text{objecthigh} + 2.01\text{money} + 1.50\text{walletstreet}$; $R^2 = .39$). Thus, the stealing of credit cards associates with the stealing of objects of high value, money in form of cash and stealing wallets from people on the street. With “money” as the criterion variable there was an association with the variables “credit cards” ($p < .005$) and “weapon” ($p < .01$), with these variables accounting for 14% of its variance ($\text{money} = 1.63\text{creditcards} + .85\text{weapon}$; $R^2 = .14$). Thus, the stealing of money in the form of cash associates with the stealing of credit cards and the use of weapons when committing crimes.

When considering the variable “public place” as the criterion variable there is association between it and the variables “group” ($p < .01$), “pass on” ($p < .05$) and “cheques” ($p < .005$) with these variables describe 16% its variance ($\text{publicplace} = .84\text{group} + .70\text{passon} + .98\text{cheques}$; $R^2 = .16$). Thus, the commitment of crimes in public places associates with the stealing of chequebooks, of working in groups and with ‘passing on’ the stolen items immediately.

Considering “group” as the criterion variables there is association between it and the variables “money” ($p < .05$), “public place” ($p < .05$), “pass on” ($p < .05$), “weapon” ($p < .0001$), “security” ($p < .05$) and “cheques” ($p < .005$) with these variables

explaining 30% of its variance ($\text{group} = .82\text{money} + .85\text{publicplace} + .75\text{passon} + 1.30\text{weapon} + .80\text{security} + 1.12\text{cheques}$; $R^2 = .30$). Thus, the characteristic of working in groups to commit crimes associates with the stealing of money in the form of cash and chequebooks, the commitment of the crimes in public places, passing on the stolen items immediately, use of a weapon and of having been in maximum-security prisons.

With “pass on” as the criterion variable there was an association with the variables “public place” ($p < .005$) and “select victim” ($p < .05$), but these accounted for only 10% of its variance ($\text{passon} = .94\text{publicplace} + .74\text{selectvictim}$; $R^2 = .10$). Thus, despite the low frequency of the variance, there is association between the characteristic of ‘passing on’ stolen items immediately with the committing of crimes in public places and with the careful selection of the victims.

When considering the variable “weapon” there is association between this criterion variable and the variables “object high” ($p < .001$), “group” ($p < .0001$) and “select victim” ($p < .005$). These variables explain 31% of the variance of the variable “weapon” ($\text{weapon} = 1.23\text{objecthigh} + 1.40\text{group} + 1.05\text{selectvictim}$; $R^2 = .31$) and thus the use of a weapon associates with the stealing of objects of high value, with working in groups to commit crimes and with the careful selection of the victims.

Taking the criterion variable “select victim” there is association between it and the variables “£100” ($p < .05$), “weapon” ($p < .0001$) and “conv+3” ($p < .05$). These variables describe the variable “select victim” explaining 20% of its variance ($\text{selectvictim} = .79\text{£100} + 1.24\text{weapon} + .89\text{conv+3}$; $R^2 = .20$). Thus, the careful selection of the victims associates with the stealing of items/money worth more than £100, the use of a weapon and with having three or more convictions.

The variable “conv+3” associates with the variables “object high” ($p < .05$), “select victim” ($p < .05$) and “security” ($p < .05$). These variables describe the variable “conv+3” but explain only 13% of its variance ($\text{conv+3} = .75\text{objecthigh} + .86\text{selectvictim} + .79\text{security}$; $R^2 = .13$). Thus, having many convictions for crimes

associates with the stealing of high value objects, careful selection of the victim and with the fact of having been in maximum-security prisons.

Using “conv-20” as the criterion variable an association was found with “object high” ($p < .01$), but with it describing just 6% of the variance ($\text{conv-20} = .88\text{objecthigh}$; $R^2 = .06$). Thus, despite the low frequency of the variance, still there is an association between the characteristic of receiving the first conviction when less than 20 years of age and the subsequent stealing of objects of high value.

There is association between the criterion variable “security” and the variables “group” ($p < .01$) and “conv+3” ($p < .01$), with these variables accounting for 10% of the variance of the variable “security” ($\text{security} = .88\text{group} + .93\text{conv+3}$; $R^2 = .10$). Thus, having been in maximum-security prisons associates with working in groups to commit crimes and with having many convictions for crimes.

When considering the criterion variable “wallet street” there is association between it and the variables “credit cards” ($p < .005$) and “cheques” ($p < .0001$), with these variables accounting for 37% of the variance ($\text{wallet} = 1.55\text{creditcards} + 2.14\text{cheques}$; $R^2 = .37$). Thus, the action of stealing wallets from people passing on the street associates with the stealing of credit cards and chequebooks.

The criterion variable “cheques” associated with the variables “£100” ($p < .05$), “public place” ($p < .05$), “group” ($p < .01$) and “wallet street” ($p < .0001$). These variables described the variable “cheques” explaining 40% of its variance ($\text{cheques} = .92\text{£100} + .84\text{publicplace} + .94\text{group} + 2.18\text{walletstreet}$; $R^2 = .40$). Thus, the stealing of chequebooks associates with the stealing of items /money with a value higher than £100, with stealing wallets on the street, working in groups and with the commitment of the crimes in public places.

Thus the Regression Analyses generally supported the SSA structure for the element *Financial/Property*. Furthermore associations that could not be identified by the Phi test (see chapter 12, table 12.2.4), for example between the variable “object high”

and “money” or between the variable “group” and “cheques”, showed statistical associations when using Multiple Regression Analysis. Having discussed the relationships and predicted relationships between the variables within their respective facet elements as proposed by the SSA structure, the impact of the variables across the elements will now be considered.

12.4 - The Strength of the Associations Across the Facet Elements of Robbery

The variables of each individual element are now examined across the different elements of Robbery to see for example if a given variable influences other elements apart from the one suggested by the SSA plot.

12.4.1 - Associations Across the Element Family/Violence of Robbery

The pattern of behaviour reflected by the element *Family/Violence* of robbery is formed by the variables listed in the far left column in table 12.4.1 (see Appendix II for a description of these variables).

When examining these variables it can be seen that there are significant correlations between all these variables and their element *Family/Violence* (table 12.4.1) supporting the SSA structure that suggested that these variables would form the pattern of behaviour of this element *Family/Violence* (see chapter 11). When these same variables were examined against the patterns of behaviour of the other elements suggested by the SSA structure, there were also other significant correlations (table 12.4.1). The variables “£5” and “alcohol you” correlated significantly with the element *Casual/Drugs*. This is explicable since both themes relate to the same *Interpersonal* element presented in the first SSA analysis (figure 11.2.1) and so it might be expected that some variables of the element *Family/Violence* would correlate with the element *Casual/Drugs*.

There is also a significant correlation between the variable “violence family” and the element *Family/Criminality*. This was not expected since this variable reflects an interpersonal approach to crime whereas the element *Family/Criminality* refers to an instrumental approach. Therefore the witnessing of violence in the family is not a characteristic peculiar to the facet element *Family/Violence* and thus some care needs to be taken in considering this variable in relation to patterns of behaviour.

However all the variables grouped within the SSA element *Family/Violence* showed higher significant correlations with this element than with the other elements and thus can be said to reflect the pattern of behaviour of this element *Family/Violence*. Only three of these variables also correlated with other elements albeit with lower correlation values.

Table 12.4.1 - Significant Correlations between the Variables of the Element Family/Violence Across the Elements of Robbery

Family/Violence Variable's label	Family/Violence	Casual/Drugs	Family/Criminality	Financial/Property
£5	.208**	.177*	—	—
Crime Person	.268**	—	—	—
Married	.266**	—	—	—
Married Plus	.302**	—	—	—
EducElem	.269**	—	—	—
Unskilled	.390**	—	—	—
Unskilled Father	.314**	—	—	—
Mum/Dom	.265**	—	—	—
Violent Parents	.552**	—	—	—
Violence Family	.482**	—	.226**	—
Abused	.458**	—	—	—
Alcohol Parents	.504**	—	—	—
Alcohol You	.562**	.157*	—	—
Gambling	.395**	—	—	—

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

The variables that significantly correlated just with the element *Family/Violence* were “crime person”; “married”; “married plus”, “educem”; “unskilled”; “unskilled father”; “mum/dom”; “violent parents”; “abused”; “alcohol parents” and “gambling”. Therefore it can be said that these variables more precisely reflect the pattern of behaviour of the facet element *Family/Violence*.

12.4.2 - Associations Across the Element Casual/Drugs of Robbery

The variables defining the pattern of behaviour for the element *Casual/Drugs* of robbery are listed in the far left column of table 12.4.2 (see Appendix II for a description of these variables).

There are significant correlations between all these variables and their element *Casual/Drugs* (table 12.4.2) thus reinforcing the SSA structure that suggested that these variables form the pattern of behaviour for this element *Casual/Drugs*.

The variables “change drugs”; “glue”; “humiliate” and “physical” also correlated significantly with the element *Family/Violence*. As mentioned before, it might be expected that some variables in the element *Casual/Drugs* would correlate with the element *Family/Violence* since both elements share the same facet element *Interpersonal* in the first SSA plot (see chapter 11, figure 11.2.1).

There were also significant correlations between the variables “£10-100”; “car parts”; “change drugs”; “threat”; “scare”; “humiliate”; “glue”; “drugs”; “barbiturates”; “change” and “money home” from the element *Casual/Drugs* with the element *Financial/Property*. This was not expected since the facet element *Casual/Drugs* belongs to the facet element *Interpersonal* whilst the element *Financial/Property* is within the facet element *Instrumental* (see chapter 11).

**Table 12.4.2 - Significant Correlations Between the Variables of the Element
Casual/Drugs Across the Elements of Robbery**

Casual/Drugs Variable's label	Casual/Drugs	Family/Violence	Family/Criminality	Financial/Property
£10-100	.545**	—	—	.210**
Object low	.400**	—	—	—
Food	.342**	—	—	—
Car Parts	.556**	—	—	.259**
Change Drugs	.473**	.219**	—	.286**
Threat	.427**	—	—	.280**
Verbal	.337**	—	—	—
Physical	.197*	.156*	—	—
Scare	.368**	—	—	.235**
Humiliate	.307**	.169*	—	.163*
Glue	.636**	.192*	—	.297**
Drugs	.464**	—	—	.288**
Barbiturates	.562**	—	—	.230**
Psychiatric	.384**	—	—	—
Change	.498**	—	—	.205**
Money Home	.482**	—	—	.227**

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

However, the significant correlations between some variables of the element *Casual/Drugs* with the element *Financial/Property* may infer that some behaviour associated with the element *Casual/Drugs* could be practiced by offenders at the beginning of their criminal careers. That is before they established an instrumental approach to their crimes as reflected by the element *Financial/Property*.

Thus, in this case the element *Casual/Drugs* could represent a transition from the element *Interpersonal* to the element *Instrumental*. However this inference must be considered speculative at this point since the data for the present study did not consider different periods of the individuals' criminal careers. Nevertheless, the significant correlations for these variables are higher for their element *Casual/Drugs* than with the element *Financial/Property*.

The variables that uniquely correlate with their element *Casual/Drugs* are “object low”; “food”; “verbal” and “psychiatric”. Thus, the actions of stealing low valuable items and food, verbal attacking the victim and having a history of psychiatric treatment could be the characteristics that more specifically represent the pattern of behaviour of the facet element *Casual/Drugs*.

12.4.3 - Associations Across the Element Family/Criminality of Robbery

The variables that express the element *Family/Criminality* are listed in the extreme left column of table 12.4.3 (see Appendix II for a description of these variables). There are significant correlations between all these variables and their element *Family/Criminality* (table 12.4.3) a situation that serves to support the SSA structure, which suggested that these variables formed the pattern of behaviour associated with the element *Family/Criminality* (see chapter 11).

When examining these same variables against the other elements it can be noticed that the variables “car”; “take money”; “plan”; “disguise” and “run away” also correlate significantly with the element *Financial/Property*. It might be expected that some variables from the *Family/Criminality* would correlate with the *Financial/Property* since both elements share the element *Instrumental* presented in the first SSA plot (chapter 11, figure 11.2.1). However, the significant correlations for these variables were higher in relation to their original element *Family/Criminality*.

**Table 12.4.3 - Significant Correlations Between the Variables of the Element
Family/Criminality Across the Elements of Robbery**

Family/Criminality Variable's label	Family/Criminality	Family/Violence	Casual/Drugs	Financial/Property
Car	.539**	—	—	.207**
Take Money	.488**	—	—	.218**
Plan	.621**	—	—	.334**
Disguise	.506**	—	—	.345**
Run Away	.517**	—	—	.256**
Young	.284**	—	—	—
Mum/Dad	.208**	—	—	—
Brothers	.291**	—	—	—
Mum/Bad	.287**	—	—	—
Divorced Parents	.333**	—	—	—
Criminal Family	.242**	—	—	—

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

The variables “criminal family”; “young”; “mum/dad”; “brothers”; “mum/bad” and “divorced parents” uniquely correlated with the facet element *Family/Criminality*. Thus, being part of a criminal family, having a bad relationship with their mother, experiencing divorce between their parents at some stage in their lives and starting a criminal career at an early age are characteristics that more precisely define the pattern of behaviour associated with the element *Family/Criminality*.

12.4.4 - Associations Across the Element Financial/Property of Robbery

The facet element *Financial/Property* in robbery is defined by the variables listed in the left hand column of table 12.4.4. These variables are described in Appendix II.

In table 12.4.4, there are significant correlations between all these variables and their element *Financial/Property*. This supports the SSA structure, which suggested that these variables formed the pattern of behaviour of this element (see chapter 11).

When examining these same variables against the other facet elements from the SSA plot it can be noticed that there are many other correlations (table 12.4.4). The variables “£100”; “credit cards”; “public places”; “group”, “pass on”; “weapon” and “select victim” also correlate significantly with the element *Family Criminality*. This might be expected since the facet elements *Financial/Property* and *Family/Criminality* both share the facet element *Instrumental* of the first SSA plot (see chapter 11, figure 11.2.1). However the highest significant correlations were still between these variables and their original element *Family/Criminality*.

Somewhat unexpectedly the variables “object high”; “credit cards”; “public places”; “pass on”, “wallet” and “cheque” correlated significantly with the facet element *Casual/Drug*. This was not expected since this element is linked to the facet element *Interpersonal* while the element *Financial/Property* is related to the *Instrumental* element (see figure 11.2.1).

However as was suggested before, the correlations between some variables of the element *Casual/Drugs* with the element *Financial/Property* may infer that some of the behaviour of the element *Casual/Drugs* could be practiced by offenders at the beginning of their criminal careers before they have established a clear instrumental approach to their crimes as reflected by the element *Financial/Property*. Thus, the element *Casual/Drugs* could represent a transition from the element *Interpersonal* to the element *Instrumental*.

Nevertheless, and as was the case before, the significant correlations between these variables are higher within their element *Financial/Property* than with the element *Casual/Drugs*.

**Table 12.4.4 - Significant Correlations Between the Variables of the Element
Financial/Property Across the Elements of Robbery**

Financial/Property Variable's label	Financial/Property	Family/Violence	Casual/Drugs	Family/Criminality
£100	.482**	—	—	.169*
Object High	.540**	—	.334**	—
Credit Cards	.528**	—	.395**	.176*
Money	.363**	—	—	—
Public Places	.425**	—	.185*	.197*
Group	.400**	—	—	.329**
Pass On	.455**	—	.228**	.218**
Weapon	.535**	—	—	.365**
Select Victim	.463**	—	—	.297**
Conv-20	.364**	—	—	—
Conv+3	.357**	—	—	—
Security	.357**	—	—	—
Wallet Street	.552**	—	.410**	—
Cheque	.476**	—	.274**	—

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

Thus, the variables that uniquely correlate significantly with the element *Financial/Property* are “money”; “conv-20”; “conv+3” and “security”. Thus, the action of stealing cash, the early and many convictions for crimes and, consequently, have been in maximum security prisons are the characteristics that appear to more precisely define the pattern of behaviour of the facet element *Financial/Property*.

12.5 - Similarities and Differences Between the Facet Elements of Robbery

The SSA plot for robbery (see chapter 11), was divided into two elements (i.e. *Interpersonal* and *Instrumental*) in relation to the facet robbers' criminal behaviour and into the four elements of *Family/Violence*, *Casual/Drugs*, *Family/Criminality* and *Financial/Property* for the facet robbers' lifestyles (based on different patterns of behaviour). The current chapter looked at the statistical significance of the variables comprising these facet elements.

Some variables correlated significantly with both of the elements *Family/Violence* and *Casual/Drugs* but not with the elements *Family/Criminality* and *Financial/Property* perhaps suggesting a stronger link with an interpersonal approach to crimes in general than just to their respective interpersonal element. These variables were “£5”; “alcohol you” and “physical” and thus these variables may more precisely reflect an interpersonal desire in relation to robbery.

Conversely some variables correlated significantly with both the facet elements *Family/Criminality* and *Financial/Property* but not with both facet elements *Family/Violence* and *Casual/Drugs*. These variables were “car”; “take money”; “plan”; “disguise” “run away”; “£100+”; “group”; “weapon” and “select victim”. Thus these variables suggest a stronger link with an instrumental approach to crime in general, rather than just to their respective instrumental element.

Certain other variables correlated significantly across the *Interpersonal* and *Instrumental* facet elements, thus showing a link with both. Therefore these variables represent more general characteristics of robbery. The variables common to both the *Interpersonal* and *Instrumental* facet elements are: “violence family”, “£10-100”, “car parts”, “change drugs”, “threat”, “scare”, “humiliate”, “glue”, “drugs”, “barbiturates”, “change”, “money home” object high”, “credit cards”, “public places”, “pass on”, “wallet” and “cheque”. Thus, it can be said that these variables represent lifestyle characteristics and criminal actions that are general

features of the crime of robbery and thus do not necessarily distinguish an interpersonal from instrumental desire.

In contrast some of the variables just correlated significantly with the facet elements to which they were assigned in the SSA plot and these are presented table 12.5.1.

Table 12.5.1 Variables that Uniquely Correlate With the Elements of Robbery

Family/Violence	Casual/Drugs	Family/Criminality	Financial/Property
Crime person	Object Low	Criminal Family	Money
Married	Food	Young	Conv-20
Married Plus	Verbal	Mum/Dad	Conv+3
Educeleem	Psychiatric	Brother	Security
Unskilled		Divorced Parents	
Unskilled father			
Mum/Dom			
Violent Parents			
Abused			
Alcohol parents			
Gambling			

It can be suggested that these variables, are maybe the ones that best define the individual facet elements.

CHAPTER 13

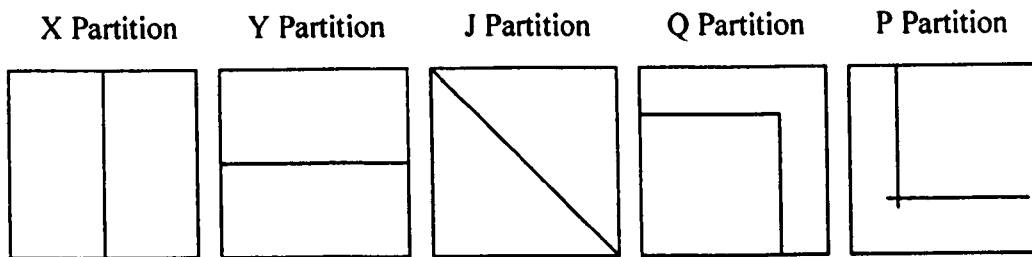
POSA ANALYSIS ON ROBBERY

13.1 - The Results of the POSA Analyses on Robbery

In order to further investigate the thematic structure suggested by the SSA analysis a Partial Order Scalogram Analysis – POSA were performed on some of the variables under study (for details on POSA see Shye, 1978). As explained before (chapter 8 of Procedures and Methods) POSA is “used to compare individuals with respect to their similarities across a number of variables simultaneously” (Porter & Alison, 2001; pg. 485). POSA generates numerical profiles for each individual in relation to the score for each selected variable. The main plot contains the profiles and the item plots maintain the same configuration of points as the main plot, but each item plot shows in more details the structure of the scale in relation to the presence or absenteeism of each variable. Thus, POSA can be used to show that the patterns that exist between the variables in the SSA plot are indeed robust enough to work at the level of individuals.

To facilitate the understanding of the POSA plots to be presented next it is also important to explain again that POSA suggests different types of partition by considering the order and/or sub order imposed on the variables under examination (see chapter 8). Partition along the X and Y-axes indicates that an essential factor underlies the relationship between the variables. The Q-axis partition accentuates these essential factors, the P-axis partition moderates these essential factors and partition along the J-axis reveals the quantitative differences (figure 13.1.1).

Figure 13.1.1: Different Types of POSA Analysis Partition



13.2 - The Thematic Structure of the POSA Analyses on Robbery

Four POSA analyses were performed on the robbery data set of 168 subjects. These POSA analyses considered the thematic structure suggested by the results of the SSA analysis that showed four facet elements (see chapter 11).

13.2.1 - The Use of POSA Analyses on Robbery

The basic frequencies, correlations and co-occurrence of variables do not say everything about the behaviour of the individuals. Thus, even after applying the various statistical procedures used up to this point in the study, namely SSA Analysis, the Phi coefficient and Regression Analysis, still many questions arise about the identified patterns of behaviour of robbers' criminal actions and lifestyle characteristics. For example, does an individual demonstrate one of the behaviours or a combination of behaviours and in the latter case what is the structure of the combination of behaviours? On what scale does the behaviour happen? Which are the more common and which are the rare characteristics? What is the sequence of characteristics on a scale of behaviour?

In relation to the element *Family/Violence* for example, in which sequence do the variables happen? What will be the next stage on from stealing low valuable items? Is it the committing of crimes against the person? If so, on a scale of behaviour

where is committing crimes against the person positioned? Is it a common or a rare characteristic for robbers to have violent parents and to witness violence in family?

When considering the element *Casual/Drugs* in which order do the behavioural characteristics form a scale? Do most robbers use drugs? Is the next stage on the scale the stealing of low value items to support their drug addiction? If the answer is yes, then do they become physically violent towards the victim? Is it a common occurrence or extreme behaviour to physically attack the victim during the crime?

In the element *Family/Criminality*, what are the combinations and the scale of behaviour? For example, is coming from a family with criminal members a common or a rare characteristic? At which point on a scale of behaviour is car theft positioned? Which is the more common behaviour, the use of a disguise or the planning of the crime?

In relation to the element *Financial/Property* what scale of behaviour occurs? Is it the action of stealing high valuable object preceded by the careful selection of the victims? Do most robbers use a weapon to execute the crime? Is working in groups to commit the crimes a common or rare characteristic in the case of robbers?

In order to try and answer these questions a Partial Order Scalogram Analysis - POSA was employed, more precisely POSAC or POSAX, which is a more complex POSA analysis (see Dancer, 1990; for POSAC and examples of its uses).

POSA is a nonparametric statistical technique that can be used to examine similarities and differences between sub-groups of people across the variables under study. POSA creates numerical profiles for each individual with respect to the score on each variable. The profiles of the variables are summed to produce a score and then the cases are ranked with respect to this score, which represent the level of behaviour being measured (for more details of POSA see chapter 8, topic 8.2.3).

POSA assumes an underlying order to the variables presenting a scale of behaviour. In fact, in this present study although behaviour has been identified as forming distinct patterns, it was not clear how these behaviours combined and in which range of sequence. Therefore POSA was used to demonstrate the stages and the possible combinations in which the behaviour occurs in relation to the various facet elements identified by the SSA.

In summary, the aim in using POSA was to examine which combinations and scale of behaviour occur in relation to the facet elements identified by the SSA. The aim is then to answer the questions posed earlier in this section and to define what is typical of the sample under study and what is rare and may be coincidental.

13.2.2 - The Variable Chosen for the POSA Analyses on Robbery

Because the POSA analyses are restricted in the total number of variables that can be included, representative variables were chosen for each facet element from the SSA analysis. Thus, five variables that best reflected each of the SSA facet elements were chosen for POSA analysis.

The choice of the variables for the POSA analyses was based on the hypotheses of the present study (see chapter 8) which supposes that it should be possible to identify distinct patterns of behaviour related to the co-occurrence of the variables on the SSA plots. From this perspective the variables for POSA analyses were chosen with reference to criminal actions and lifestyle characteristics shown by the SSA plots. The choice was thus based on the interpretation of the SSA structures showing the themes for the distinct facet elements identified.

Accordingly, if the co-occurrence of the variables in a given facet element showed mainly a thematic referring to violence and a lower level of education then the variables that best reflect this characteristic were chosen for the POSA analysis. When considering the facet element *Family/Violence* (see figure 11.6.1), for

example, the variable “married plus” referring to many broken relationships is an important lifestyle characteristic, however priority was given to the variables that reflect the main thematic expressed by the element *Family/Violence*, and so variables such as “violent parents”, “violence family” and “crime person” were chosen in preference to the variable “married plus” because these variables more obviously reflected the thematic violence. Also if two or more variables expressed basically the same theme such as education and skills then the more expressive variable, in relation to the thematic in question, was chosen to represent the others. For example, in relation to the facet element *Family/Violence*, which contained the variables “elementary education”, “unskilled” and “unskilled father”, the variable “elementary education” was chosen for the POSA analysis (see Appendix II for description of these variables).

In the case of the facet element *Casual/Drugs* (see figure 11.6.1), the variables that reflect drug addiction and contact with the victim were chosen because this was the main thematic expressed by the facet *Casual/Drugs*. Thus variables such as “drugs”, “physical” and “verbal”, referring to drug addiction and contact with the victims during the crime, were chosen in preference to the variable “money home”, which refers to stealing money from home. Thus, despite the importance of the action of stealing money from home, it was considered that the variable “drugs” for example was more in accordance with the theme of the element *Casual/Drugs*. Also if two or more variables expressed basically the same theme such as addiction then the more expressive variable, in relation to the theme, was again chosen to represent the others. For example, in relation to the facet element *Casual/Drugs*, of the three variables “glue”, “barbiturates” and “drugs” the latter was chosen for the POSA analysis (see Appendix II for description of these variables).

Taking the facet element *Family/Criminality* (see figure 11.6.1) the variables that reflect criminality in family, planning and the early beginning to a criminal career were chosen because this was the main thematic expressed by the element *Family/Criminality*. Variables such as “criminal family”, “plan” and “young” were thus chosen in preference to the variable “mum/dad”, which refers to living with

both parents when a child rather than with others or in institutions. Therefore despite the importance of the information referring to the living conditions of the offender when a child (variable “mum/dad”), it was considered that the variable “criminal family” for example better reflected the main thematic related to the element *Family/Criminality* and thus the variable “criminal family” was chosen for the POSA analysis (see Appendix II for description of these variables).

In the case of the facet element *Financial/Property* (see figure 11.6.1), the variables that reflect ‘professionalism’ and less impulsivity were chosen because this was the main thematic expressed by the facet *Financial/Property*. Thus variables such as “object high”, “weapon” and “group”, referring to the stealing of high value objects and to the use of a weapon and to working in groups to commit crimes, were chosen in preference, to the variable “wallet”, which referred to the stealing of wallets from someone passing on the street. Thus, despite the importance of this latter information it was considered that the variable “object high” for example was more in accordance with the main thematic of the element *Financial/Property*. Also if two or more variables expressed basically the same theme such as what is stolen from the crime scene then the more expressive variable, was chosen to represent the others. For example, when considering the facet element *Financial/Property*, the variable “object high” was chosen for the POSA analysis in preference to the variables “£100”, “money”, “cheque” and “credit cards” (see Appendix II for description of these variables).

There were other reasons to choose the variables to include in POSA analysis. For example an attempt was made to select the variable central to the element but away from the middle of the SSA plot since the variables close to the middle of the plot are usually the more common ones (core variables) and so not very distinguishable (see figure 11.6.1). An attempt was made to avoid variables with a very high frequency because these variables are also more common and so are not very helpful in distinguishing differences between the patterns. The selection was also based on an attempt to choose variables not very close to the SSA division lines since these variables may also relate to other facet elements.

However despite these considerations in a few cases a variable was chosen even though it was close to the middle of the SSA plot or to the boundaries or had a high frequency. This was because of the necessity to examine the importance of the peculiar nature of this variable to the facet element and to the thematical structure suggested. Thus in the element *Family/Violence* this was the case with the variable “crime person”, in the element *Casual/Drugs* for the variable “drugs”, in the element *Family/Criminality* for the variable “criminal family” and in the element *Financial/Property* for the variable “conv+3”.

According to the SSA analysis, the variables for the facet element *Family/Violence* (see sub-section 11.6.1) were linked to an elementary education, a lifestyle related to a history of abuse, to violent parents and to having witnessed violence in the family. The criminal lifestyles reflected this experience of violence by including not just robbery but also crimes against the person. Thus for the POSA analysis on this element the variables “education elementary”, “violent parents”, “violence family”, “abused” and “crime person”, were chosen because these variables represented the thematic structure related to the element *Family/Violence* (see Appendix II for details on variables).

The SSA results for the element *Casual/Drugs* showed here a lifestyle of drug abuse and criminal activities involving the stealing of low value objects and small amounts of money to support the drug addiction (see sub-section 11.6.2). The criminal lifestyle was an expression of a desire for interpersonal contact with the victim, and of actions of an interpersonal nature displayed during the offences. Thus for the POSA analysis of the element *Casual/Drugs* the variables “drugs”, “£10-100”, “object low”, “verbal” and “physical” were chosen because they were considered to best represent thematic of this element. Despite the presence of other variables of an interpersonal nature within the element *Casual/Drugs*, such as “threat”, “scare” and “humiliate”, the variables “verbal” and “physical” were chosen, for the POSA analysis on this element, because they reflected interpersonal contact of a more extreme nature (see Appendix II for a description of these variables).

For the element *Family/Criminality*, the SSA results (see sub-section 11.6.3) suggested that here the lifestyle was a reflection of criminality within the family with close members of the family committing crimes. The criminal lifestyle reflected the reproduction of this criminality within the family and was thus linked to the development of criminal skills such as the use of disguise and of planning the crimes. The SSA results also showed that there was an early start to a criminal career, with a period of detention in an institution for young offenders. Car theft was also amongst the variables linked to this element. Thus, for the POSA analysis of this element *Family/Criminality* the variables “criminal family”, “plan”, “disguise”, “young” and “car” were chosen (see Appendix II for the description of these variables).

The SSA results for the fourth element *Financial/Property* suggested a link between the general lifestyle and the criminal lifestyle, such that the only life known was one of crime (see sub-section 11.6.4). It was observed that there was a strong commitment to a life of crime with many convictions. Crime was taken as a serious business, with the criminals working in-groups, carefully selecting their victims and with weapons being used. The criminal lifestyle was to provide financial gain with the theft of high value objects and/or large amounts of money. Thus for the POSA analysis of this element *Financial/Property* the variables “object high”, “group”, “weapon”, “select victim” and “conv+3” were chosen (Appendix II for a description of these variables).

The choice of the variables for the POSA Analyses, in relation to the SSA facet elements, was made also on the basis of a “mapping sentence”. Basically the range and sequence of the variables can be expressed as a structural hypothesis through the use of a mapping sentence (Shy, Elizur & Hoffman, 1994). A mapping sentence is thus a concise way of specifying the research domains. The mapping sentence was considered here to demonstrate how in each facet element the behaviour/characteristics could be organised in a concise way. The four mapping sentences considered here, in relation to each facet element of the facets of robbers’ criminal behaviour and lifestyle characteristics, are presented below:

- **The Mapping Sentence for the Facet Element *Family/Violence***

An offender's behavioural pattern relating to the element *Family/Violence* can be characterized by the extent to which he adheres to the following:

- | | | |
|--|------|-------|
| 1) Has an elementary education | No=1 | Yes=2 |
| 2) Has parents who are violent towards him | No=1 | Yes=2 |
| 3) Witnessed violence in the family | No=1 | Yes=2 |
| 4) Was abused by his parents | No=1 | Yes=2 |
| 5) Commits crimes against the person | No=1 | Yes=2 |

- **The Mapping Sentence for the Facet Element *Casual/Drugs***

An offender's behavioural pattern relating to the element *Casual/Drugs* can be characterized by the extent to which he conforms to the following:

- | | | |
|---|------|-------|
| 1) Is addicted to drugs | No=1 | Yes=2 |
| 2) Steals objects of low value | No=1 | Yes=2 |
| 3) Steals money/valuables between £10 to £100 | No=1 | Yes=2 |
| 4) Uses a verbal approach towards the victim | No=1 | Yes=2 |
| 5) Apply physical attack on the victim | No=1 | Yes=2 |

- **The Mapping Sentence for the Facet Element *Family/Criminality***

An offender's behavioural pattern relating to the element *Family/Criminality* can be characterized by the extent to which he demonstrates the following features:

- | | | |
|---|------|-------|
| 1) Belongs to a criminal family | No=1 | Yes=2 |
| 2) Plans the crimes | No=1 | Yes=2 |
| 3) Uses a disguise to commit the crimes | No=1 | Yes=2 |
| 4) Commits car theft | No=1 | Yes=2 |
| 5) Has been in an institution for young offenders | No=1 | Yes=2 |

- **The Mapping Sentence for the Facet Element *Financial/Property***

An offender's behavioural pattern relating to the element *Financial/Property* can be characterized by the extent to which he:

- | | | |
|--|------|-------|
| 1) Steals objects of high value | No=1 | Yes=2 |
| 2) Commits the crimes in groups | No=1 | Yes=2 |
| 3) Uses a weapon | No=1 | Yes=2 |
| 4) Selects the victim carefully | No=1 | Yes=2 |
| 5) Has multiple convictions for crimes | No=1 | Yes=2 |

Thus, it can be observed that the mapping sentence is a strategy for organising the research domains in a concise way to help examine possible combinations and sequences or scales in relation to the variables under study.

Table 13.2.1 summarises the variables chosen for the POSA analyses for the facet elements *Family/Violence*, *Casual/Drugs*, *Family/Criminality*, *Financial/Property* (the variables are in the sequence in which they appear across the POSAC plot).

Table 13.2.1 - Variables for POSA Analyses on the Four Facet Elements
Identified by the SSA Analysis on Robbery

Family/Violence	Casual/Drugs	Family/Criminality	Financial/Property
EducElem	£10-100	Car	Object High
Crime Person	Object Low	Plan	Group
Violent Parents	Drugs	Disguise	Weapon
Violence Family	Verbal	Young	Select Victim
Abused	Physical	Criminal Family	Conv+3

Having discussed the aim behind the use of POSA Analysis and the choice of the variables, the POSA main plots and items plot will now be presented and discussed. Also, at the end of each POSA analysis, the frequencies of the different profiles will be discussed to demonstrate aspects of the sample as a whole such as what is typical of the sample and what is rare and may be coincidental.

13.3 - POSA Analysis of the Element Family / Violence of Robbery

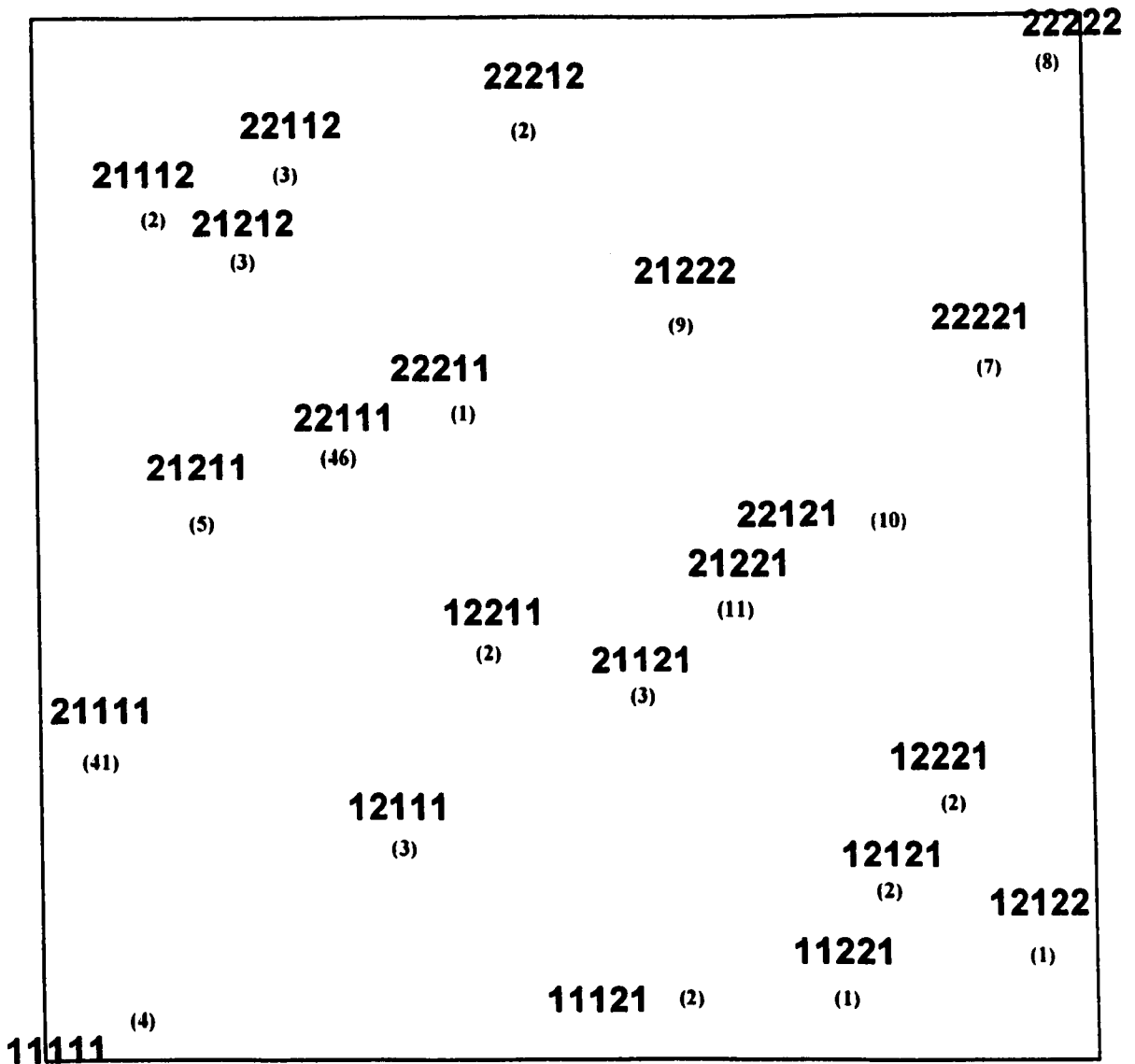
The results of the POSA analysis for element *Family/Violence*, showed the possible existence of 22 different profiles resulting from the combination of the five variables (“educElem”, “violent parents”, “violence family”, “abused” and “crime person”; see Appendix II for a description of these variables). Of these 22 profiles, resulting from the analysis of the data for 168 robbers, 8 cases had an extreme profile with all

of the five variables present (e.g. 22222) and 4 cases had an extreme profile with none of the five variables present (e.g. 11111). Thus, for example in relation to the facet element *Family/Violence* an individual might not have an elementary education (1), does not commit crime against the person (1), does not have violent parents (1), does not witness violence in family (1) and has not been abused by his parents. This individual would therefore score $1+1+1+1+1=5$. In contrast another individual may have an elementary education (2), have committed crimes against the person (2), have violent parents (2), have witnessed violence in family (2), have been abused by his parents (2). This individual would therefore score $2+2+2+2+2=10$. Qualitative differences would be expressed by the individuals obtaining the same score but with different combinations of the variables.

It is also important to re-emphasise here some main issues regarding POSA already discussed in the methodology before presenting the results for the five variables selected for the element *Family/Violence*. The main POSA plot will contain all the possible profiles in relation to the 5 variables, (i.e. 22 different profiles). The item plots for each variable are simply the same initial main plot presented over and over again, but indicating which cases scored for the presence of each individual variable. Each variable has a coefficient of monotonicity and a coefficient of 1 demonstrates a perfect partition. It is also important to understand that partition along the X-axis and Y-axis indicates that an essential factor underlies the phenomenon, the element being considered.

The main plot with the 22 possible profiles relating to the element *Family/Violence* is presented in figure 13.3.1 (the frequencies showing the number of case for each profile are in brackets on the POSA main plot). The individual plots for each variable (item plots) are presented in figures 13.3.2 to 13.3.6 and these will be examined in detail next. Also, to understand better the underlying structures of the variables from their overlap condition, a combined structure made up of the partition of the item plots in relation to the five variables for the facet element *Family/Violence* is presented in figure 13.3.7.

Figure 13.3.1: POSA Main Plot for the Element Family/Violence of Robbery



The sequence of variables across the POSA plot is “educelcm” - “crime person” - “violent parents” - “violence family” - “abused” and the frequencies are shown in brackets (see Appendix II for these variables).

Figure 13.3.2: "Elementary Education"

Item Plot Y-axis/Robbery

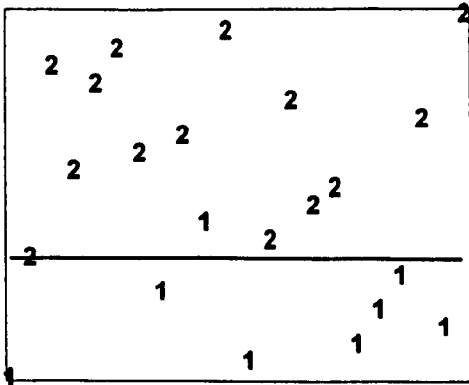


Figure 13.3.3: "Violence in Family"

Item Plot X-axis/Robbery

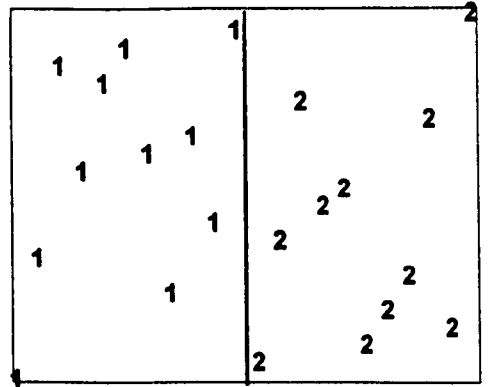


Figure 13.3.4: "Abused"

Item Plot Y-axis/Robbery

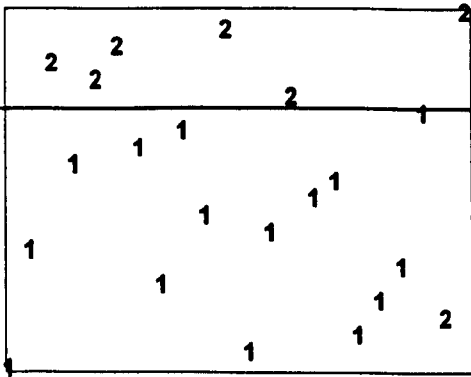


Figure 13.3.5: "Violent Parents"

Item Plot J-axis/Robbery

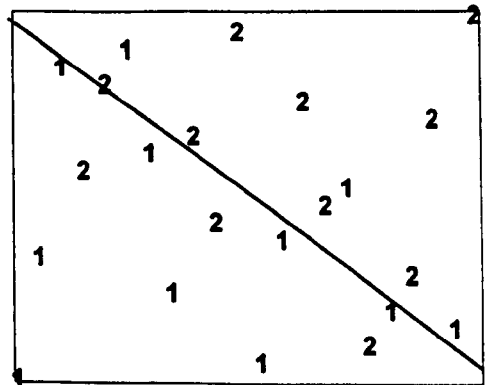


Figure 13.3.6: "Crime Person"

Item Plot J-axis/Robbery

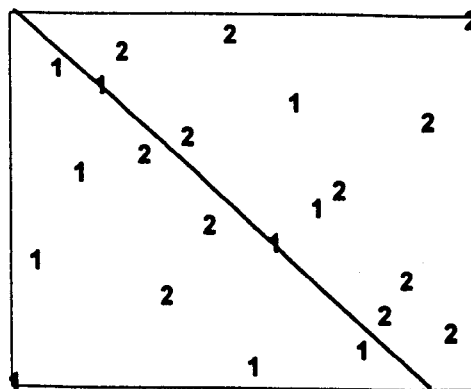
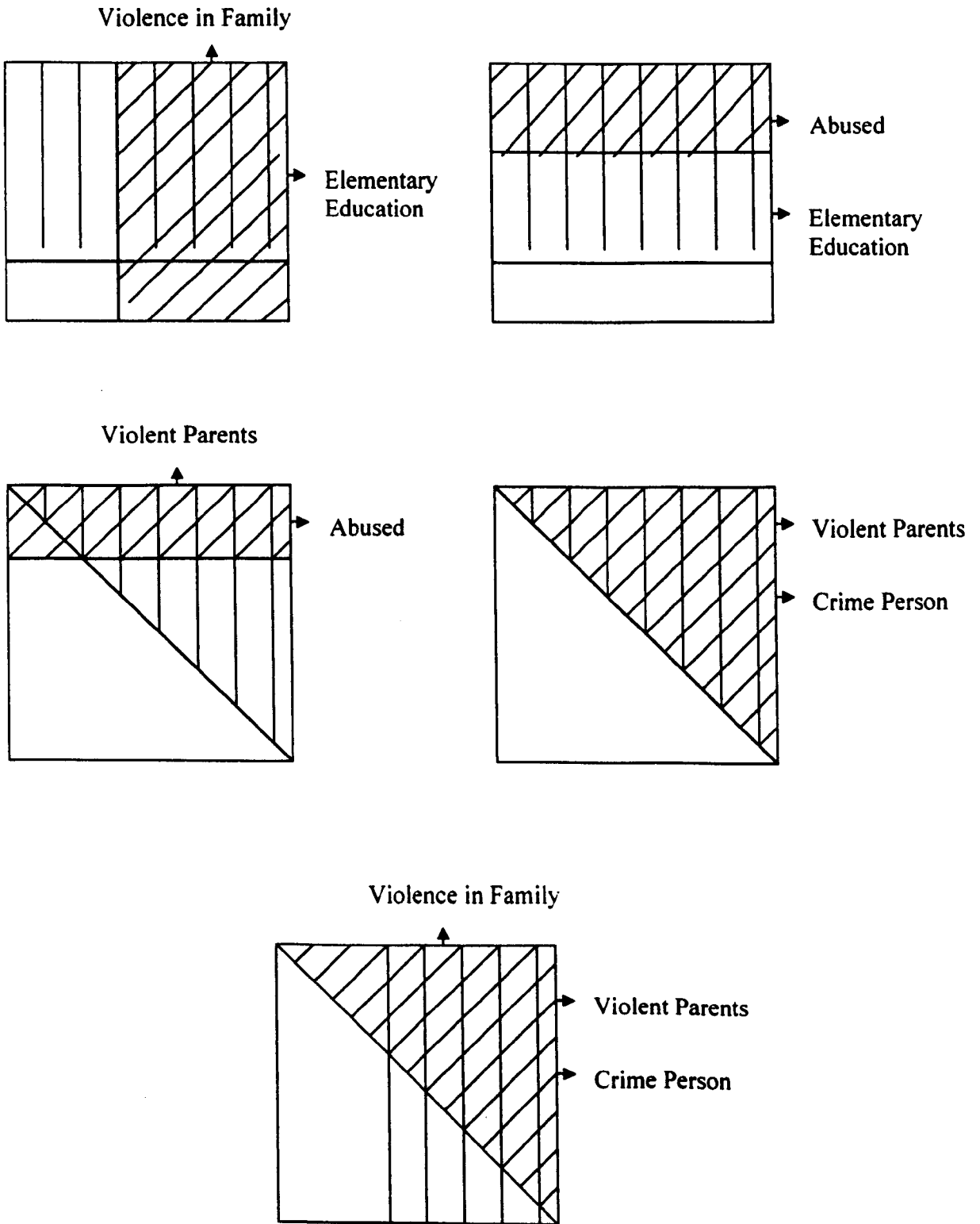


Figure 13.3.7: Combined Structure of the Element Family/Violence of Robbery



In figure 13.3.2 the variable “elementary education” shows a division along the Y-axis with a coefficient of monotonicity of 0.99. Because the partition along the Y-axis indicates that an essential factor underlies the phenomenon it can be said that having an elementary education is an essential factor related to the element *Family/Violence* and that there is a difference between those who have only an elementary education and those who are better educated. Figure 13.3.4 for the variable “abused” also shows a division along the Y-axis with coefficient of monotonicity of 0.85. Thus, this partition along the Y-axis indicates that having been abused by the parents is also an essential factor related to the facet element *Family/Violence*.

In figure 13.3.3 the variable “violence in family” shows a division along the X-axis with a perfect coefficient of monotonicity of 1.0. Since the partition is along the X-axis, and as with partition along the Y-axis, there is an essential underlying factor controlling events and in this case it can be said that there is a major difference between those who have experienced or witnessed violence in family and those who have not, in relation to the facet element *Family/Violence*.

However, despite the variables “elementary education”, “abused”, and “violence in family” being essential factors in the facet element *Family/Violence* they are qualitatively different. This is because the variables “elementary education” and “abused” partition along the Y-axis while the variable “violence in family” partitions along the X-axis. Thus, although there is some overlap between these variables, when considering the upper right region of these three item plots, the qualitative difference is implying that an offender who has witnessed violence in the family may not necessarily have suffered abuse at the hands of his parents.

The variables “violent parents” (figure 13.3.5) and “crime person” (figure 13.3.6) both partition along the J-axis. The variable “violent parents” has a coefficient of monotonicity of 0.80 and the variable “crime person” a coefficient of 0.76. The variables with a high coefficient of monotonicity are more important since they are linked to a more defined partition. Some researchers consider any coefficient under

0.80 as being less accurate or even an unacceptable representation of the distinctions between cases (see Shye *et al*, 1994). Since the variable “crime person” has a coefficient of monotonicity of 0.76 care needs to be taken in using it to distinguish between cases.

However, the POSA analysis is showing that the variables “violent parents” and “crime person” conform to a common order since they partition along the same axis, namely the J-axis. The overlap between these variables is easily observed when considering the partitions in figures 13.3.5 and 13.3.6. This overlap between the variables means that those robbers who have suffered from violent parents are more likely to be the robbers who commit crimes against the person. Thus the variable “crime person”, despite having a coefficient of monotonicity of 0.76, will be relevant particularly because of its nature, and when it is combined with having violent parents in the facet element *Family/Violence*.

Figure 13.3.7 shows the combined structure made up of the partitions from the item plots of the selected variables related to the facet element *Family/Violence*. The overlap areas between the variables in the combined structure shows that the significant characteristics of those robbers related to the element *Family Violence* are elementary educational level and having witnessed violence in family. It can also be observed that there is a common overlap at the upper right area of the plots for the variables “elementary education” and “violence in family” with the other variables of “violent parents”, “abused” and “crime person”. Therefore it seems that the combination of an elementary education and witnessing violence in family is more likely to be related to having violent parents, being abused and committing crimes against the person than just having either an elementary education or just witnessing violence in family.

Furthermore, the combined structure shows that being abused by parents is not a very common event, but when it does occur it is more likely to be also associated with having only an elementary level of educational. Indeed, it is understandable that being a victim of parental abuse may interfere in the individual’s educational

development. However, the results also show that having an elementary education is not necessarily always indicative of the suffering of parental abuse. The combined item plots also imply that those robbers who are victims of parental abuse are more likely to have violent parents and to commit crimes against the person. Nevertheless, robbers who committed crimes against the person were not necessarily all abused by their violent parents. The variables “violent parents” and “crime person” partition in the same way, so they form a common order or scale of behaviour. Thus, despite the essentiality of the factors “elementary education” and “violence in family”, it can be said that having violent parents is more strongly related to the tendency to commit crimes against the person than is just witnessing violence in the family. Witnessing violence in the family plays a relevant part, but violence directed against the individual may be more related to the reproduction of this violence against others.

It is important to examine also the frequencies of the profiles, in this case in relation to the POSA analysis referring to the facet element *Family/Violence*. As mentioned before, POSA deals with individuals and the frequencies demonstrate aspects of the sample as a whole and help to indicate what is typical of the sample and what is rare and coincidental. Thus, the examination of the frequencies can be productive by considering the dominant route through the POSA to identify, where possible, the existence of a scale in a linear relationship.

For example, considering the POSA for the element *Family/Violence* (POSA main plot, figure 13.3.1) it can be observed that the following profiles account for a majority of the cases. The sequence of variables across the POSA plot is “educelcm” - “crime person” - “violent parents” - “violence family” - “abused” (see Appendix II for these variables) and the frequencies are shown in brackets as in the POSA plot.

22222 (8)
22221 (7)
22211 (1)
22111 (46)
21111 (41)
11111 (4)

These profiles account for 107 out of a total of 168 robbery cases. Thus 64% of the individuals are accounted for by these 6 profiles that form a simple cumulative scale, i.e. nearly two thirds of the individuals can be covered by one simple linear dimension. Examination of this sequence indicates a scale in which the behaviours happen. In this element *Family/Violence* most robbers have only an elementary education (103 cases). The next stage on from this is that they also commit crimes against the person (62 cases) followed by the characteristic of having violent parents (16 cases) and then to have witnessed violence in the family as well (15 cases). The extreme of this cumulative scale is where a robber demonstrates all these four characteristics but in addition was also abused by his parents (8 cases) so demonstrating all five POSA characteristics/variables.

Thus, the results show that there is a simple linear dimension indicating that the profiles form a cumulative scale. According, in relation to the element *Family/Violence*, most robbers have an elementary level of education. Then, in a scale of behaviours, the next stage from this is the commitment of crimes against the person. Then in the scale it is the characteristic of having violent parents. Then it is the characteristic of witness violence in family. The extreme of the scale is all (e.g. have an elementary education, commit crimes against the person, have violent parents, witness violence in family) but also the characteristic of having being abused by the parents.

Thus, having being abused by the parents was a more extreme characteristic of the element *Family/Violence* than witnessing violence in family, which was more extreme than having violent parents, which in turn was more extreme than committing crimes against the person. The most common characteristic was having only an elementary level of education.

Therefore, as can be observed on this scale, the commitment of crime against the person was not rare. In fact in this study the percentage of all those robbers who committed crimes against the person was 52% (see chapter 10, Descriptive Analysis, figure 10.3.2).

Robbers who committed crimes against the person did not show a great tendency to have been abused by their parents since the variables, “crime person” and “abused”, only appeared together in one of the profiles forming the scale. Therefore, in just 8 cases out of 107 cases did the robbers who committed crimes against the person suffer from being abused by their parents. Indeed, when considering the profiles that form a linear scale, being abused by the parents is the more rare characteristic according to the scale of behaviours. This extreme of the scale will be equally important when examining a phenomenon.

When considering all the profiles in the POSA main plot, not just the profiles that form a linear scale, other observations can be made. For example the combination of “crime person” and “violent parents” accounts for only 16 cases (9% of the total of 168 cases) and the combination “crime person” and “abused” accounts for only 13 cases i.e. just 7% of the total number of cases. Thus, it is rare that those robbers who commit crimes against the person will show the characteristics of having violent parents and being abused by them.

Other combinations of the variables were more common in the element *Family/Violence* when considering the profiles that form a linear scale. For example, robbers who have an elementary level of education also tended to commit crimes against the person since variables, “educelam” and “crime person” combined together in four of the six most common profiles. Thus this combination is found in 62 cases ($8+7+1+46=62$), out of the 107 cases forming this cumulative scale.

Again when considering all the profiles in the POSA main plot, the combination of the variables “educelam” and “crime person” accounts for 77 cases out of 168 (i.e. 46%). Thus, in nearly half of the cases, robbers who have only an elementary level of education show a tendency to commit crimes against the person, and this is more than those robbers who have violent and abusive parents. However, also there is a combination between the variable “educelam” and “violent parents” in 46 cases (i.e. 27%) and a combination between “educelam” and “violence family” in 45 cases (i.e. 27%) of the total of 168 cases. Thus having an elementary level of education

combines with a thematic of violence as a whole (violent parents 45 + violence family 46= 91) in 91 cases. Therefore in 54% of the total of 168 cases the characteristic of having elementary level of education combines with a thematic of violence.

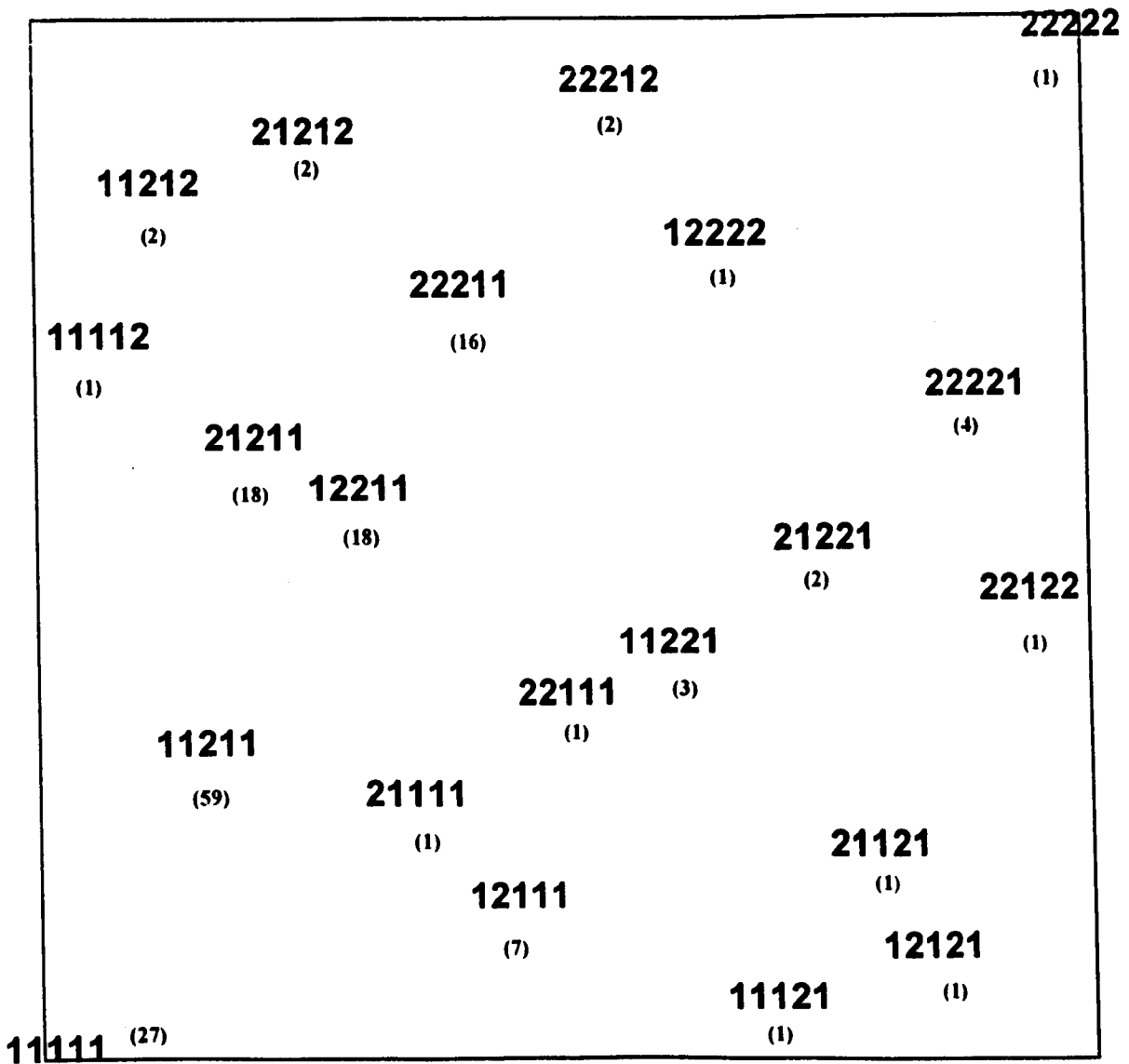
In summary, the combined characteristics of having an elementary education and of committing crimes against the person are less extreme and so more common than the combination of having violent parents, witnessing violence in family and being abused by parents. This means that the combination of having an elementary level of education and of committing crimes against the person has an important influence when considering the element *Family/Violence*.

13.4 - POSA Analysis of the Element Casual / Drugs of Robbery

The results of the POSA analysis on the facet element *Casual/Drugs* using the variables “£10-100”, “object high”, “drugs”, “verbal” and “physical” showed the existence of 21 possible different profiles resulting from the combination of these five variables for the 168 subjects/robbers (see Appendix II for description of the variables). Of these 21 profiles, 1 case had an extreme profile with all the five variables present (e.g. 22222) and 27 cases had an extreme profile with none of the five variables present (e.g. 11111). Again it is important to mention that although these 27 cases do not relate to the five selected variables this does not mean that they do not relate to the other variables within the theme *Casual/Drugs*.

The main plot containing the 21 possible is presented in figure 13.4.1 (the frequencies showing the number of case for each profile are in brackets on the POSA main plot). The individual plots of each variable (item plots) are presented in figures 13.4.2 to 13.4.6. The combined structure made up of the partitions from the five item plots is presented in figure 13.4.7.

Figure 13.4.1: POSA Main Plot for the Element Casual/Drugs of Robbery



The sequence of variables across the POSA plot is “£10-100” - “object low” - “drugs” - “verbal” - “physical” and the frequencies are shown in brackets (see Appendix II for these variables).

Figure 13.4.2: "Drugs"

Item Plot Y-axis/Robbery

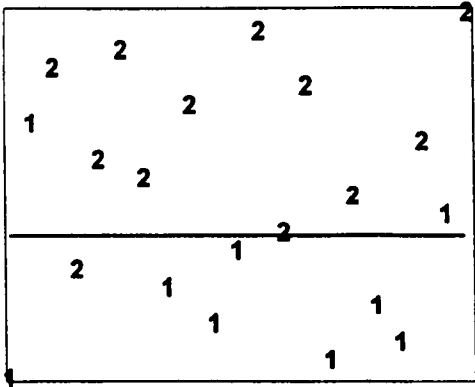


Figure 13.4.3: "Physical"

Item Plot Y-axis/Robbery

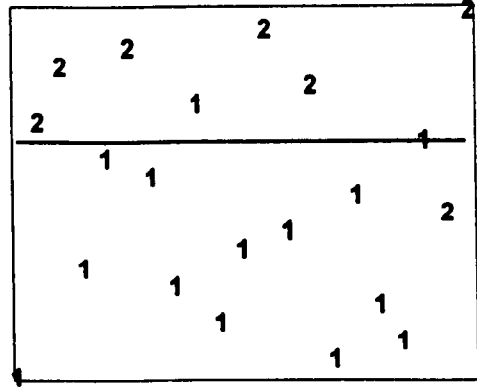


Figure 13.4.4: "Verbal"

Item Plot X-axis/Robbery

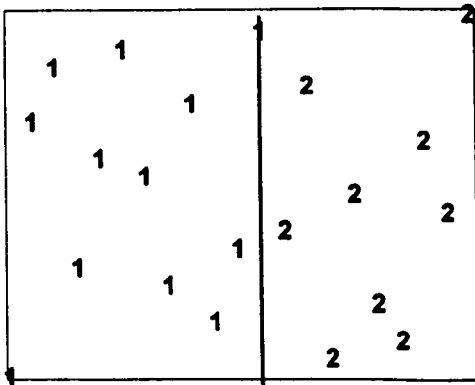


Figure 13.4.5: "£10-100"

Item Plot J-axis/Robbery

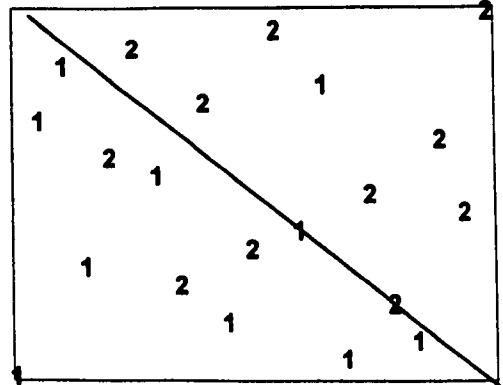


Figure 13.4.6: "Object Low"

Item Plot P-axis/Robbery

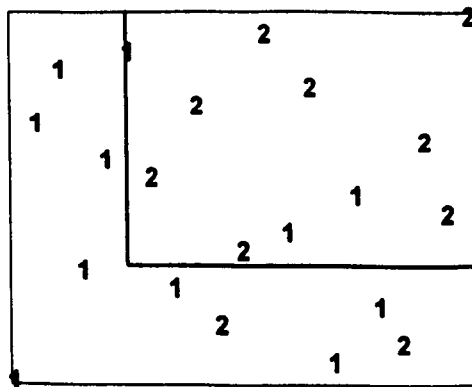


Figure 13.4.7: Combined Structure of the Element Casual/Drugs of Robbery

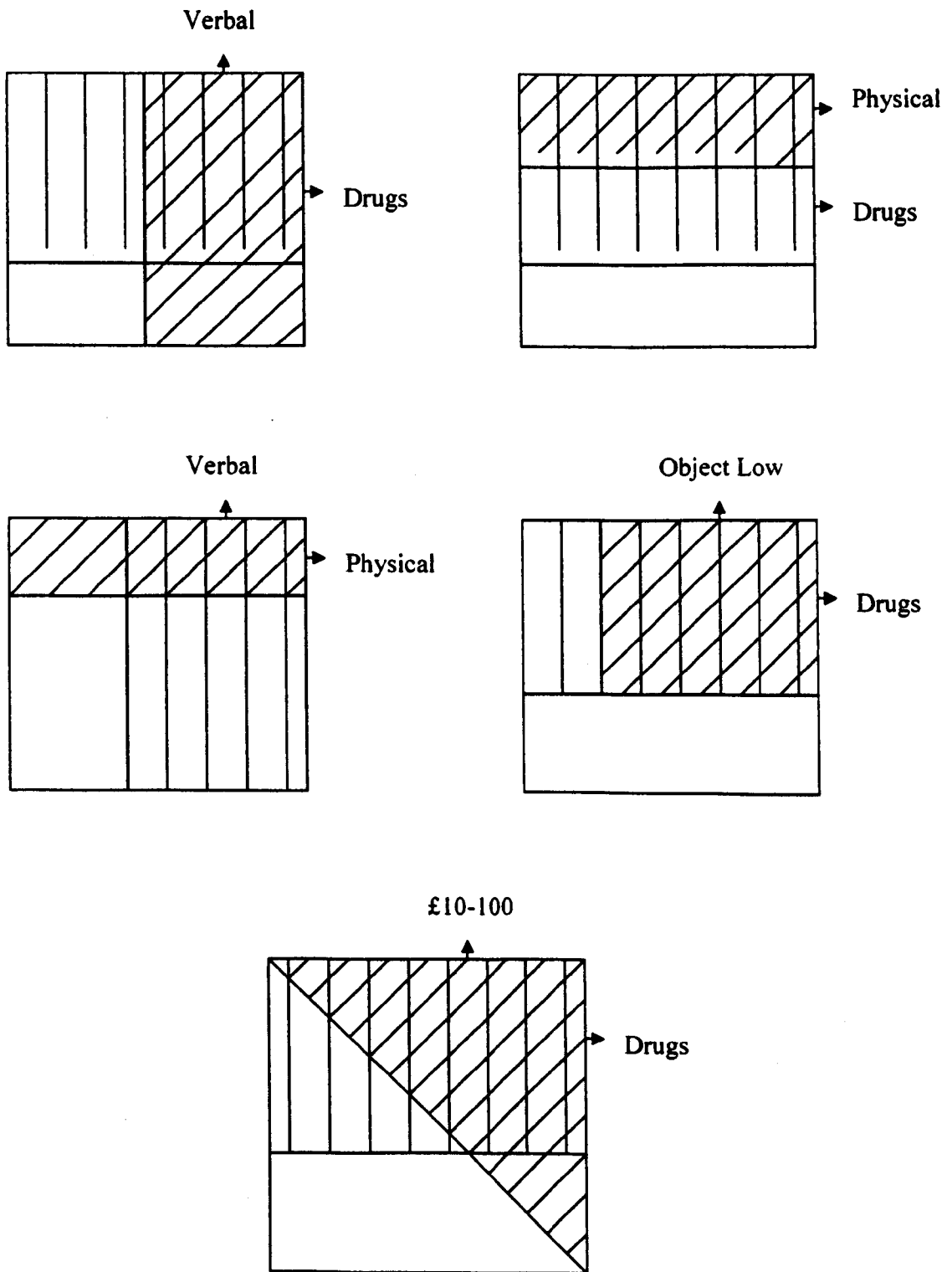


Figure 13.4.2 for the variable “drugs” shows a division along the Y-axis with a coefficient of monotonicity of 0.94. Thus “drugs” is an essential factor underlying the phenomenon. Therefore, it can be said that there is a difference when defining the element *Casual/Drugs* in relation to whether offenders do or do not abuse drugs. The item plot for the variable “physical” (figure 13.4.3) also shows a division along the Y-axis with coefficient of monotonicity of 0.96. Thus, “physical” is also an essential factor and therefore there is a fundamental difference between those offenders who physically attack their victims during a robbery and those who do not in relation to the facet element *Casual/Drugs*.

Since the two variables “drugs” and “physical” both partition along the Y-axis the POSA analysis is, in the first instance, implying that those robbers who have a lifestyle of drug abuse will physically attack their victim during the robbery. However, despite this common order, when considering the actual overlap area between these two variables in the upper region of the item plots it can be observed that “physical” represents half of the area covered by “drugs”. This means that when physical violence is displayed towards the victim it is likely that this action is related to an offender with a lifestyle of drug abuse. However, an offender with a lifestyle of drug abuse will not necessarily always physically attack the victim during the crime. This is confirmed by the observation that the area covered by “drugs” contains the overall area covered by “physical”, but the area covered by “physical” does not contain the total area covered by “drugs”.

Figure 13.4.4 for the variable “verbal” shows a division along the X-axis with a perfect coefficient of monotonicity of 1.0 indicating it is an essential factor with respect to the element *Casual/Drugs* and that there is a key difference between those who verbally attack their victim (e.g. insulting them verbally) and those who do not. However, despite “verbal” being an essential factor it is qualitatively different from the previous variables of “drugs” and “physical” because “verbal” partitions along the X-axis while “drugs” and “physical” partition along the Y-axis. Thus, although there is some overlap between these three variables, mostly in the upper right region of the item plots, the qualitative difference is implying that an offender who

physically attacks the victim and who has a lifestyle of drug abuse does not necessarily also verbally insult the victim during his offences and vice versa. Thus, there is a much stronger link between the variable “verbal” and the overall element *Casual/Drugs* than between “verbal” and just the variables “drugs” and “physical”.

The item plot for the variable “£10-100” (figure 13.4.5) shows a division along the J-axis with coefficient of monotonicity of 0.80. In figure 13.4.6 the variable “object low” shows a division along the P-axis with the coefficient of monotonicity of 0.84. There is a considerable overlap between the variables “£10-100” and “object low”. Thus, this result is implying that those robbers who steal small amounts of money up to a maximum £100 are also likely to steal objects of low value such as clothes, bicycles, and vice versa.

Figure 13.4.7 shows the combined structure made up of the partitions from the five item plots of the facet element *Casual/Drugs*. Considering the overlap areas between the variables, the combined structure shows that the significant characteristics of those robbers related to the pattern of the element *Casual/Drugs* are a lifestyle of drug abuse and of a verbally attacking their victims during their crimes. Furthermore the combined structure shows that it is more likely that those who physically attack their victim will be drug abusers. However, since drug abuse is a common characteristic of these robbers and physical attack an essential factor but an uncommon fact, it is important to say that not all robbers who use drugs will perform physical attacks. In fact, it can be observed that the area covered by “drugs” contains the overall area of “physical”, but the opposite is not true. Also verbal attack and physical attack do not necessarily occur together, but when they do it is likely that they will be related, in different proportions, to those who abuse drugs.

The results show that there is almost a total overlap between drug use and the fact of stealing objects of low value. Thus, those robbers who abuse drugs are likely to steal low value items during their crimes. Also there is a relevant overlap between drug use and the stealing amounts of money from £10 to £100 indicating that those robbers who abuse drugs and who steal money take only relatively small amounts.

Indeed, statistically it is being demonstrated that there is a link between a lifestyle of drug abuse and the theft of low valuable objects and small amounts of money. It can be also expected that these robbers with a lifestyle of drug abuse are more likely to verbally attack their victims and less commonly physically attack them.

As mentioned before, POSA deals with individuals and the frequencies indicate what is typical of the sample and what is rare and coincidental. It is also interesting to see if a cumulative linear scale exists between the profiles generated for the POSA variables in the facet element *Casual/Drugs*.

In the POSA main plot (figure 13.4.1) for *Casual/Drugs* the following six profiles account for 50 cases out of a total of 168 cases for robbery. The sequence of variables across the plot is “£10-100” - “object low” - “drugs” - “verbal” - “physical”, the frequencies are in brackets as in the POSA plot, the six profiles are.

22222 (1)
22221 (4)
22211 (16)
22111 (1)
21111 (1)
11111 (27)

Despite these six profiles accounting for only 30% of the robbers, they do however form a simple cumulative scale that can be covered by one simple linear dimension in the POSA plot of the element *Casual/Drugs*. Thus, for 30% of the cases examining the sequence of the variables across the POSA plot shows that most of this group of robbers stole amounts between £10 to £100 and following along the scale of behaviour, the next stage was to steal of low value objects followed by being addicted to drugs and then verbally attacking the victims. The extreme of the scale, was demonstrating all these characteristics, and also physically attacking the victim during the crime. Thus, physically attacking the victim was the more extreme characteristic of the element *Casual/Drugs* and the most common characteristic was the stealing of amounts between £10 to £100.

Therefore on the linear scale the stealing of lower amounts and of objects of low value was not rare. In fact in this present study the percentage of robbers stealing amounts between £10 to £100 (29%) and stealing of objects of low value (30%) together represented 59% of the total cases (see chapter 10, Descriptive Analysis, figure 10.2.1). Thus the action of concentrating on stealing low valuable items and small amounts occurred in more than half of the cases.

Particular combinations of the variables were more rare in relation to the element *Casual/Drugs*, considering the 30% represented by the profiles that formed a linear scale. For example, robbers who steal amounts between £10 to £100 do not tend to physically attack the victims since the variables, “£10-100” and “physical” combined in just one of the profiles representing 1 case out of the 50.

Indeed, when considering all the profiles in the main plot, not just those forming a linear scale, the combination of the variables “£10-100” and “verbal” appear in only 9 cases (i.e. in 5% of the total of 168 cases) and the combination of “£10-100” and “physical” appear in only 6 cases (i.e. 3% of the total). Also the combination “object low” and “verbal” appears in only 5 cases (i.e. 3% of the 168 cases) and the variables “object low” and “physical” combine in only 5 cases (i.e. 3% of the 168 cases). Thus, on the whole those robbers who steal small amounts and low valuable objects do not necessarily show a tendency to verbally or physically attack their victims during the crimes.

Other combinations were more common albeit in 30% of the cases, for example, robbers who stole low valuable objects also tended to be drug addicts. The variables “object low” and “drugs” appeared together in three of the six profiles representing 21 cases ($1+4+16=21$), out of the 50 cases.

Considering all the profiles in the POSA main plot, the variables “drugs” and “£10-£100” appear together in 45 cases (i.e. in 27% of the total of 168 cases) and the combination “drugs” and “object low” appears in 42 cases (25%) of the 168 cases. Thus being addicted to drugs combined with a thematic of stealing low value, amounts and objects in 87 cases. Therefore in 52% of the total of 168 cases the characteristic of being addicted to drugs combined with a thematic of stealing small amounts of money or low value items.

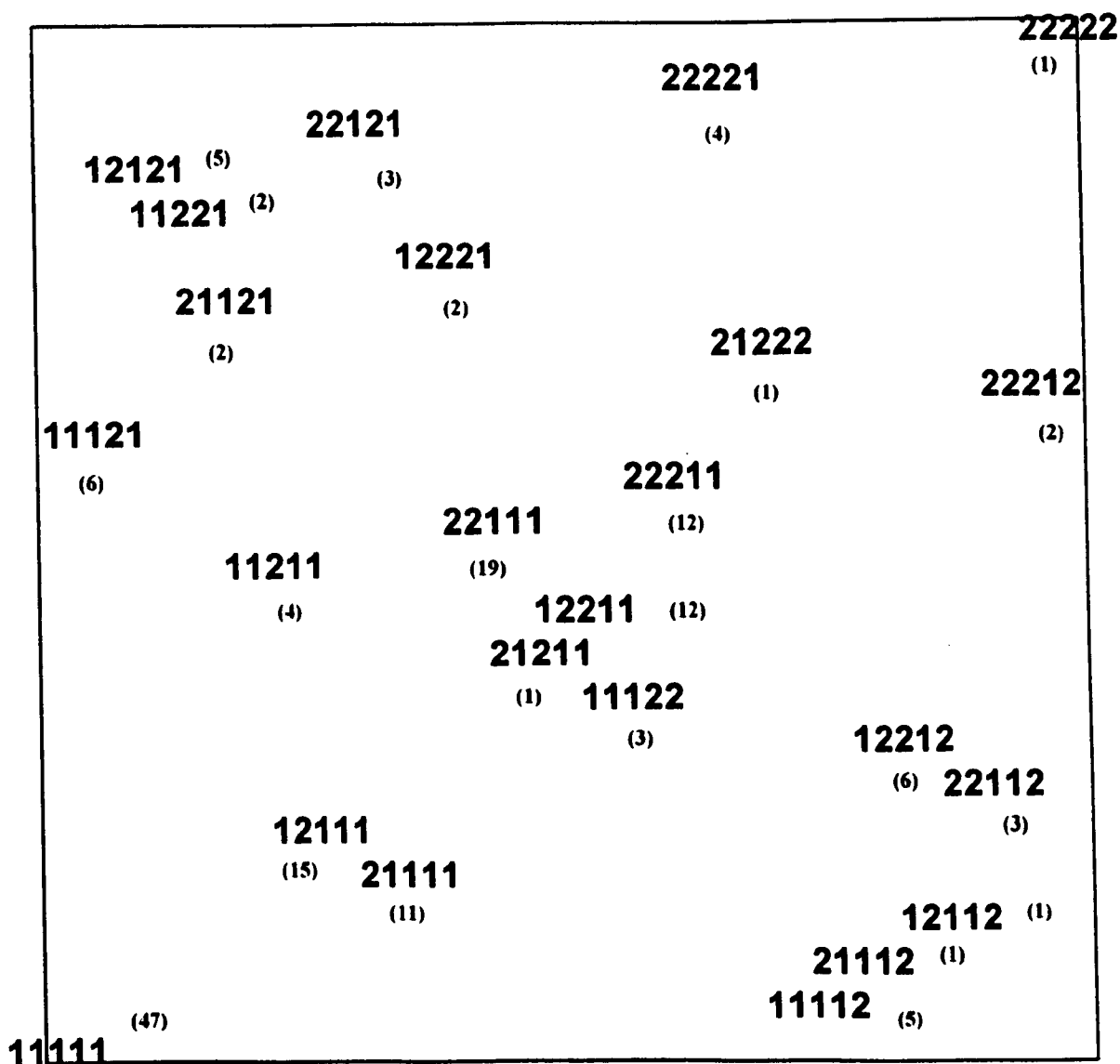
In summary, the action of stealing objects of low value combined with an addiction to drugs was more common than the combination of stealing of objects of low value and physically attacking the victim in the element *Casual/Drugs*. However care needs to be taken when considering the impact of these all five characteristics on the element *Casual/Drugs* because of the low frequencies of the profiles that formed the cumulative scale since they accounted for only 30% of the robbery sample in this study.

13.5 - POSA Analysis of the Element Family / Criminality of Robbery

The results of the POSA analysis on the facet element *Family/Criminality* using the selected variables “car”, “plan”, “disguise”, “young” and “criminal family” showed the existence of 24 possible profiles for the 168 robbers (see Appendix II for a description of these variables). Of these 24 profiles, there was 1 case with all the five variables present whereas 47 cases had the extreme profile of having none of these five variables present (e.g. 11111). This is showing that 121 subjects (i.e. $168 - 47 = 121$) are represented by these five selected variables.

The main plot containing the 24 possible is presented in figure 13.5.1 (the frequencies showing the number of case for each profile are in brackets on the POSA main plot). The item plots for each variable are presented in figures 13.5.2 to 13.5.6 and figure 13.5.7 shows the combined structure for these variables.

Figure 13.5.1: POSA Main Plot for the Element Family/Criminality of Robbery



The sequence of variables across the POSA plot is “car” - “plan” - “disguise” - “young” - “criminal family” and the frequencies are shown in brackets (see Appendix II for these variables).

Figure 13.5.2: "Criminal Family"

Item Plot X-axis/Robbery

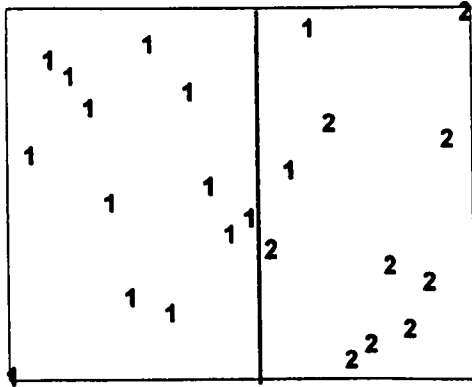


Figure 13.5.3: "Young"

Item Plot Y-axis/Robbery

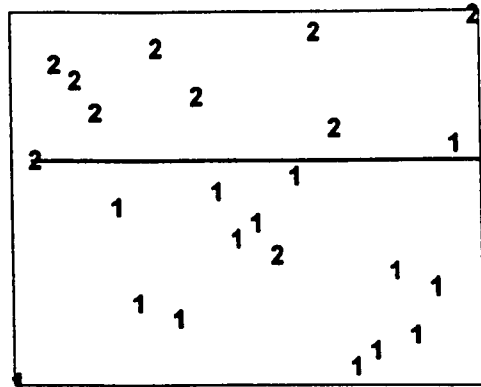


Figure 13.5.4: "Car"

Item Plot P-axis/Robbery

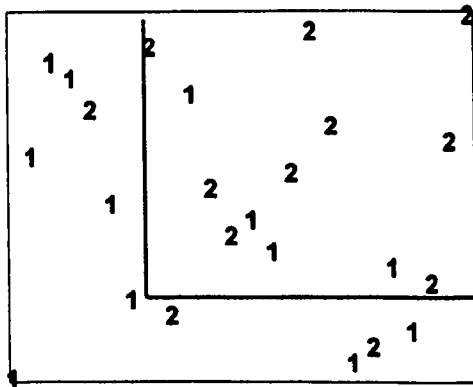


Figure 13.5.5: "Disguise"

Item Plot P-axis/Robbery

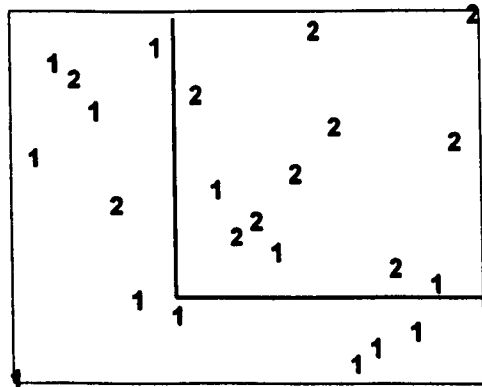


Figure 13.5.6: "Plan"

Item Plot J-axis/Robbery

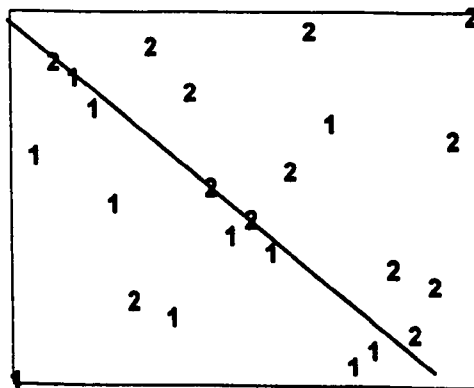


Figure 13.5.7: Combined Structure of the Element Family/Criminality of Robbery

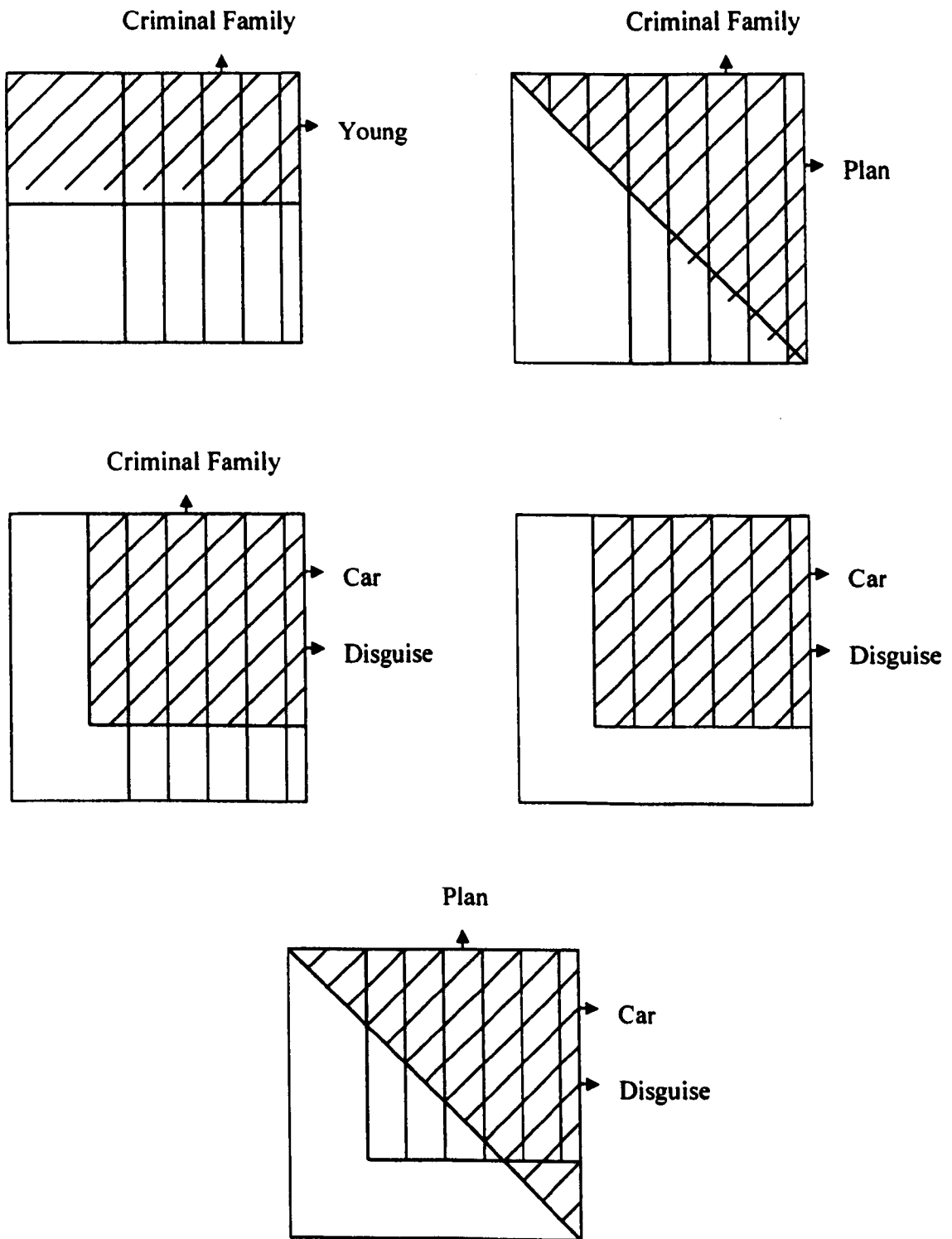


Figure 13.5.2 with the variable “criminal family” shows a division along the X-axis with a perfect coefficient of monotonicity of 1.0. Thus, “criminal family” is an essential factor in the facet element “*Family/Criminality*”. This implies that there is a clear difference between those who have close members of the family committing crimes and those who do not when defining this element.

The variable “young” (figure 13.5.3) shows a division along the Y-axis with a coefficient of monotonicity of 0.97. The partition along the Y-axis indicates that “young” is also an essential factor and thus, within the facet element *Family/Criminality*, with there being a key difference between those who have been in institutions for young offenders and those who have not.

However, despite the variables “criminal family” and “young” both being essential factors these variables are qualitatively different, since one partitions along the X-axis and the other along the Y-axis.

Although there is overlap between these variables, more precisely in the upper right region of the item plots, these events will occur in different qualitative scales. These results imply that those offenders who have close members of the family committing crimes are not necessarily the same ones who had been in institutions for young offenders, and vice versa.

The variable “car” (figure 13.5.4) shows a division along the P-axis with a coefficient of monotonicity of 0.82. Similarly the variable “disguise” (figure 13.5.5) also shows a division along the P-axis with a coefficient of monotonicity of 0.93. Thus the POSA analysis is showing that the variables “car” and “disguise” conform to a common order since they partition along the same axis.

It is likely therefore that most of the offenders who are involved in car theft are those who use a disguise. The variable “plan” (figure 13.5.6) shows a division along the J-axis with a coefficient of monotonicity of 0.82. Thus, there is a considerable

overlap between this variable “plan”, with the division along the J-axis, and the variables “car” and “disguise”, that both with divide along the P-axis.

It can be inferred therefore that in this element *Family/Criminality*, those robbers who plan their crimes probably consider issues such as the risk of recognition and thus use a disguise and are also the ones who get involved in car theft. This specificity in relation to the object car is probably linked to the high level of profit this object may provide.

However car theft may also demand special criminal skills, such as the ones related to breaking into the car without attracting attention or setting off the alarm and may be also linked to the individual’s ability to plan, as suggested here by the POSA analysis.

It is important to understand that some crimes of car theft can be opportunistic in that the offender may decide to steal a car on the spur of the moment. However what POSA is showing here is the well-established knowledge that these opportunistic car thefts are not likely to show previous planning or consider issues such as use a disguise.

Additionally, POSA and SSA results imply that the planned car theft offences are likely to be related to those offenders who have a history of criminality within the family. So what is being considered here is a group of co-occurring variables showing a scale of behaviours.

Figure 13.5.7 shows the combined structure for the five variables referring to the facet element *Family/Criminality*. This combined plot firstly shows that the most common characteristic of these robbers is to be part of a criminal family. Some of them may also have started their careers early, as evidenced by experience of institutions for young offenders, although the overlap between “criminal family” and “young” just concentrates in the upper right area of the plot.

More importantly these robbers are more likely to plan, use a disguise and to show a preference for stealing cars since there is total overlap between the variables “car” and “disguise” and an almost total overlap between the variables “car”, “disguise” and “plan”.

In the POSA analysis for the element *Family/Criminality* (POSA main plot, figure 13.5.1) six profiles accounted for more than half of the cases. The sequence of the variables across the plot is “car” - “plan” - “disguise” - “young” - “criminal family” and the frequencies are in brackets as in the POSA plot:

22222 (1)
22221 (4)
22211 (12)
22111 (19)
21111 (11)
11111 (47)

These profiles account for 94 cases out of a total of 168 robbery cases and thus 56% of the individuals are accounted for by these 6 profiles. These profiles formed a simple cumulative scale so that over half of the robbers could be covered by one simple linear dimension.

Considering the variables in the sequence they appear across the POSA main plot it can be seen that half the robbers commit car theft. The next stage on from this is the careful planning of the crimes and then to go on to use a disguise. The next variable along the scale is to have been in an institution for young offenders, so implying an early beginning of the criminal career.

The extreme of the scale is to have all these four characteristics and also belongs to a criminal family. Thus, belonging to a criminal family was the more extreme (rare) characteristic of the element *Family/Criminality* with car theft the most common of the five characteristics.

Therefore, for example it can be observed on the scale that the commitment of car theft is not rare in relation to the element *Family/Criminality*. In fact in this present study car theft account for a considerable percentage (36%) of the stolen items on the total sample of robbery (see chapter 10, Descriptive Analysis, figure 10.2.1). The commitment of car theft thus seems even more common when considering the scale of behaviours indicated here by POSA analysis.

Particular combinations of the variables were more rare when considering the profiles that form a linear scale. For example, robbers who commit car theft do not show the high tendency here to also belong to a criminal family. These variables, “car” and “criminal family”, appear together just in one of the profiles.

Therefore, just in 1 case, out of 94 cases, there is a combination between the commitment of car theft and the characteristic of belong to a criminal family. Indeed belong to a criminal family is the more rare characteristic. However, the important issue is that the extreme of the scale of behaviours is to show all the characteristics but also have the characteristic of belong to a criminal family.

Indeed, considering all the profiles in the main plot, the combination of the variables “car” and “criminal family” appear only in 8 cases (i.e. 5% of the total of 168 cases) and the combination “car” and “young” also only occurred in 8 cases (5%). Therefore those who commit car theft do not show the tendency of coming from a criminal family or having been in institutions for young offenders.

However, other combinations of variables were more common in relation to the element *Family/Criminality*. For example, robbers who committed car theft tend also to plan their crimes. The variables, “car” and “plan”, appeared together in four of the six profiles forming a scale accounting for 36 ($1+4+12+19=36$), of the 94 cases.

Thus the combination of the variables “car” and “plan” appears in 44 cases (i.e. in 26% of the total of 168 cases) and so the tendency to plan the crime is not particularly rare amongst those robbers who commit car theft.

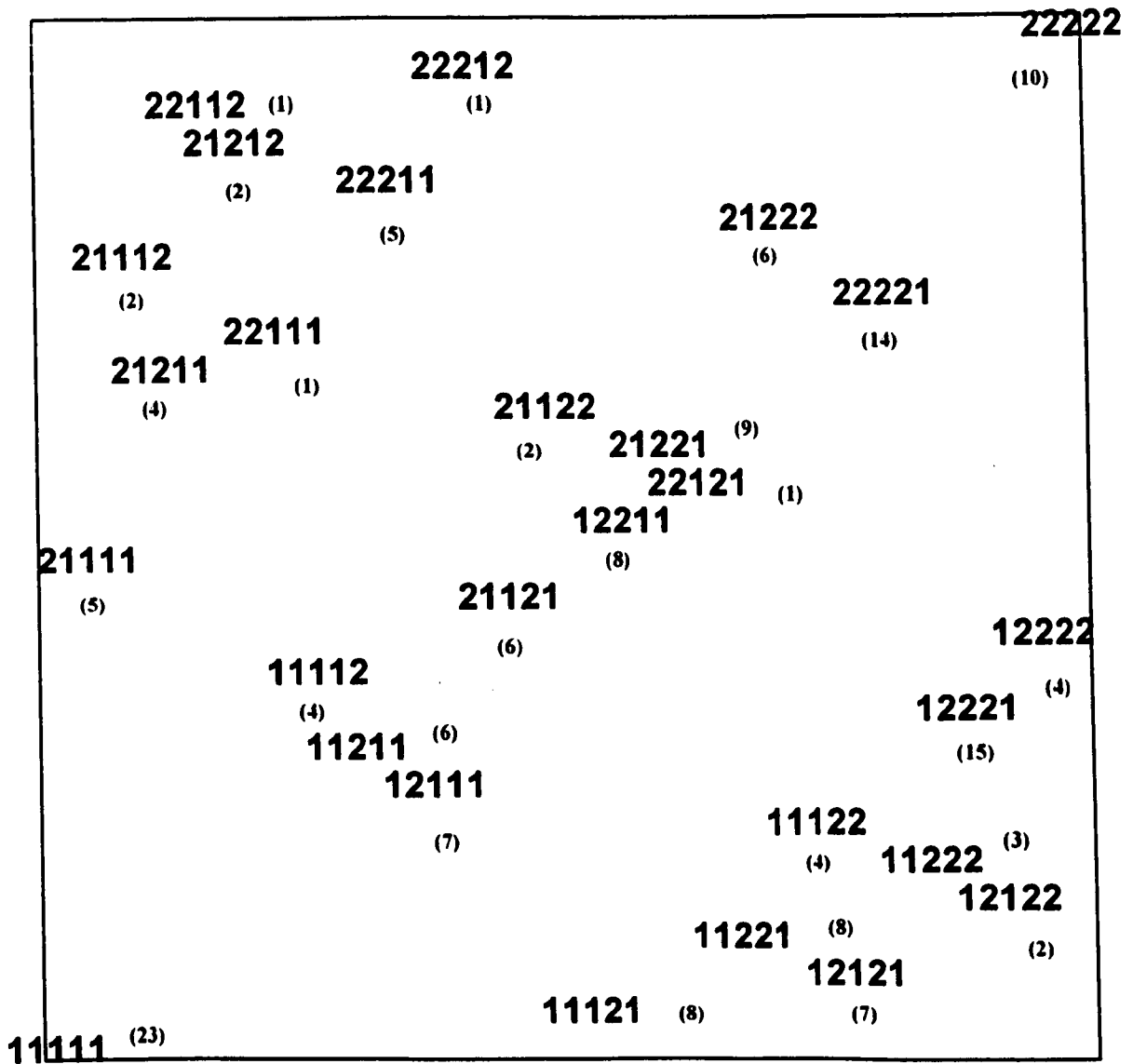
In summary, the committing car theft and planning the crime was the most common combination and belonging to a criminal family the extreme characteristic along the scale. Thus the combination of car theft and planning has an important influence on the element *Family/Criminality*.

13.6 - POSA Analysis of the Element Financial / Property of Robbery

The results of the POSA analysis for the facet element *Financial/Property* using the selected variables “object high”, “group”, “weapon”, “select victim” and “conv+3” showed the existence of 28 possible different profiles (see Appendix II for the variables). Of these 28 profiles, 10 had all five variables present (i.e. 22222), whereas 23 cases, had none of the five selected variables present (i.e. 11111).

The main plot containing the 28 possible profiles is presented in figure 13.6.1 (the frequencies showing the number of case for each profile are in brackets). The item plots for each individual variable are presented in figures 13.6.2 to 13.6.6 and figure 13.6.7 shows the combined structure for the five variables describing the facet element *Financial/Property*.

Figure 13.6.1: POSA Main Plot for the Element Financial/Property of Robbery



The sequence of variables across the POSA plot is “object high” - “group” - “weapon” - “select victim” - “conv+3” and the frequencies are shown in brackets (see Appendix II for these variables).

Figure 13.6.2: "Object High"

Item Plot Y-axis/Robbery

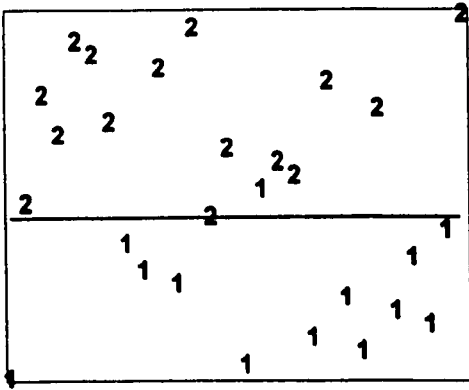


Figure 13.6.3: "Select Victim"

Item Plot X-axis/Robbery

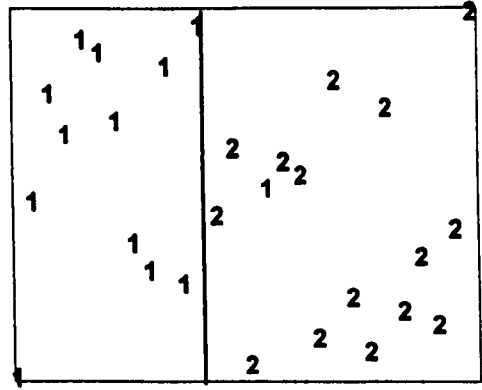


Figure 13.6.4: "Weapon"

Item Plot J-axis/Robbery

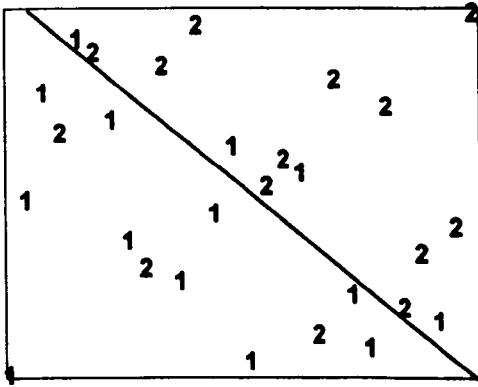


Figure 13.6.5: "Group"

Item Plot J-axis/Robbery

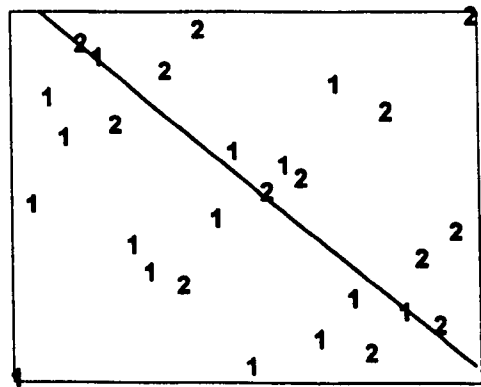


Figure 13.6.6: "Conv+3"

Item Plot Q-axis/Robbery

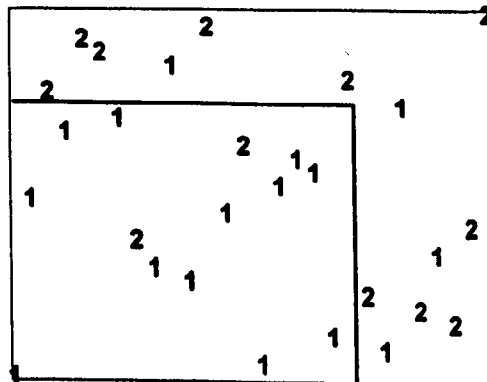
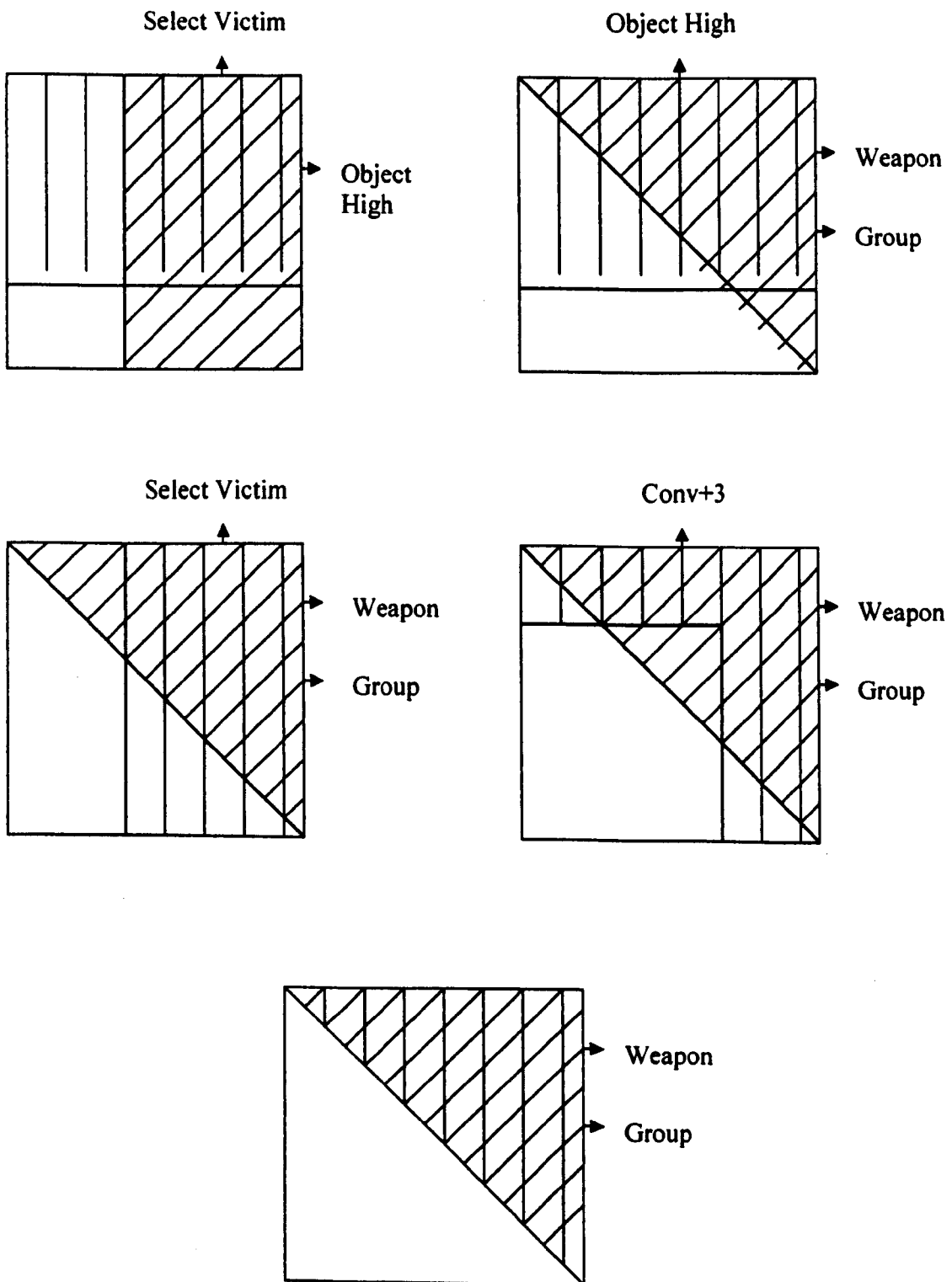


Figure 13.6.7: Combined Structure of the Element Financial/Property of Robbery



The variable “object high” (figure 13.6.2) shows a division along the Y-axis with a perfect coefficient of monotonicity of 1.0. Thus, “object high” is an essential factor underlying the facet element *Financial/Property*. Therefore there is an important difference between those offenders who steal objects of high value and those who do not when defining the facet element *Financial/Property*. In figure 13.6.3 the variable “select victim” shows a division along the X-axis again with a perfect coefficient of monotonicity of 1.0. Thus, as with “object high”, the variable “select victim” is also an essential factor underlying the facet element *Financial/Property* and there is a clear distinction between those robbers who select carefully the victims to steal from and those who do not.

However, despite the variables “object high” and “select victim” being essential factors, their influences will be qualitatively different, since one partitions along the Y-axis and the other along the X-axis. Thus, although there is some overlap between them in the upper right area of their item plots, an offender who steals objects of high value does not necessarily also select his victim carefully and vice versa. In other words, both these variables can occur together but not necessarily so and thus, there is not necessarily a link between the stealing of high value objects and the selection of victims.

Figure 13.6.4 showing the variable “weapon” partitions along the J-axis with a coefficient of monotonicity of 0.83. The variable “group” (figure 13.6.5) also shows a division along the J-axis with a coefficient of monotonicity of 0.78. Since these two variables partition along the same axis, they conform to a common order. It can therefore be inferred, that these robbers who use a weapon during the crime are likely to be the ones who also work in-group and by the same argument those robbers who work in groups show a tendency to be armed. However, care needs to be taken in using the variable “group” when distinguishing between cases because its coefficient of monotonicity (0.78) is slightly lower than 0.80. Despite this the result is showing a common order between the variable “group” and the variable “weapon” which is an important issue to be considered.

In figure 13.6.6 the variable “conv+3” shows a division along the Q-axis with a coefficient of monotonicity of 0.81. This partition indicates an element of accentuation related to the variable “conv+3”. Since the Q-partition accentuates the trend indicated by the polar items (X or Y), it can be suggested that having three or more convictions accentuates the fact of stealing objects of high value or the careful selection of the victims. In other words, having three or more convictions will be linked to the actions of stealing high-value objects or to the careful selection of victims.

Figure 13.6.7 shows the combined structure of the item plots of the five selected variables related to the facet element *Financial/Property*. This combined structure shows that the significant characteristics of these robbers are theft of high value objects and the careful selection of the victims. Furthermore, the combined structure demonstrates a considerable overlap between the variables “high object”, “weapon” and “group”. Thus, those robbers who steal high value objects show a tendency to use a weapon and to work in groups when committing the crimes. Also there is a considerable overlap between the variables “select victim”, “weapon” and “group”, indicating that those robbers who carefully select their victims also show a tendency to use a weapon and to work in groups. Thus, when objects of high value are stolen and there is an indication that the victim was carefully selected, that a weapon was used and that a group committed this crime.

The overlap between the variables “conv+3”, “weapon” and “group” implies that the offenders who commit frequent robberies, use a weapon and work in groups. Indeed, there is a strong relationship here between the use of weapon and the commitment of the crimes in groups as there is a total overlap between the variables “weapon” and “group”.

It is important to examine now also the frequencies of the profiles in relation to the POSA analysis referring to the facet element *Financial/Property*. As mentioned before, POSA deals with individuals and the frequencies demonstrate aspects of the sample as a whole and help to indicate what is typical of the sample and what is rare

and coincidental. Thus, the examination of the frequencies can be productive by considering the dominant route through the POSA to identify, when possible, the existence of a scale in a linear relationship.

The POSA analysis for the element *Financial/Property* (POSA main plot, figure 13.6.1) shows that the following profiles account for 34% of the cases. The frequencies are in brackets as in the POSA plot and the sequence of variables across the plot is “object high” - “group” - “weapon” - “select victim” - “conv+3”.

22222 (10)

22221 (14)

22211 (5)

22111 (1)

21111 (5)

11111 (23)

These profiles account for 58 cases from the total of 168 robbery cases. Thus 34% of the individuals are accounted for by these 6 profiles. These profiles form a simple cumulative scale, thus 34% of the individuals can be covered by one simple linear dimension. The variables used in the analysis for *Financial/Property* showed more clearly some issues about the overlap of variables discussed previously. If variables are considered in the order they appear across the POSA main plot then there is a simple linear dimension indicating that the profiles form a cumulative scale.

Accordingly, in relation to the profiles that form a linear scale, most robbers steal objects of high value and then, on the scale of behaviour the next stage is to also work in groups to commit crimes followed by also using of a weapon and then to also go on to carefully select the victims. The extreme of the scale is to have all these characteristics and to also have many convictions for crime. Thus, having many convictions for crimes was the more extreme characteristic whereas the stealing of high valuable objects occurred most frequently. Indeed in the overall robbery sample of the present study the stealing of high valuable objects accounted for 41% of all the items stolen (see chapter 10, Descriptive Analysis, figure 10.2.1).

Interestingly robbers who steal objects of high value tend not to have many convictions for crime since the variables “object high” and “conv+3” appeared together in only one of the profiles forming the scale and accounting for only 10 out of the 58 cases. In fact when considering all the profiles in the POSA main plot, not just those forming a linear scale, the combination between “object high” and “conv+3” appears in only 22 cases (i.e. in 13% of the total of 168 cases).

The combination of robbers who steal objects of high value and who also show a tendency to work in groups to commit their crimes was less rare with the variables “object high” and “group”, combining in four of the six profiles that form a linear scale, presented previously, accounting for 30 cases ($10+14+5+1=30$), out of the total of 58 covering these profiles.

However, when considering all the profiles in the POSA main plot, not just those forming a linear scale, the most common combinations were between the variables “select victim” and “weapon” which appears in 69 (i.e. 41%) of the total of 168 cases) and between “select victim” and “group” which appears in 53 cases (i.e. in 31% of the total cases). Thus, the action of selecting the victim carefully tends to combine with the use of a weapon in nearly half of the cases and also selecting the victim combines with working in groups in nearly a third of the cases.

In summary, when referring to the linear scale, the combined characteristics of stealing objects of high value and working in-group to commit crimes was a common combination and thus had an important influence on the element *Financial/Property*. However, since this combination of profiles accounts for only 34% of the robbery sample care needs to be taken when interpreting the impact these five variables have on the element *Financial/Property*.

CHAPTER 14

THE STUDY OF BURGLARY

14.1 - Objectives of the Study of Burglary

The main aim of this present chapter on burglary is to marry issues referring to the instrumental aspects of the crime (i.e. level of planning, amount stolen, premises selection, etc) to the interpersonal side of burglary (i.e. behaviour showing levels of interpersonal contact with victims) and then to link these to different lifestyle characteristics of the burglars. It is hypothesised that the lifestyle may influence and even define the criminal activity and interpersonal desires and that these as a whole are expressed at the crime scene. Emphasis will be placed on the burglars' choice of premises since it is believed that the premises may be linked to the offender's lifestyle and interpersonal desires that in the end will influence his behaviour. Thus lifestyle characteristics may influence and define levels of instrumentality and interpersonality displayed during the crime.

14.2 - The Data and Sample on Burglary

This chapter on burglary is based on the analysis of data collected by use of an anonymous questionnaire applied to a total of 210 imprisoned Brazilian offenders of which 148 reported committing burglary (for details on the overall sample see chapter 6). Therefore the data sub-set considered in this chapter comprised 148 burglars. Not all the 148 offenders had convictions for burglary, but all 148 reported having committed burglary in the questionnaire.

Thus, the sample expresses a commitment to burglary more than merely conviction for it. Once an individual reported having committed burglary then they were included in the analyses for this type of crime, irrespective of being convicted for it or not. Only male burglars participated in the research and the sample included adult offenders. All subjects freely participated in the research and they were not paid or forced at any time to give information.

14.3 - The Method and Procedure for the Analyses of Burglary

In order to test the hypotheses proposed, the variables relating to burglars' criminal activities and criminal behaviour (e.g. actions showing planning and interpersonality towards the victim, premises selection, weapon use, etc); criminal history (e.g. records, convictions, imprisonment); and personal and family background (i.e. lifestyle characteristics) were analysed. The relationships between the variables were then examined with the aim of searching for groups of variables relating and forming patterns of burglars' behaviour. Thus, the main aim of this chapter was to identify different themes of burglars' behavioural style as expressed by the co-occurrence of the variables that could help provide a model for the analyses of burglary.

The main statistical procedure used as with robbery was the computer program Smallest Space analysis – SSA, which verifies levels of correlation between the variables under study by considering their co-occurrence and grouping (for details on SSA analysis see chapter 8, topic 8.2.1). The other main statistical computer procedure used was Partial Scalogram Analysis – POSA to verify accumulative scales that could support the observed correlations between variables. The POSA analyses consider the specific themes referring to the underlying structures or common order in relation to the thematical groups of variables previously identified by the SSA analysis (for POSA analysis see chapter 8, topic 8.2.3). Also other complementary statistical tests were used to examine the strength of the associations between the variables (see chapter 8, topic 8.2.2 for details on these tests).

CHAPTER 15

DESCRIPTIVE ANALYSIS OF BURGLARY

15.1 - The Descriptive Analysis of the Burglary Data Set

To allow initial familiarity with the data set on burglary the percentages of the variables will be presented before moving on to the results of the SSA and POSA analyses and a more complex examination of the relationship between the variables under study. The percentages for each of the variables make possible general comparisons between the data sample of this present study and trends in the literature on burglary. These percentages for the variables are presented in relation to the main topics related to burglary.

The topics considered are:

- Criminal activities (e.g. the choice of premises targeted by the burglar);
- Criminal history (e.g. criminal records, convictions and imprisonment);
- Criminal behaviour (e.g. burglars' actions related to the crime scene, burglars' actions towards the victims);
- Personal background (e.g. education, employment and marital status; drugs, other addictions and mental status);
- Family background (e.g. general characteristics of family and parents; violence, abuse and criminality in the family).

In order to facilitate this process of descriptive analyses table 15.1.1 contains the variables in relation to these main topics (see Appendix III for description of the variables used on burglary).

Table 15.1.1: Variables for the Descriptive Analysis on Burglary

According to Main Topics Proposed.

CRIMINAL ACTIVITIES	CRIMINAL HISTORY	CRIMINAL BEHAVIOUR	PERSONAL BACKGROUND	FAMILY BACKGROUND
Premises Targeted	Criminal Records	Burglars' Actions Related to the Crime Scene	Education, Skills and Marital Status	General Characteristics of Family and Parents
House Office School Flat Restaurant Factory Petrol Station Shop Club Garage	Crime Person Property Crimes Burglary Only	Plan Select Premise Weapon Disguise Group Escape Route Mess £10,000	EducElem	Mum – Dad
			Unskilled	Brothers
			Married	Unskilled Father
			Married Plus	Alcohol Parents
			Drugs, Other Addictions and Mental Status	Divorced Parents
			Drugs	Mum Dom
			Barbiturates	Mum - Bad
			Glue	Violence, Abuse and Criminality in Family
			Gambling	Violence Family
			Alcohol	Violent Parents
			Psychiatric	Abuse
				Criminal Family
	Convictions and Imprisonment	Robbers' Actions Towards the Victims		
	Conv-20	Scares		
	Conv+3	Threat		
	Young	Humiliate		
	Security	Verbal		
		Physical		

15.2 - Criminal Activities of the Burglars

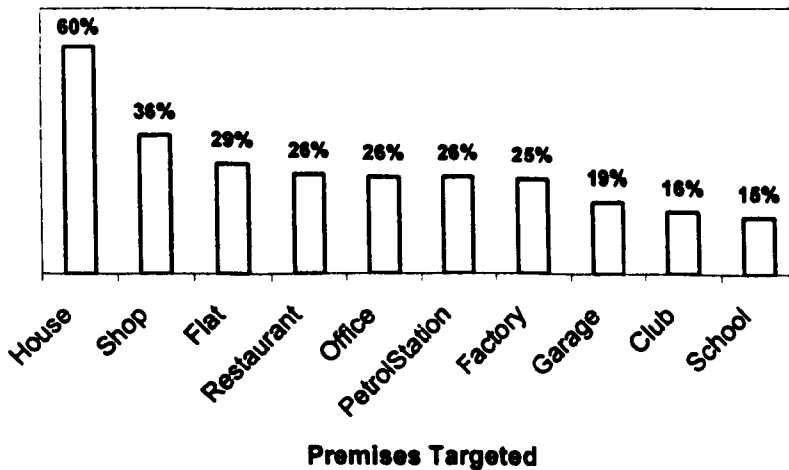
15.2.1 - Premises Targeted by the Burglars

According to this data set on burglary, the percentages referring to the premises targeted revealed that the burglars selected a range of different premises. Ten different types were considered here and they are: house, flat, shop, restaurant, club, school, garage, office, factory and petrol station. For the purpose of the analyses

carried out in the present study these premises were not examined in isolation. However, it can be noticed that some refer to residential premises (e.g. house and flat), others to public-commercial properties (e.g. club, restaurant, school) and others to purely commercial premises (e.g. shop, garage, office, factory and petrol station).

Figure 15.2.1 shows that the most common target for burglars in this sample were houses accounting for 60% of the premises burgled. Thus more than half of the burglars in this sample reported having broken into houses. It is difficult to compare these results for house burglary with those in the literature because the great majority of burglary studies have as the sample house burglaries and so domestic burglaries will account for 100% of the crimes. Similarly commercial burglary studies, usually concentrate on just one single kind of commercial premises at one time (such as shops) and so do not include in their sample other commercial premises or residential burglary.

**Figure 15.2.1: Percentages of Variables Indicating
The Premises Targeted by the Burglars**



However, in general, research suggests that burglaries are more likely to involve residences rather than commercial establishments (see Scarr, 1973; Feldman, 1993). But others like Croall (1998) believe that in fact commercial burglaries are the

major targets. According to Croall (1998) the statistics in the British Crime Survey focus on households and omit institutional premises such as shops, companies, warehouses, etc. In the present study the residential premise of flat showed a percentage for burglary of 29%. Again other studies in the literature do not show percentages for flat burglary. However, some research has found that apartment blocks, particularly the ones protected by a doorman, will have lower levels of burglary when compared to houses (Waller and Okihiro, 1978).

Considering public-commercial premises in this sample, restaurants were the most commonly burgled (figure 15.2.1). In this study 26% of the subjects reported having burgled restaurants whilst 16% reported burgling clubs and 15% schools. Again nothing was found in the literature pointing to specific percentages relating to rates of burglaries against these premises. In fact, usually “in English criminal statistics the only distinction made is between residential burglaries and other burglaries” (Mawby, 2001; pg. 6). Thus the premises considered here as public-commercial ones will be considered by official statistics as ‘other burglaries’.

In relation to purely commercial premises, the present study included data for shops, garages, offices, factories and petrol stations. The percentages showed that a considerable number of subjects reported breaking into offices (26%), petrol station (26%) and factories (25%), all of which have similar percentages and slightly less broke into garages (19%). Again no information was found in the literature in relation to these trends in terms of actual percentages for these premises.

As explained before, studies on burglary have been very selective and when analysing commercial burglaries they usually focus on one specific type of establishment. For example, Beck and Willis (1991) examined burglaries against shops; Laycock (1985) studied burglaries specifically against chemists’ shops, and so on. In general, in relation to commercial burglaries in England and Wales, the most commonly targeted premises were retail and manufacturing premises, particularly those stocking goods such as alcohol and tobacco (see Mawby, 2001).

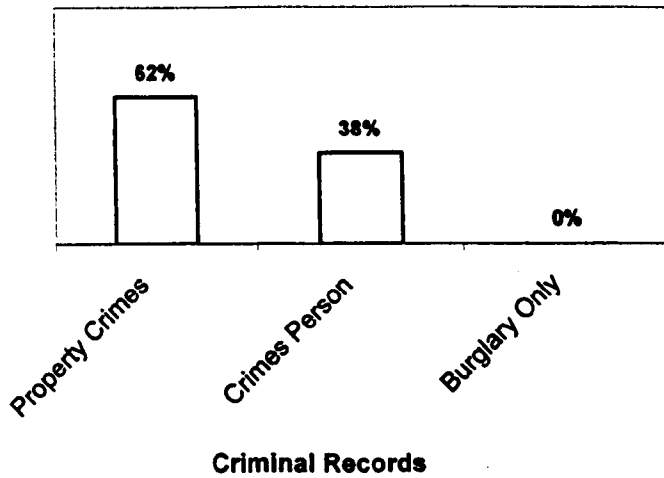
In summary it can be said that 89% of the burglars in this sample broke into residential premises with the majority breaking into houses (60%) and the minority into flats (29%). A considerable number of burglars broke into commercial premises such as shops (36%), offices (26%), petrol stations (26%), factories (25%) and restaurants (26%), this last being a kind of public-commercial premises. Few burglars reported breaking into commercial garages (19%) and into the public-commercial premises of clubs (16%) and schools (15%). It is important to mention that the total percentages for the different types of premises targeted do not sum to a 100% because the subjects could fill in more than one category of burglary in the questionnaire. This procedure was used to avoid problems of multiple exclusivity in relation to the variables that could otherwise distort the analyses (see chapter 7, pg. 54). Thus the subjects could freely report which premises they had burgled without being forced by a procedure demanding that they just choose one type of premises when in fact they had burgled different kinds of premises. This free reporting was applied to all the variables involving different categories in the present research.

15.3 - Criminal History of the Burglars

15.3.1 - Criminal Records of the Burglars

The great majority of the offenders in this sample (62%) reported committing other property crimes that not just burglary. Figure 15.3.1 shows that 38% of the burglars committed crimes against the person. Importantly, none of the burglars here (0%) reported having committed just burglaries. The approach on the literature referring to specialization states that specialization will occur and that offenders who commit property crimes will tend to commit similar types of crime. Thus, for example the majority of offenders who commit burglary will tend to commit other property crimes, as it occurred on the results here. However, in this present study a considerable number of burglars (38%) also commit crimes against the person. This should be always considered, and will be discussed in detail later, when examining the crime of burglary.

**Figure 15.3.1: Percentages of Variables Indicating
Criminal Records of the Burglars**



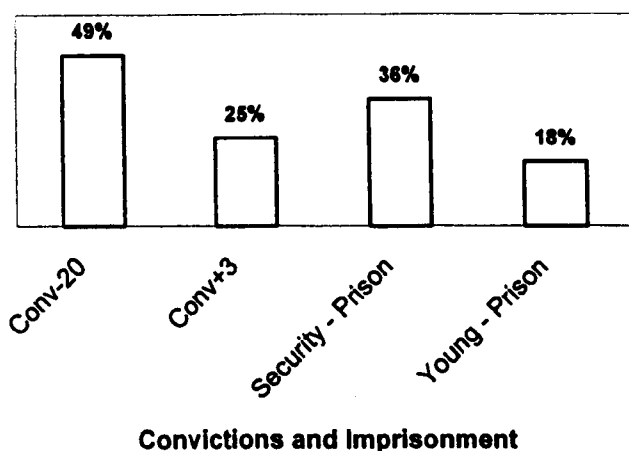
15.3.2 - Convictions and Imprisonment of the Burglars

Nearly half the burglars in this sample (49%) received their first conviction when less than 20 years old (figure 15.3.2). In many studies this percentage is even higher (between 50% and 60%) when considering property crimes in general and burglary in particular (Petersilia, 1980; Farrington, 1986; Feldman, 1993; Muncie, 1999).

In the present study a considerable number of the burglars also reported having at least three convictions (25%). Other research has shown even bigger percentages, between 40% and 50%, when considering burglars who have two convictions or more (see Kapardis, 1989; Farrington and Lambert, 1997).

In this present study few burglars had been in institutions for young offenders (18%) while a considerable number of the subjects had been in maximum-security prisons (36%) by the time these data were collected.

Figure 15.3.2: Percentages of Variables Indicating Conviction and Imprisonment of the Burglars



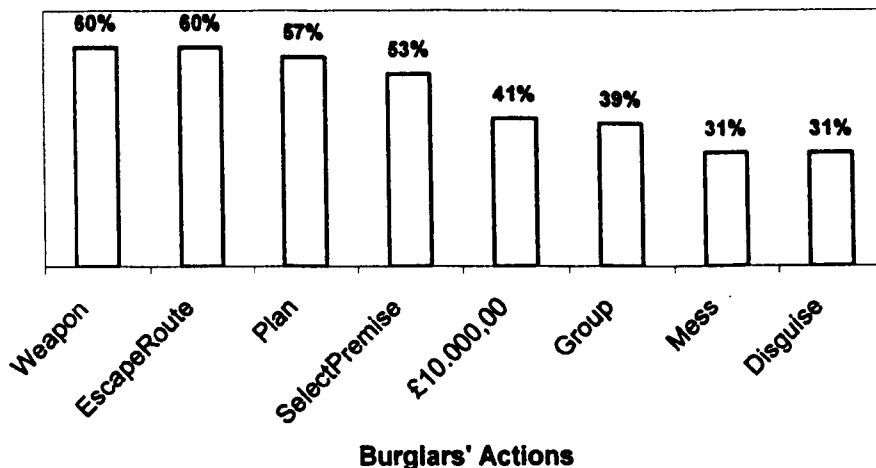
15.4 - Criminal Behaviour of the Burglars

15.4.1 - Burglars' Actions Related to the Commitment of the Crimes

The percentages to be presented and discussed here are based on instrumental aspects of the crime and refer to issues related to levels of planning and skill displayed during the burglaries. As discussed before (see chapter 2) these issues usually support typologies suggested by the literature about burglars' characteristics and offending style, such as 'planners' versus 'opportunistic' (Bennett and Wright, 1984; Cromwell *et al*, 1991). In the present study it can be observed in figure 15.4.1 below that more than half of the burglars in the sample (57%) reported that they planned their burglaries. Barker (2000), considering a sample of 31 burglars, found that six of them (19%) could be considered as professional and/or planners. Cromwell *et al* (1991) argued that indeed none of the burglars in their sample could be defined as 'opportunist', in the way defined by Bennett and Wright (1984), but that 75% fitted the 'search' type, a kind of middle term, and that the remaining 25% could be described as 'planners'. However, most research has suggested that burglaries tend to be planned and few are opportunist offences (Maguire, 1982; Nee

and Taylor, 1988; Bennett and Wright, 1984; Butler *et al*, 1993; Wiersma, 1996). Indeed, Bennett and Wright (1984) found that only 7% of their sample comprising 117 burglars fell into the ‘opportunist’ offence category.

Figure 15.4.1: Percentages of Variables Indicating Burglars’ Actions Related to the Commitment of the Crimes



In this present study other issues usually related to levels of planning in the literature also showed high percentages. For example, 60% of the burglars here reported using a weapon during their crimes and 60% also reported preparing escape routes prior to committing the crime. In relation to weapon use, few studies seem to exist and those that do explore this issue more in relation to robberies and homicides (Allen, 1980; Cook, 1982; Gabor *et al*, 1987). However, when considering property crimes, in general research studies shows higher rates for weapon use some up to 80% (Block 1977; Feeny, 1986).

Much closer to the present study result on the weapon used, Walsh (1986) found that 61% of the subjects in his sample were armed when committing crimes. In relation to escape routes, the literature suggests that this issue has a direct influence on burglars’ target choice (Maguire and Bennett, 1982; Nee and Taylor, 1988; Tilley and Hopkins, 1998; Gill, 2000). Bennett and Wright (1984) found that almost one-

third of the burglars in their sample gave the inability to escape quickly as the main reason for not selecting blocks of flats as targeted premises. The formal definitions of burglary are similar under the Brazilian and UK law (page 1 to 5) and therefore valid comparisons can be made between UK data and the data in this thesis.

As observed in figure 15.4.1, here more than half of the subjects (53%) reported that they carefully select the premises to be burgled. Despite there being several issues underlying target selection, in general research shows that most burglars spend time on target selection. Thus the majority of burglars are considered to be 'planners' since target selection is a planning issue (Bennett and Wright, 1984; Cromwell *et al*, 1991). In the present study 41% of the burglars reported having stolen from the premises amounts equivalent to £10,000 during a single offence.

Research on burglary does not usually state the actual amount stolen, with some exception. Kershaw *et al* (2000) found that about a quarter of 'successful' burglaries involved losses of less than £100 and a third involved more than £1,000; however he was considering domestic burglaries and the amounts stolen can be higher from commercial burglaries. Research agrees that large amounts of money, like the amounts considered here, are more likely to be taken by those so called professional burglars who plan their offences in advance (Maguire, 1982; Cromwell *et al*, 1991).

Considering other instrumental features in relation to burglars in the present sample, 39% reported committing crimes in groups and 31% reported using a disguise during the burglaries (figure 15.4.1). In relation to working in groups, Shover (1973) suggested that burglars operating alone were a rarity. However Shover (1973) was also considering the network connections before and after the offences, but in the present study working in groups refers to the actual commitment of the offences.

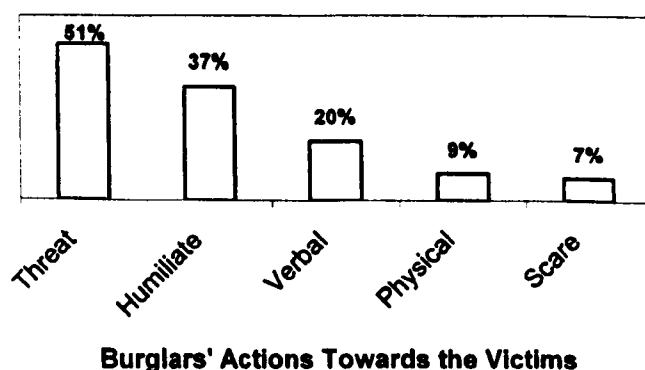
The majority of the studies in the literature, particularly in relation to household, but not commercial burglaries, concluded that most burglars operate alone (see Mawby, 2001). The current results agree with the literature showing that 31% of the burglars worked in groups with the majority (69%) reporting operating alone.

In relation to the use of disguise, in the present study 31% of the burglars reported usually using a disguise to commit their crimes, thus the majority (69%) used no disguise to commit the crimes. Also in this present study 31% of the burglars reported making a mess of the premises while committing their burglaries. Maguire (1982) also found that causing a mess was a characteristic of few burglars and that in his sample in the majority of the burglaries nothing noticeable was moved (54%) and few items knocked over (17%).

15.4.2 - Burglars' Actions Towards the Victims

Some burglars display actions during the offences that express a desire for some contact with the victim and more fundamentally to hurt the victim. Figure 15.4.2 shows that 51% of the subjects reported using threatening behaviour towards the victim, such as threatening to kill, to cut their throat, etc. A number of the burglars (37%) reported displaying actions to humiliate the victim, such as demanding that the victim take off their clothes and then leaving the victim naked before departing the crime scene. Some offenders reported verbally insulting their victims using demeaning and obscene words (20%). Few physically assaulting and injuring the victims (9%) and even fewer making the victim feel fear by scaring them stiff (7%).

Figure 15.4.2: Percentages for the Variables Indicating Burglars' Actions Towards the Victims



These percentages relating to actions towards the victim expressing the offenders' desire for interpersonal contact were higher than the percentages for these same variables previously analysed for the crime of robbery. This suggests that the level of interpersonal desire is higher for burglars than for robbers. However, the percentage for the variable "physical" was still low (9%), despite burglars seeming to desire contact with their victims more than do robbers. This result is in accordance with the literature which points out that the majority of burglars do not get involved with physically harming their victims (see Mawby, 2001; Jones, 2001). The results here show that when burglars display actions towards the victim during the commitment of the crime it is more likely to be those referring to threatening (51%) and humiliating (37%) behaviour, with only the minority physically injuring their victims (9%).

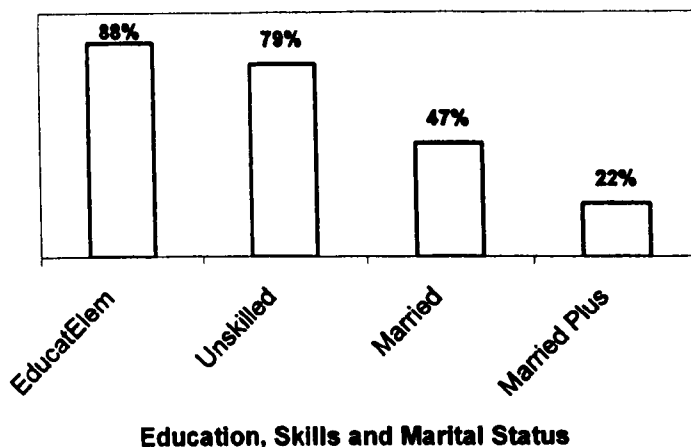
15.5 - Personal Background of the Burglars

15.5.1 - Educational Level, Skills and Marital Status of the Burglars

The great majorities of the burglars in this sample had an elementary education (88%) and were unskilled (78%), which is generally indicative of these types of individuals (figure 15.5.1). In fact, most studies in the literature on burglary show that the majority are poorly educated and are unskilled (see Feldman, 1993; Jones, 2001). Farrington and Lambert (2000) found that only about 3% of the burglars in their sample had been to grammar or private schools or had gone on to further or higher education. Mawby (2001) also pointed to the fact that poor schooling and low levels of education were related to burglars.

Nearly half of the burglars in this sample were married (47%) and nearly half of these (i.e. 22% of the total sample) reported having married at least twice. The results on marital status in the literature differ depending on the average age of the samples under study and usually the number of times the offenders have married is not mentioned.

Figure 15.5.1: Percentages of Variables Indicating Educational Level, Skills and Marital Status of the Burglars

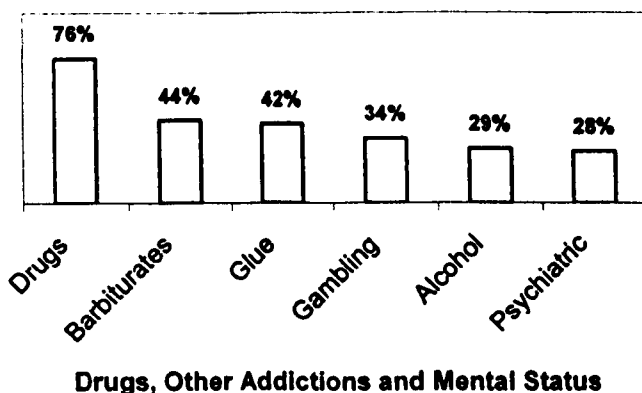


15.5.2 - Drugs, Other Addictions and Mental Status of the Burglars

In this study on burglary, a great majority (76%) of the offenders used drugs on a regular basis (figure 15.5.2). Most studies in the literature also show high levels of drug use amongst offenders in general and in particular among those committing property offences (Moore, 1983; Feldman, 1993; Bean, 2002). For example, Taylor and Bennett (1999) found in their study that 71,1% of US and 64,4% of English prisoners arrested for property crimes tested positive for drugs.

In the present study (figure 14.5.2) also nearly half (44%) of the burglars reported taking barbiturates without medical prescription. Cromwell *et al* (1991) and Rengert & Wasilchick (2000) also pointed to the considerable use of similar substances among burglars “to help to calm the nerves” before, during and after the burglaries. In the present study 42% of the burglars also reported sniffing glue.

**Figure 15.5.2: Percentages of Variables Indicating
Drugs, Other Addictions and Mental Status of the Burglars**



In terms of other addictions, 29% of the burglars reported being addicted to alcohol (figure 15.5.2). The literature also suggests that a considerable number of burglars will be addicted to alcohol (see Feldman, 1993; Matsuers, 1996; Ferguson and Horwood, 2000). It also points out that higher rate of alcohol abuse tend to be more related to violent crimes such as homicide (Rossow, 2001). However, Greenberg (1981) suggested that there is little difference between property crimes and offences against the person in relation to alcohol abuse.

In addition, in the present study 34% of the burglars also reported being addicted to gambling. Mattews (2002) emphasised a considerable interest in gambling amongst property offenders in general, and in particular Maguire (1982) found this addiction related to burglars.

Considering the burglars' mental status, in the sample of the present study, 28% reported having a history of psychiatric treatment. Gibbens (1981) also found a considerable number of admissions for psychiatric treatment amongst offenders committing property crimes, however other research shows that the rates are higher in relation to violent crimes (see also Brennan *et al*, 2000).

Thus, in summary, in relation to addictions and the mental status of the burglars, the majority in the present sample abused drugs (76%); nearly half used barbiturates (44%) and/or sniffed glue (41%); a considerable number were addicted to gambling (34%) and alcohol (29%); and had a history of psychiatric treatment (28%).

15.6 - Family Background of the Burglars

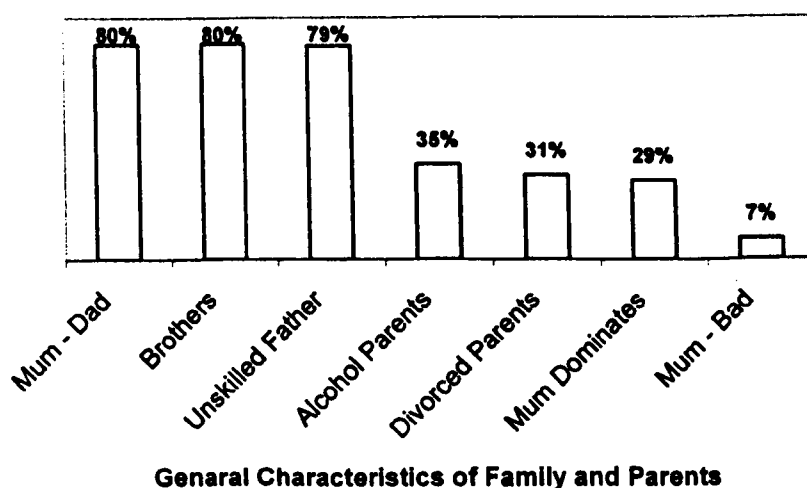
15.6.1 - General Characteristics of Family and Parents of the Burglars

Figure 15.6.1 shows that the great majority of the burglars in this sample lived with both parents at home during their childhood (80%) as shown by the variable “mum-dad” and had brothers/sisters living with them (80%) as expressed by the variable “brothers”. In a British sample studied by Farrington and Lambert (2000) just over a half (55%) of the burglars lived with their parents.

However, they were considering the offenders’ living conditions at the time of their data collection whereas in the present research living conditions during childhood were considered. Researchers in this field do not usually mention the percentages of offenders who lived with both parents when children and the research that does focuses on violent offenders.

In the present study 31% of the burglars reported experiencing divorce between their parents at some stage in their lives. Mawby (2001) suggested that the impact of having come from a broken home amongst property offenders was similar to that found for offenders in general. According to Kapardis (1989) 29% of the robbers in his sample came from a broken home, and this is similar to the percentage found here, and it is therefore likely that this can be applied to burglars as well.

**Figure 15.6.1: Percentages of Variables Indicating
General Characteristics of Family and Parents of the Burglars**



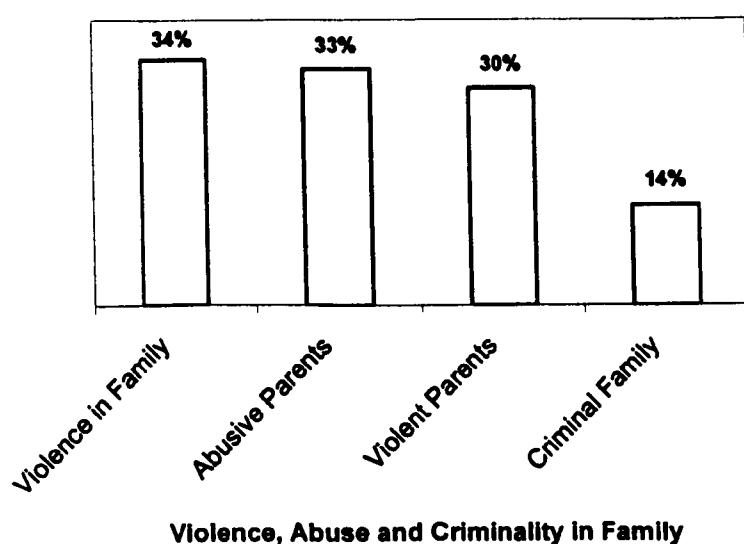
In relation to the parents' characteristics (figure 15.6.1), the majority of the burglars had unskilled fathers (79%). A considerable number of the burglars also reported having alcoholic parents (35%). Furthermore 29% reported having the mother as the dominant figure in the family but few (7%) reported having a bad relationship with their mothers (variable "mum-bad"), where the mother was cold, aloof or even hostile towards them. The literature often considers parental characteristics as influencing criminal behaviour in general and not specifically in relation to the crime of burglary being considered here (see Feldman, 1993; Jones, 2001).

15.6.2 - Violence, Abuse and Criminality in the Family of the Burglars

In the data sub set on burglary, 34% reported having witnessed violence in the family (figure 15.6.2). A considerable number of the burglars also reported having been abused verbally by their parents (33%) and having parents physically violent towards them (30%). Some of the burglars in this sample reported criminality in the family that is having parents or siblings who committed crimes (14%). Again the percentages that are considered in the literature on these issues are usually related to criminal behaviour in general and often to violent crimes (see Bandura, 1973; Jones,

2001) and not specifically referring to burglary. However, Straus (1983) considering a thousand American schoolchildren, found that 15% of those who had not received corporal punishment committed severe attacks against their sibling, compared with 40% for those who were physically punished, and 76% of those who were constantly abused by their parents. Straus (1991) later showed that children physically punished by their parents were more likely to assault their children and were significantly more likely to commit street crimes.

Figure 15.6.2: Percentages of Variables Indicating Violence, Abuse and Criminality in the Family of the Burglars



15.7 - The Nature of the Brazilian Burglars

It is now important to summarise the relevant characteristics that define the nature of the Brazilian burglar. A large proportion of the Brazilian burglars were house burglars as houses were the target premise for 60% of the burglars in the present sample. The most commonly burgled commercial premises were shops (36%).

The Brazilian burglars were not specialists since none just committed burglary. They also committed other property crimes and crimes against the person such as rape and murder. However there was a tendency to concentrate more on property crimes (62%) than on crimes against the person (38%). This contrasted somewhat with the Brazilian robbers sample of this present study where more crimes were committed against the person (52%) than property crimes (29%).

As with robbers more than half of the Brazilian burglars (51%) received their first conviction after 20 years of age and this can again probably be attributed to inefficiencies in the police investigation procedures in Brazil where the risk of apprehension is low.

A high percentage of Brazilian burglars planned their crimes (57%) even preparing escape routes before committing their crimes (60%); they also used a weapon (60%), selected the target premises carefully (53%) and a number showed concern about the risk of recognition (31%). Therefore the majority would be considered professionals according to the literature since these actions are characteristic of professional criminals (Walsh, 1986; Blackburn, 1993). This is being considered because the classification of robbery and burglary are similar under both Brazilian and UK law (see page 1 to 5) so some comparison between this work and other research may be appropriate.

More Brazilian burglars than Brazilian robbers showed a need for contact with their victims during their crimes. For example, 37% of the Brazilian burglars humiliated their victims in contrast to just 9% of the Brazilian robbers and 20% verbally insulted the victims compared to 8% of the robbers. Although the percentages are low in both cases, more burglars physically assaulted their victims (9%) compared to robbers (5%).

As seems to be the norm amongst criminals in general, the great majorities of the Brazilian burglars like the robbers had only an elementary education (88%) and were unskilled individuals (79%). A large proportion of the burglars were also addicted to drugs (76%) with a smaller percentage being alcoholics (29%) or having received psychiatric treatment (26%).

In common with the Brazilian robbery sample a large proportion of the Brazilian burglars were poorly educated and unskilled coming from families living under difficult economic conditions with about a third of them having a disturbed family background of violence, alcoholism and criminality.

Having presented the percentages for the variables for this data set on burglary it is important to emphasise that these percentages give an overall view of the sample. However, these percentages do not show in depth the relationship between the variables such as which groups of variables co-occur. In other words, the percentages refer to a general description of the data but do not define precisely which variables have a tendency to occur together.

Thus, in order to examine more closely the relationship between the variables and to create a model with which to analyse burglars' characteristics and offending styles, other analytical techniques were used. The results from the SSA and POSA which analyse more deeply the relationship between the variables under study will be considered next (for details on SSA and POSA analyses see chapter 8).

CHAPTER 16

SSA ANALYSIS ON BURGLARY

16.1 - The Results of the SSA Analysis on Burglary

The SSA analysis carried out on burglary showed that it was possible to construct a model referring to patterns of variables' co-occurring and forming distinct regions on the computer plot. The groups of variables firstly show two elements in relation to the facet burglars' criminal behaviour. The SSA plot could then be interpreted to give even more distinct elements referring to the facet robbers' lifestyle.

The partitioning of these SSA plots identifying the facet elements was made in relation to the co-occurrence of the variables reflecting a model to analyse burglary. The facets of burglars' criminal behaviour and burglars' lifestyle and their elements will be discussed next.

16.2 - The Facet of Burglars' Criminal Behaviour

The results of the SSA plot (figure 16.2.1) showed that two distinct regions of the plot could be identified in relation to the facet of burglars' criminal behavior, these are the elements: *Interpersonal* and *Instrumental*.

SSA - The Elements of the Facet of Burglars' Criminal Behaviour

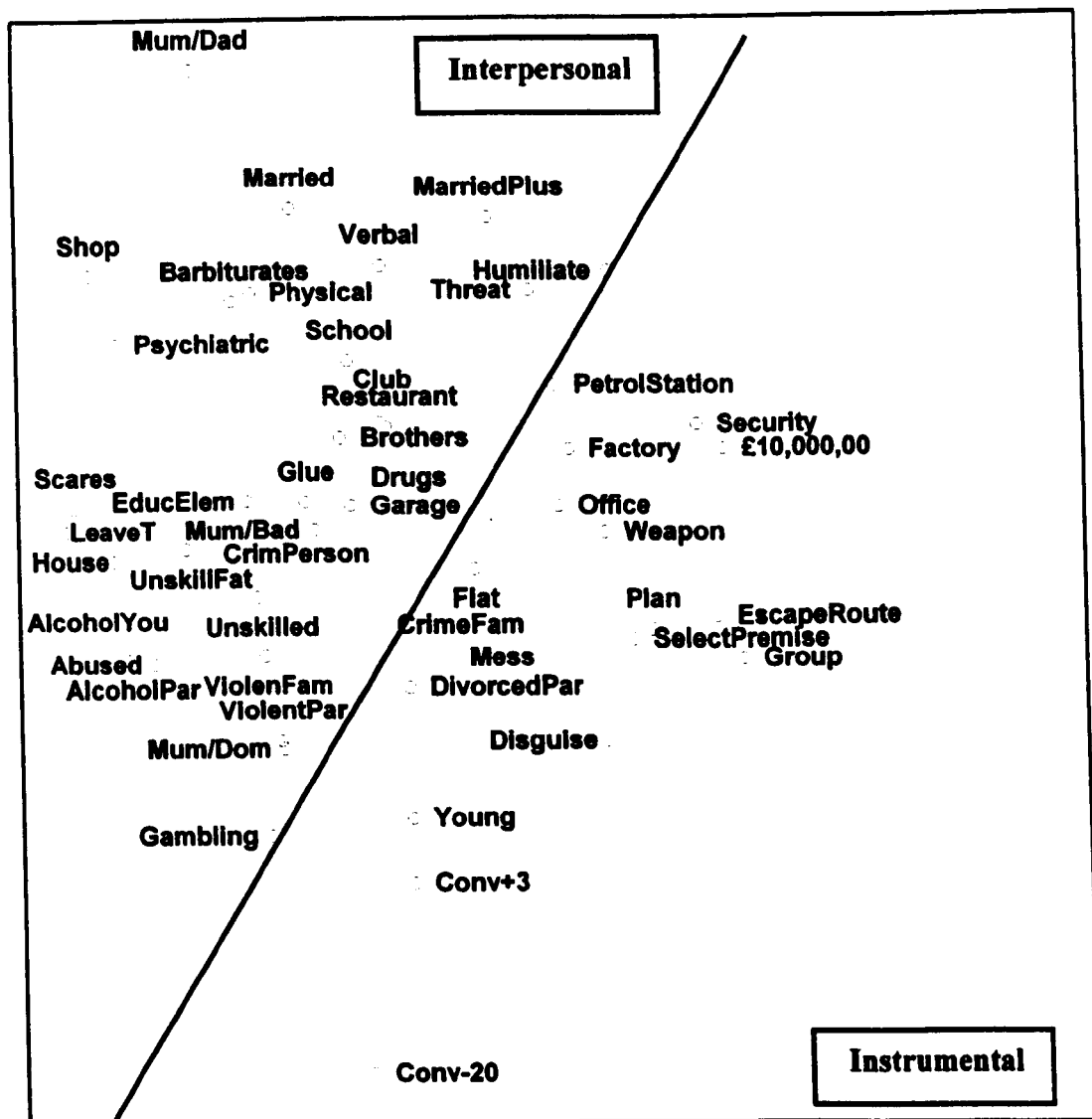


Figure 16.2.1: SSA Plot Illustrating the Facet of Burglars' Criminal Behaviour and the Facet Elements: Interpersonal and Instrumental. The sample comprises 148 subjects. The plot contains 50 variables. (see Appendix III for details of the variables). Coefficient of Alienation: 0.27; Vector 2 Against 1; 3D; Yule's Q.

On the left side of the SSA plot there is a group of variables that expresses the more interpersonal nature of the crime with actions directed towards the victim (figure 16.2.1). For this reason this region was called the *Interpersonal* facet element to reflect the focus on the presence of the victim. On the right side of the SSA plot, is a different group of variables (figure 16.2.1) that expresses a more instrumental approach to the crime and reflects more concern with issues related to, for example, planning and the profitable nature of the crime rather than on the victim. For this reason this region of the SSA plot was called the *Instrumental* facet element.

The distinctiveness in the nature of these two facet elements reflects different patterns of action. These different patterns of behaviour will be examined later in relation to different lifestyle characteristics, with the aim of identifying the distinctive aspects of burglars' behaviour.

The facet elements *Interpersonal* and *Instrumental* and their peculiarities will be discussed next in more detail, but before this it is important to make some additional comments about the classification of interpersonal or instrumental.

As was explained in the robbery chapter (pg. 98), these two facet elements are used in this study to differentiate between emotional-impulsive aspects and skill or craft aspects. Thus the element *Interpersonal* here relates to emotional-impulsive aspects and the element *Instrumental* here relates to skill or craft aspects. It is necessary to define these terms in the context of this study because in the literature these interpersonal and instrumental terms many times receive different terminologies. For example, the interpersonal may refer to emotion and impulsivity whilst the instrumental to planning and professionalism (see pg. 40 and 98, 99 for more details).

It is also important to note that some variables are common to both the robbery and burglary analyses whilst others are peculiar either to just robbery or burglary. The variables that were used in both the robbery and in the burglary analysis (35 variables in all) were: "married", "married plus", "educem", "unskilled", "unskilled father", "mum/dad", "brother", "mum/bad", "mum/dom", "divorced

parents”, “violent parents”, “violence family”, “abused”, “criminal family”, “alcohol you”, “alcohol parents”, “drugs”, “glue”, “barbiturates”, “gambling”, “psychiatric”, “plan”, “weapon”, “disguise”, “group”, “conv-20”, “conv+3”, “crime person”, “young”, “security”, “threat”, “verbal”, “physical”, “scare” and “humiliate” (see Appendix II and III for a description of these variables)..

The variables that were unique to the robbery analysis (19 variables) were: “£10-100”, “£100”, “object low”, “object high”, “food”, “credit cards”, “money”, “car parts”, “car”, “public place”, “pass on”, “change drugs”, “take money”, “select victim”, “run away”, “change”, “money home”, “wallet” and “cheque” (see Appendix II for a description of these variables). In contrast the variables unique to the burglary analysis (15 variables) were: “house”, “office”, “school”, “flat”, “restaurant”, “factory”, “petrol station”, “shop”, “club”, “garage”, “10,000”, “leave tool”, “escape route”, “select premise” and “mess” (see Appendix III).

Some of the variables used in both robbery and burglary were not in the same position and some were not even in the same region of the robbery plot when compared with the burglary plot. This was because in the burglary analysis additional variables, such as the ones related to the kind of premises burgled, were included and this influenced the SSA analysis and the interrelation between the variables thus causing some variables to move position on the SSA plot.

However, just to mention that the additional variables influenced the movement of certain of the other variables seems to imply that the SSA results are more or less arbitrary depending on the variables included in the analysis. Therefore, it is important to consider more closely the variables that change regions and to discuss what logical, relevant changes in meaning, if any, may be implied by their change of position. Therefore, after discussing the facets of burglars’ criminal behavior and burglars’ lifestyle and their elements the variables that moved position on the plots and the impact of this will be considered.

16.3 - Interpersonal Element of the Facet of Burglars' Criminal Behaviour

The nature of the variables in this *Interpersonal* facet element demonstrates that the commitment of the crime may involve the desire to meet the victim and to establish a relationship with them. The variables found in this *Interpersonal* region were “threat”, “verbal”, “physical”, “scares” and “humiliate” (see Appendix III for a description of these variables). These variables are demonstrating that the actions when committing the crime involve threatening the victims, verbally insulting them, physically attacking, humiliating and scaring the victims. By examining the presence of other variables in this facet element it can be observed that a lifestyle referring to drug and alcohol abuse and psychiatric treatment are also linked to actions focusing on the victim.

Indeed, by examining the co-occurrence of the variables, some criminal actions seem to be linked to certain lifestyle characteristics. Thus in this present study it is being implied that over exaggeration of the interpersonal approach i.e. threaten, humiliate, verbally insult, physically attack and scare the victim are likely to be related to high levels of impulsiveness and emotion which relate to a lifestyle of drug and alcohol abuse and psychiatric problems.

It can also be hypothesised that the interpersonal desire shown during the crime is a reflection of the way an offender acts with others in everyday life, so the interpersonal desire shown during the crime may be also shown during his everyday life. This is supported by the Narrative Theory, when applied in a criminal context, and suggests that the way the offender behaves during the crime will be consistent with the way he deals with other individuals in his everyday life (see McAdams, 1988; Canter, 1994). Therefore if the burglar displays actions of a highly interpersonal nature as strategy in committing the crime he will probably use the same strategy in other life situations.

Another variable of an interpersonal nature found in the facet element *Interpersonal* was “crime person”. This implies that these actions reflecting an interpersonal desire may be linked to a desire to commit crimes against the person. Considering the presence of the other variables close to “crime person” in the plot (figure 16.2.1), it can be observed that the commitment of crimes against the person also seems related to a lifestyle of violence as the variables in this region include having violent parents and to witnessing violence in family.

The group of variables co-occurring in this *Interpersonal* element also suggest that here the lifestyle may include alcohol abuse by the offenders and by the parents. Furthermore in this facet element are the characteristics of an elementary education, being unskilled and have unskilled fathers. Thus, it is suggested that the behavioural pattern referring to the facet element *Interpersonal* may involve the commitment of crimes against the person and lifestyle characteristics that include coming from a disturbed and violent family.

The results also show that related to the facet element *Interpersonal* may be the capacity to be physically and verbally violent towards the victim, scaring and humiliating them. Some offenders may go further and commit crimes against the person since the variable “crime person” appears in this region. Therefore, the main hypothesis here is that related to the facet element *Interpersonal* may be the demonstration of interpersonal desires where the victim is the centre of the burglar’s attention.

Indeed, this group of variables is showing that the focus seems to be more strongly on the possibility of forming an interpersonal relationship with the victim than on other features of the crime. This idea is also supported by the fact that none of the variables expressing for example the profitable aspects of the burglaries were included within this group of variables of an interpersonal nature.

As the focus is on the interpersonal aspects, none of the variables related for example to planning appeared in this region of the *Interpersonal* element. This lack of concern with planning issues lends additional weight to the hypothesis that the interpersonal pattern of behaviour seems to be a feature of less professional criminals.

The literature indeed suggests that a lack of planning can be related to amateur burglars who commit spontaneous crimes (Bennett and Wright, 1984; Cromwell *et al.*, 1991). Thus, it can also be said here that this disregard for planning issues, which additionally seems to reflect low levels of professional skill, is likely to be related to an interpersonal desire based on establishing contact with the victim.

In other words, the literature suggests that lack of planning refers to a lack of professionalism (see pg. 40), however the present study suggests that this is not the full story since a lack of planning may be also related to high levels of interpersonal desire, which will be reflected in the offender's actions towards the victim, and that this is likely to be a reflection of his lifestyle characteristics, his identity.

In the present study it is also believed that with the crime of burglary the premises targeted will play an important role in defining the interpersonal aspects of the crime. The premises chosen may express the offender's representation of the victim and his overall desires. For example the premises chosen may express whether the offender's desire is based more on material or psychological gain. In the facet element *Interpersonal* (figure 16.2.1) can be observed the variables of the residential premise house and premises of a public nature such as club, restaurant and school. These premises may have a more interpersonal meaning for the burglar than purely commercial properties.

The burglar is probably aware that people will keep items of a more personal nature at home and that the possibility of an encounter with the victim is higher in these premises, a situation which may be in accordance with his interpersonal desires. Additionally, public premises such as schools, clubs, restaurants, are an immediate

extension of peoples' homes. These premises are where people relate more personally to one another, where they meet friends, and socialise. The burglar is also probably aware that the invasion of these premises will have an interpersonal impact on the victim (see also chapter 3, topic 3.2).

Choosing premises of a residential or public type will provide the burglar with the possibility of not just material gain but also psychological gain and it is the latter that seems to be the main aim of those demonstrating interpersonal desires. This assumption is being made because the variables of premises of a residential or public type appear in the facet element *Interpersonal* where the nature of the variables seems to express the need for psychological rather than material gain. Indeed, as concluded by Merry and Harsent (2000; pg. 39) for example, "house is not simply a warehouse containing goods, but a place where the thief can gain both materially and psychologically".

16.4 - Instrumental Element of the Facet of Burglars' Criminal Behaviour

On the right side of the SSA plot (figure 16.2.1) can be found the facet element *Instrumental* so named because the variables positioned there represent issues related to the more instrumental aspects of burglary. For example it contains variables such as "plan", "disguise", "weapon", "escape routes", "group", "select premise", "£10,000" (see Appendix III for a description of these variables). Thus, related to this pattern of actions is the planning of the offence, the use of a disguise, use of a weapon, preparation of escape routes prior to the crime, working in groups, carefully selecting the premises, and stealing large amounts of money or goods which may be worth more than £10,000 in a single offence.

In this element *Instrumental*, the focus seems to be on the crime itself, having in view the 'success', i.e. the profitability of the burglary. The literature suggests that these burglars who are concerned with planning issues do not act spontaneously or impulsively and are the more professional ones (Maguire, 1982; Bennett and

Wright, 1984; Cromwell *et al*, 1991). Shover (1991) also pointed to the lack of planning and the selection of the target on the spur of the moment as not being characteristic of professional burglars, who will work in teams and carefully plan their offences. The literature is therefore emphasising that this capacity to plan is not related to unthinking impulsive behaviour (Blackburn, 1993).

Furthermore, Walsh (1986) pointed out that the offenders who show a degree of planning would avoid unnecessary contact with and violence towards the victim. The results here agree with this notion since the group of variables relating to contact and violence towards the victim are found in the opposite side of the SSA plot to the variables referring to instrumental issues (figure 16.2.1). This implies that a desire to use an interpersonal approach to perform the burglary seem to be unrelated to the behavioural pattern associated with instrumental aspects of the crime. It is important to remember that the term 'instrumental' is used in this study in relation to behavior that include characteristics such as professionalism, planning, thinking ability, etc. This is because the literature often refers to both the instrumental and interpersonal context using different terms (see pg. 40).

The presence of the variable "£10,000" in the facet element *Instrumental* (figure 16.2.1) is showing that the planning of the crimes is also likely to be linked to the stealing of large amounts of money. Here the goal of the crime seems to be well defined and the planning is done with the aim of obtaining it. The literature also suggests a link between planning and higher financial gain. Cromwell *et al* (1991) pointed out that the more experienced and professional burglars search for properties offering greater rewards.

Shover (1991) also suggests a relationship between the experience of the offender, target selection and great rewards and also emphasised that the less professional burglars who commit spontaneous offences usually gain little for their efforts. Thus, the more professional burglars, not surprisingly, do not focus on the interpersonal aspects of the crime since their attention and efforts are directed towards the 'success' of the crime and thus profit.

The lifestyle related to the facet element *Instrumental* seems to be linked to criminality in the family since the variable “criminal family” appeared in this element. This suggests that the planning of the crimes, the use of a disguise and the selection of lucrative targets may be linked to coming from criminal families. This lends support to the hypothesis that this pattern of behaviour may refer to the learning of criminal skills from the criminal members of the family. In fact, Feldman (1993) quotes Samuel (1981) who suggested that the life histories of property offenders indicate that their criminal involvement is often initiated by relatives.

The variables “divorced parents” and “criminal family” also appear in the facet element *Instrumental* suggesting that having experienced criminality within the family and parental divorce may influence criminal behaviour, but not necessarily instigate violent behaviour during the crime, since variables expressing violent actions did not appear in the *Instrumental* element.

Another fact considered important here and emphasised before, is the role of the premises chosen as the target. It was hypothesised that the premises chosen might express the burglars’ desires in relation to the crime. In contrast to the results for the element *Interpersonal*, where houses and public-commercial premises were chosen, in the element *Instrumental*, the premises chosen were those of a purely commercial nature supported by the presence of the variables “office”, “factory” and “petrol station”. Choosing purely commercial types of premises is probably related to a higher instrumental desire and thus the search for higher reward.

The facet element *Instrumental* also contains the residential premises, flat and previously it was argued that residential premises were related to interpersonal desires. However the instrumental context of the crime is still relatable to the choice of flat because of the difficulty involved in burgling these premises. Burgling flats will demand more sophisticated skills; this is because apartment blocks are usually better protected and so are more difficult to gain access to than houses (Waller and Okihiro, 1978).

Some research has suggested that house burglary requires little skill (Scarr, 1973). Thus, because to burgle a flat will demand more sophisticated criminal skills, this choice of premises can still be linked to those more professional burglars as dealing with difficult access is a characteristic of professional burglars (see Maguire, 1982; Bennett and Wright, 1984). Most importantly in Brazil where these data were collected flats or apartments tend to be the residences of choice of the professional classes and thus represent potentially more lucrative targets and they usually have 24-hour security surveillance.

In summary, on the right side of the SSA plot (figure 16.2.1) are found the variables that reflect a focus on more instrumental aspects of the crime. The group of variables in this *Instrumental* element seems to be related to issues referring to planning and to the profitable aspects of the burglary. The variables related to contact and violence towards the victims do not appear in this region suggesting less interpersonal desire here. Also none of the variables referring to a lifestyle of addiction and violence appeared related to this instrumental pattern of behaviour.

16.5 - The Interpersonal Element as Opposed to the Instrumental Element of the Facet Burglars' Criminal Behaviour

The *Interpersonal* and *Instrumental* facet elements identified here are suggesting two main and distinct patterns of behaviour with the actions within each facet element being different in nature. The element *Interpersonal* seems to be related to behaviour/actions implying a desire to establish contact and this may involve being violent towards the victim. This interpersonal approach may also involve impulsive and spontaneous actions in relation to the crimes. In contrast the element *Instrumental* seems to be related to behaviour/actions inferring planning and a desire to obtain profit from the crime with less of a tendency to behave emotionally or spontaneously. Thus, it is being hypothesised here that actions of burglars according to these two facet elements will differ and this distinctiveness in behaviour may help in the search for their identity.

The results also imply that an interpersonal pattern of behaviour may be linked to a tendency to choose houses or public-commercial premises and this is probably because these premises provide the chance to establish contact with the victim and so satisfy interpersonal desires. In contrast an instrumental pattern seems to be more closely associated with the profitable side of the crime and thus with higher rewards which targeting purely commercial premises is more likely to provide.

Another important inference that can be drawn from these results is that firstly, some behaviour seem to be related to the choice of premises and secondly, that there will be differences in the lifestyles as well as the criminal actions related to the choice of houses and public places and the choice of purely commercial premises. For example, in relation to the element *Interpersonal*, the results demonstrate that exhibiting interpersonal desires during the execution of the crimes, which infers choosing to steal from houses and public places, may more likely relates to a lifestyle that includes drug and alcohol abuse and violence. In contrast the choice of burgling purely commercial premises, in relation to the element *Instrumental*, may be more likely linked to a less chaotic and disturbed lifestyle.

Some studies on burglary focus on typologies considering the differences between instrumental and interpersonal approach to the crime to explain distinct patterns of behaviour and to also show the possibility of differentiating between offenders on the basis of these distinct patterns of behaviours. It is important to understand that the literature often refers to the instrumental and interpersonal context using different terminologies. The term 'interpersonal' will be used here in relation to behaviour and characteristics that include expressive, impulsive, emotional, opportunistic and unplanned actions, etc. On the other hand, the term 'instrumental' will be used in relation to behaviour and characteristics that include professionalism, planning, thinking ability, etc (see pg. 40). For example, Brantingham and Brantingham (1981), concentrating on expressive (referring to a more interpersonal approach) versus instrumental crimes, pointed to the importance of examining the variations in offenders' patterns of behaviour according to these different styles of crime.

Rhodes and Conly (1981), based on the typology opportunistic versus planned offences, considered that the differences in the way the targets were selected could be related to variations in the level of impulsiveness shown by the offenders. They suggested that in spontaneous offences, where the offender is usually motivated by the desire for affection, the search for a target is limited, whereas in instrumentally motivated, planned offences, the search may be more extensive.

Other studies point out not just differences between the instrumental and interpersonal approaches to crime but also that lifestyle characteristics can be used to differentiate between distinct patterns of behaviours. Maguire (1982) suggested that offenders differ on the basis of their lifestyles and characteristics of drinking and gambling contrast with the opposing qualities of prudence, planning and consistency. Additionally, Hodge (1998) pointed out that the actual nature of the target selected may be indicative of the purpose, experience and lifestyle of the offender and this closely agrees with the findings of the present study which shows that the choice of premises could be linked to the level of experience in committing crimes and lifestyle characteristics.

Merry and Harsent (2000), focusing less on typologies and more on patterns of behaviour in relation to different facets, considered the crime of burglary from a psychological context using an empirical approach (namely SSA). They identified different patterns of behaviour in relation to a *Craft Facet*, which refers to levels of skill employed, and in relation to an *Interpersonal Facet*, which refers to levels of interpersonality displayed. According to this interesting study burglars could be related to four distinct patterns of behaviour derived from the two main facets (see chapter 3). However, this study like the majority on burglary, again just concentrated on house burglaries. Merry and Harsent (2000) also considered the interpersonal actions of the offenders towards the houses but not towards the victims that could have reinforced their hypotheses about the burglars' interpersonal desires. Additionally any variables related to lifestyle characteristics, which could also have served to reflect interpersonality displayed at the crime scene, were not considered in their study.

The problem with studies, that consider similarities or differences between the instrumental and interpersonal approaches to crime or lifestyle characteristics, is that they are often merely descriptive accounts with little or no empirical basis. These studies are very selective and for example concentrate on analysing the results for one specific type of premises; the majority of the time this is houses, or in the case of commercial burglaries against a specific premises such as shops (Mawby, 2001). In addition, these studies often ignore the psychological context involved in the crime, such as the distinct levels of interpersonality displayed which could be responsible for variations in behaviour (see Alison *et al*, 2000).

With the aim of filling in some of these gaps in the literature, on instrumental aspects as opposed to interpersonal desires in relation to burglary, the present study also takes into account some additional issues, such as the impact of variables referring to the selection of different premises, actions towards the victims and lifestyle characteristics. One of the hypotheses of this current study was that the variables describing the lifestyles of the burglars could be linked to levels of interpersonal or instrumental actions displayed during the crime. The SSA results showed the possibility of identifying distinct *Interpersonal* and *Instrumental* elements in relation to the facet of burglars' criminal behaviour. In fact, these distinct interpersonal and instrumental contexts when linked to the facet of burglars' lifestyle characteristics revealed even more specific elements referring to different patterns of behaviour, and these are discussed in detail next.

16.6 - The Facet of Burglars' Lifestyles

The previous SSA plot (figure 16.2.1) was divided into two facet elements referring to the facet of burglars' criminal behaviour (*Interpersonal* and *Instrumental*). This same plot when considering the facet burglars' lifestyles could be divided into four distinct elements (figure 16.6.1). These four elements are: *Family/Violence*, *Casual/Drugs*, *Family/Criminality* and *Financial/Property*.

SSA – The Elements of the Facet of Burglars' Lifestyles

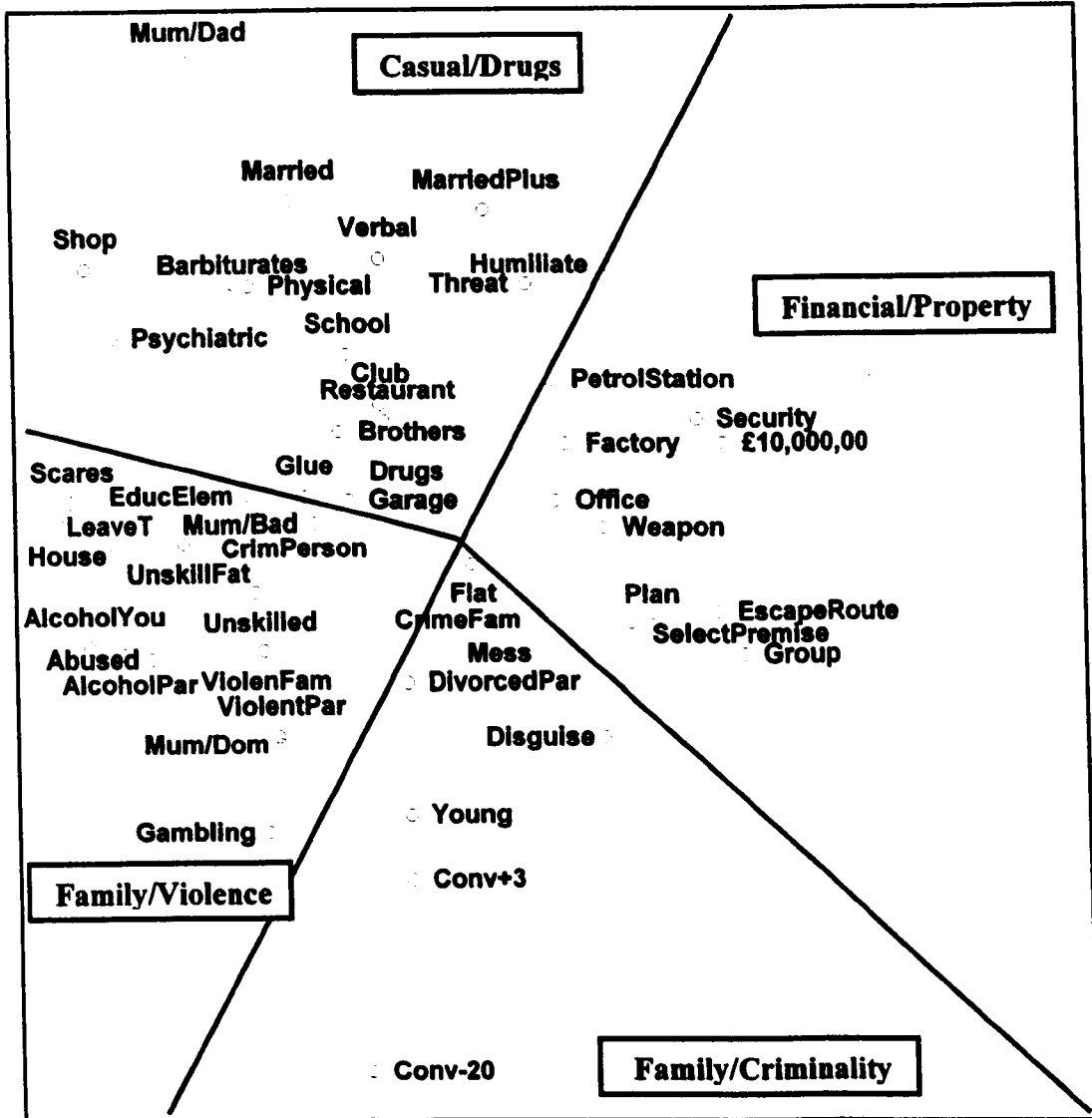


Figure 16.6.1: SSA Plot Illustrating the Facet of Burglars' Lifestyles and the Facet Elements: Family/Violence, Casual/Drugs, Family/Criminality and Financial/Property
 The sample comprises 148 subjects. The plot contains 50 variables. (see Appendix III for details of the variables).
 Coefficient of Alienation: 0.27; Vector 2 Against 1; 3D; Yule's Q.

16.6.1 - The Element Family / Violence of Burglary

In the facet element *Family/Violence* in the bottom left region of the SSA plot (figure 16.6.1) are found the variables “violent parents”, “violence family”, “abused”, “alcohol you”, “alcohol parents”, “gambling”, “unskilled”, “unskilled father”, “education elementary”, “mum dominate”, “mum-bad”, “scares”, “leave tool”, “crime person”, and “house”(see Appendix III for a description of the variables on burglary). The co-occurrence of these variables is expressing a lifestyle related to a disturbed family background and a history of violence in the family.

Thus, the pattern of variables referring to the element *Family/Violence* expresses the witnessing of violence in the family and the characteristic of having parents who were violent and verbally and physically abusive towards the offender. This is supported by the co-occurrence of the variables “violence family”, “violent parents” and “abused”. In this facet element were also the variables referring to unskilled individuals with only an elementary education as supported by the presence of the variables “unskilled” and “education elementary”.

This region of the SSA plot is also showing other characteristics of the element *Family/Violence*. For example the presence of the variables “alcohol parents” and “mum dominant” reflect the tendency to come from a family background where the mother is the dominant figure in the family and where the parents if not alcoholics nevertheless suffer from alcohol abuse. This variable referring to alcohol addiction by the parents is likely to be related to the father since in Brazil, where the data were collected, the incidence of alcohol abuse is much higher amongst men than women (see *Veja*, 1996; *Veja*, 2002). The mother is probably the dominant figure because she is the one who works and supports the family economically because alcohol addiction by the father may be damaging his job prospects.

This dominant mother may also be an absent mother because of the need to be out of the home working and this may explain why the variable “mum-bad” alluding to having a bad relationship with the mother also appears in this region of the plot.

The variables “alcohol you” and “gambling” referring to the offender also appear in this region of the plot suggesting that not just the father/parent but also the offender himself is addicted to alcohol and to gambling.

It was previously shown that suffering from parental violence was linked to violent actions towards the victim. The variable “crime person” is also found within the facet element *Family/Violence*. The presence of this variable is suggesting that related to this lifestyle of violence may be the commitment to crime against the person. Here the crime seems to be related to an interpersonal desire referring to experience with violence that may in fact culminate in the commitment of these crimes against the person. However, this is not supported here by formal evidence such as a significant correlation since SSA considers the interrelationship between the variables rather than correlations.

The variable “scare” (scaring the victim) that appears in this region of the plot implies a tendency to concentrate on the interpersonal side of the crime. Also this over attention to interpersonal desire and the lack of concern with the instrumental aspects of the crime may explain mistakes such as leaving the tool used to gain entry to the premises at the scene of the crime (variable “leave tool”). However as mentioned before (pg. 99), it is also important to understand that the distinction between interpersonal and instrumental aspects is not always clear. Thus some characteristics may be related to both aspects or to none of them. For example in this present study the characteristic of scaring the victim during the crime was related to the interpersonal context. However some would argue that this action has a clear instrumental function since it could be used to control the crime situation instead of expressing emotional actions.

Importantly, in this region *Family/Violence* was found the variable “house”. This is showing that a lifestyle of abuse and violence may be linked to the choice of houses as targets. Indeed, it was commented before (see chapter 3) that the choice of the premises house may be related to interpersonal desire, since this premises may provide an encounter between offender and victim. In addition, this type of premises

contains items of a more interpersonal nature to be stolen so reinforcing the focus on interpersonal issues. Thus, the results here are showing a link between the choice of a house and the interpersonal context, which in this specific facet element *Family/Violence* will be based on a lifestyle of abuse and violence. But it is important to understand that SSA does not consider single items as defining the region, so the grouping of the variables always needs to be considered when analysing the relationships. Indeed one item can be equally at home in other regions and so care needs to be taken when referring to a single item such the variable “house”.

Therefore in summary the choice of house to burgle co-occurring with the other variables within the element *Family/Violence* allows certain inferences to be drawn about the offending style. The choice of houses as targets is more linked to an interest in psychological gain than material gain. The lifestyle here includes experience of violence in the family and the choice of breaking into houses may be related to the desire to express violence. The results here also imply that the link with a lifestyle of violence might be particularly strong in cases where crimes against the person are committed during the burglary.

However there is not formal evidence that those who commit crimes against the person within robbery or burglary will graduate to assault people in the future. House burglary also seems linked to lifestyle characteristics such as being unskilled, poorly educated and to a propensity for alcohol and gambling and to having an unskilled alcoholic father. It would seem therefore that the search here is for a type of premises that can provide a venue for expressing interpersonal desires.

16.6.2 - The Element Casual / Drugs of Burglary

In the top left side of the SSA plot (figure 16.6.1) is the facet element named *Casual/Drugs* in which are found the variables “drugs”, “glue”, “barbiturates”, “psychiatric”, “threat”, “verbal”, “physical”, “humiliate”, “mum-dad”, “brothers”, “married”, “married plus”, “club”, “restaurant”, “school”, “shop” and “garage” (see

Appendix III for the description of these variables). The co-occurrence of these variables in this region of the plot is therefore showing a lifestyle of drug addiction and a history of psychiatric problems.

None of the variables referring to an instrumental approach to the crime appeared in this region of the plot. For example, none of the variables expressing planning or considering risk issues are present in this region. This suggests that a lifestyle of drug abuse and psychiatric problems might be linked to the committing of spontaneous and unplanned burglaries. Indeed, the literature suggests a link between drug abuse and spontaneous burglaries, which can be related to the reported excitement of young offenders when committing crime and to the need to get money to buy drugs and so continue the cycle (Cromwell *et al*, 1991).

Rhodes and Conly (1981) also emphasised that these spontaneous offences were emotionally rather than instrumentally motivated. This may explain the interpersonal actions displayed during the offences that focus on the victim as represented here by the variables “threat”, “verbal”, “physical” and “humiliate”. This group of variables reflects an approach to burglary based on threatening victims, humiliating them, verbally insulting them and physically attacking them, so reinforcing the idea that the focus seem to be on the interpersonal aspects of the crime where the victim is the central issue but the actions fall short of crimes against the person suggested by the variable “crime person” in the facet element *Family/Violence*.

However, this variable “crime person” is on the boundary between the two facet elements *Family/Violence* and *Casual/Drugs*, which are located within the element *Interpersonal* in the first SSA plot (figure 16.2.1), expressing the high interpersonal desire. Therefore caution needs to be taken when considering this variable, since it could indeed be related to both the *Family/Violence* and *Casual/Drugs* elements (see later). One item can be equally at home in different regions and so care needs to be taken when referring to a single item.

The presence of the variables “mum-dad” and “brothers” in the region *Casual/Drugs* suggests a ‘normal’ family background where the burglars lived with both parents and had siblings living with them. However, the presence of the variable “married plus” in this region implies some problems with relationships, since this variable refers to having been married more than twice and so to experiencing broken relationships.

The choice of stealing from types of public-commercial and/or small commercial premises as evidenced by the presence of the variables “school”, “club”, “restaurant”, “garage” and “shop” are found in the *Casual/Drugs* region (figure 16.6.1). Interestingly despite not referring to the choice of houses, the actions in this facet element *Casual/Drugs* may still expressed interpersonal desires by the choice of public premises that are related to an extension of peoples’ personal lives, particularly if these premises are open and the actions are in public view. Premises such as schools, clubs and restaurants are places where people go to relax and enjoy themselves.

Thus, as suggested before, the choice of premises to burgle may be linked to the offenders’ behavioural style and lifestyle characteristics. In the facet element *Casual/Drugs* a lifestyle of drugs, barbiturate abuse and/or psychiatric problems can be linked to unplanned spontaneous burglaries where public-commercial or small commercial establishments are targeted.

Thus, in summary, the interpretation of the variables in the facet element *Casual/Drugs* suggests that characterising this element may be addiction to drugs and psychiatric problems and although violent towards the victims the actions may fall short of committing serious crimes against the person. This facet element *Casual/Drugs* seems to express interpersonal desires by the choice of premises such as shops, clubs and restaurants, since these premises can be considered to represent an extension of peoples’ personal lives.

16.6.3 - The Element Family / Criminality of Burglary

Positioned at the bottom right hand side of the SSA plot is the facet element named *Family/Criminality* (figure 16.6.1) where the variables “criminal family”, “divorced parents”, “young”, “conv-20”, “conv+3”, “disguise”, “mess” and “flat” occur. The co-occurrence of the variables “divorced parents” and “criminal family” expresses a lifestyle that includes coming from a broken home and having close members of the family committing crimes. It was hypothesised in this present study that lifestyle characteristics would influence the offending pattern of behaviour. Thus by examining the lifestyle pattern in relation to criminal activities some inferences can be made about the offending style linked to the facet element *Family/Criminality*, when considering the grouping of variables.

Although none of the variables expressing high levels of disturbance in the family appeared in this region of the plot nevertheless having divorced parents did occur. More importantly, related to this facet element was the fact of coming from a family where the parents or brothers had convictions for crimes.

Despite coming from a criminal family where members that could even have committed violent crimes, it is unlikely that violent actions towards the victims during the burglaries would be related to this pattern of behaviour since none of the variables referring to violent actions towards the victims appeared in this region.

In fact, in this facet element *Family/Criminality* the focus seems to be more on the crime itself and its instrumental context than on the victims. This is supported by the presence of the variable “disguise” in this region of the plot since the use of a disguise is related to the consequences of being recognised. This preoccupation with risk is also usually related to planning and the use of disguise is considered to be a development of criminal skills since an understanding that disguise conceals and alters identity helps to prevent identification (Walsh, 1986). However, considering the SSA analysis, care needs to be taken when an interpretation is based on a single item as in this case of the variable “disguise”.

The literature also suggests that the use of a disguise, because it is related to planning, is likely to be associated with burglars who avoid the use of unnecessary violence actions towards their victims. For example, Alison *et al* (2000) supported the concept of there being no relationship between the use of disguise and the use of violence and pointed out that, in his sample, the majority of offenders who used a disguise did not use physical violence.

In the present study there was no strong link between the use of a disguise and violent acts towards the victim since the variables referring to violence towards the victim are a relatively long way from the variable “disguise”. Thus the use of a disguise implies concern with the instrumental side of the crime not with interpersonal aspects that involves contact with the victims.

The behavioural pattern linked to the facet element *Family/Criminality* also seems to suggest self-control and less emotional-interpersonal actions since none of the variables showing impulsiveness referring to a lifestyle of addiction to drugs, alcohol or gambling appeared in the *Family/Criminality* region.

Related to this element also seems to be a concentration on the replication of existing criminality within the family. It appears that the focus is on the development of criminal skill rather than on reproducing violence and this may be because of a lack of experience with violence within the family. Thus, it is being hypothesised that the observed criminality within the family, because of the lack of experience with violence, may promote actions of a much more instrumental-criminal nature than those of an emotional-impulsive context.

The grouping of variables in the *Family/Criminality* element also shows that the early experience of criminality within the family may also explain the early start to a criminal career evidenced by the fact of having been in institutions for young offenders (variable “young”). Another fact, which supports an early start to a criminal career, is that of having received a first conviction when less than 20 years old (variable “conv-20”).

The results from the present study also show that related to the facet element *Family/Criminality* seems to be a strong commitment to a life of crime. This is being implied by the presence of the variable “conv+3” which refers to the offenders having at least three convictions and thus a history of several arrests. Indeed, the literature suggests that a history of several arrests is linked to a strong commitment to crime (see Petersilia *et al*, 1977).

Contrary to what might be expected, a history of several arrests is associated with active criminals who are professionals and who have developed their criminal skills (Walsh, 1986). Thus, several arrests are linked to the high number of crimes committed by these criminals and not with the fact that they are less concerned with the risk of being caught. Therefore despite several arrests it is probable that the number of convictions is small in relation to the number of crimes committed.

The facet element *Family/Criminality* contains the variable “flat” referring to the fact that flats or apartments are the choice of target. This tends to reinforce the argument of having more developed criminal skills since flats are considered to be more difficult to enter (Waller and Okihiro, 1978; Tilley and Hopkins, 1998).

The presence of other variables within the facet element *Family/Criminality* could be interpreted as expressing interpersonality. For example, the variable “mess” refers here to the burglar causing a mess within the premises when committing the crime and the literature often links messing-up a property as an action of an interpersonal nature. Thus causing a mess in peoples’ property is perceived as messing up the victim’s life.

Merry and Harsent (2000) linked the action of causing mess to an explicit interpersonal quality. They referred to extensive mess, including within this variable malicious damage and unnecessary vandalism. However Maguire (1982) for example pointed out that in the vast majority of burglaries any disarrangement of property may be caused only because of the offenders’ haste. The occurrence of mess in the region *Family/Criminality* rather than in regions associated with

interpersonal desire lends support to Maguire's suggestion that mess here is related to the offenders' haste. This is why it is important to consider the grouping of variables when interpreting the results of SSA analysis.

For example the group of variables within the facet element *Family/Criminality* expressed instrumental issues and just the variables "flat" and "mess" could be argued as having some interpersonal qualities. Indeed "flat" can be linked to the instrumental context because of the relative difficulty in breaking into this type of premises. The variable "mess" can also be linked to the instrumental context because this action may be related to the offender's haste as suggested by Maguire (1982). The results in this present study are therefore showing that the focus here was on the instrumental aspects of the crime.

Thus in summary, the main issue about the lifestyle when considering the grouping of variables related to the element *Family/Criminality* is that coming from a family with a criminal history may imply that the criminal skills are probably learnt from within the family. This may also explain the start of the criminal career at an early age. The criminal influence of the family may support the strong commitment to crime, and this commitment is also supported by the fact of having a history of several arrests and numerous convictions.

Despite coming from a criminal family, the lifestyle does not seem to be related to emotional-impulsive experiences with drugs and alcohol or with violence in family. Unnecessary violent acts towards the victims in order to satisfy explicit interpersonal desires that seem to be related to a lifestyle of addictions, abuse and violence were not related to the element *Family/Criminality*.

16.6.4 - The Element Financial / Property of Burglary

The facet element *Financial/Property* refers to a group of variables occurring in the top right side of the SSA plot (figure 16.6.1). In this region were found the variables “£10,000”, “plan”, “weapon”, “select premise”, “escape route”, “group”, “security”, “office”, “petrol station” and “factory” (see Appendix III for a description of these variables). The lifestyle here seems related to one of financial gain from the burglaries and this is the only life known. The approach to crime is completely instrumental and the aim is to make the burglaries ‘successful’ and highly profitable. Therefore the emphasis here is on the monetary gain and rational nature of the crime. These burglars represent the elite.

The capacity to plan crimes carefully seems to be the main characteristic here as the variable “plan” is found within this region *Financial/Property*. The ability to plan probably comes with experience of committing burglaries as several studies that have considered levels of planning when categorising burglars have suggested. For example the *high-level* burglars identified by Maguire (1982) and the *professional* burglars identified by Cromwell *et al* (1991) showed the same characteristic of careful planning as those related to the facet element *Financial/Property* here. Importantly, the capacity to plan seems to keep these burglars away from taking impulsive, unthinking actions and committing opportunistic crimes, facts supported in general by the literature (Bennett and Wright, 1984; Cromwell *et al*, 1991; Blackburn, 1993).

Maguire (1982) emphasised that a lifestyle of drinking and gambling contrasted with the opposing qualities of prudence, planning and consistency. It was hypothesised in this present study that the lifestyle is brought to the crime situation and influences the overall behavioural pattern, so it is important to observe that in fact none of the variables such as addiction to drugs, alcohol and gambling that reflect an impulsive lifestyle appeared in this *Financial/Property* region of the SSA.

Another issue that seems to contrast with these planners and so less impulsive burglars is the use of gratuitous violence towards the victims during the commitment of the crimes. Indeed, the results of this present study showed that none of the variables referring to violent actions towards the victim (such as “physical”, “verbal”, “threat”) appeared in the *Financial/Property* element.

Walsh (1986) pointed out that offenders who usually plan their crimes avoid the use of violence. Katz (1988) also emphasised that more professional offenders who plan their crimes avoid the use of violence. As mentioned before, the focus of these burglars seem to be on the financial reward the crime will provide and so would consider it a diversion to become involved with emotional issues that could detract from a ‘successful’ profitable crime.

None of the variables related to experiencing violence that was hypothesised here as possibly instigating violent actions towards the victim appeared in the *Financial/Property* region and none of the variables referring to a lifestyle of addiction to alcohol, drugs and gambling are related to this facet element.

The behavioural pattern related to this facet element may include having a better level of education and skills and to have a skilled father, and this is supported by the absence of the variables “elementary education”, “unskilled” and “unskilled father” within this element. Thus characterising the facet element *Financial/Property* were better organisation when committing the crimes and better-organised lifestyles.

The literature in general considers the ability to plan events as an expression of the individuals’ cognitive skills and thinking patterns (Blackburn, 1993). Thus burglars who plan their crimes can be expected to have better developed cognitive skills and thinking patterns that consider the overall crime situation (see pg. 40). For example related to this element *Financial/Property* are the careful selection of the premises to be targeted and the preparation of escape route, facts that are supported by the presence of the variables “plan”, “select target” and “escape route” appearing close to one another in this facet element *Financial/Property*. Several studies in the

literature suggest extensive and careful target selection and the preparation of escape routes as being related to experienced, “planner burglars” (Rhodes and Conly, 1981; Bennett and Wright, 1984; Cromwell *et al*, 1991; Shover, 1991).

The planning of offences also seems to be linked to the profitability of the crime and this is supported in the present study by the presence of the variable “£10,000” in the *Financial/Property* region inferring the stealing of large amounts of money. The literature also found that those offenders who plan their crimes are the ones who make crime highly profitable. Cromwell *et al* (1991) pointed to the increased expectations of reward in the case of those burglars who plan their crimes.

Merry and Harsent (2000) also found that “high craft” ability, which in other studies is referred to as planning (see pg. 40), is related to burglars who steal high-value property. Shover (1991) emphasised that lower rewards could be linked to burglars who do not plan their crimes and commit spontaneous offences. Feldman (1993) suggested that bigger prizes are sought and won by the more competent offenders with these burglars being the planners.

Other characteristics that seem to be related to planning in the *Financial/Property* region were the use of a weapon and the committing of burglaries in groups as demonstrated here by the presence of the variables “weapon” and “group”. In relation to working in groups, several studies support the idea that these planners, the more professional burglars, tend to work in-groups. Shover (1991), expanding on Maguire’s study (1982), emphasised that *high-level* burglars work in teams basically because of the complex tasks related to stealing from the target premises. Donald and Wilson (2000) also suggested that the committing of offences in teams was associated with well-planned crimes and in particular to ram-raiding burglaries. Mawby (2001; pg. 75) stated “for domestic burglary the general consensus is that most burglars operate alone”. He also added that professional, well-planned burglaries, committed by groups seemed to be related to commercial premises and indeed discussed the working in groups issue in his chapter on commercial burglary.

Other studies also support a link between the use of a weapon and the more professional, planning burglars (MacDonald, 1975; Cook, 1976; Feeny, 1986; Skogan, 1977; Pratt, 1980). Importantly, the majority of the studies agree that the more experienced, professional offenders use firearms rather than knives or no weapon at all (Cook, 1982; Skogan, 1977; Pratt, 1980; Lobato, 2000). Furthermore the use of weapons, particularly guns, is more closely linked to burglaries from commercial premises rather than residential ones (Conklin, 1972). The US National Crime Panel (1973) reported that weapons were used in about 79% of commercial burglaries as opposed to 46% for domestic burglaries and that firearms were the choice of weapon in 64.1% of the commercial burglaries and in only 19.4% of house burglaries. Feeny (1986) found that in 90% of commercial burglaries a weapon was used and that in a majority of the cases it was a firearm. Possibly more importantly, the majority of the studies on weapon use also concluded that there was a strong negative correlation between the use of a weapon, especially firearms, and the use of physical force and violence (Conklin, 1972; Block, 1977). Lobato (2000; pg. 136) found that in instrumental crimes a firearm was more likely to be used and that in this case “the weapon is a tool to facilitate the crime” not to cause injuries. Block (1977) and Skogan (1977) also found that as the lethal nature of the weapon decreased, violence increased. They explained that the absence of a weapon might lead to more victim resistance than in offences involving the use of a weapon, particularly firearms.

In other words, those offenders who use a weapon, particularly firearms, are less likely to cause injuries to the victim because the weapon is usually enough to intimidate the victim and reduce their resistance so removing the need for violence (Haran, 1984). Thus it can be summarised that:

- a) Weapons are frequently associated with planned offences;
- b) This is reinforced when considering commercial burglaries;
- c) The choice of weapon is usually a firearm; and
- d) Importantly, there is a negative correlation between the use of a weapon, particularly firearms, and violent actions displayed by the offenders.

The results of this present study support the findings in the literature by showing a relationship between planning, the use of a weapon and the tendency to work in groups. The results also showed no strong link between violent actions and the use of a weapon and working in groups. The lack of variables referring to violence towards the victim in the *Financial/Property* region close to the variables “weapon” and “group” support this. Also there was no link between the use of the weapon, working in groups and a lifestyle of violence, since none of the variables reflecting a lifestyle of violence appeared in this region of the plot.

In the present study the grouping of the variables in the region *Financial/Property* suggested that the characteristics of planning the crime, going for high reward, carefully selecting the target, preparing escape routes, using a weapon and working in groups, may be associated with the choice of purely commercial premises since the variables “office”, “petrol station” and “factory” (see Appendix III for variables’ description) were also found in this *Financial/Property* element.

Thus, according to the pattern of behaviour discussed before, it can be inferred that the choice of purely commercial premises is likely not linked to unnecessary use of violence towards the victims during the crimes and that the lifestyle here seems not likely to be linked to experience with violence, alcohol and drug abuse. It is also more likely to be linked to the burglars having skilled fathers, and to being skilled and better educated.

In summary, by examining the co-occurrence of the variables it was possible to identify certain patterns of actions and lifestyle characteristics related to the facet element *Financial/Property*. The planning ability was linked to maximising the profit from the burglaries, which seem to be the focus of the burglars’ efforts. Also exhibited were professional actions and developed criminal skills rather than emotional and violent, unthinking actions. Thus, in relation to the behavioural pattern referring to the facet element *Financial/Property* the general lifestyle and criminal lifestyle characteristics seem to combine to produce instrumental rather than interpersonal behaviour, both inside and outside the crime situation.

As mentioned at the beginning of this chapter (pg. 222) it is important now to consider more closely the variables that change regions when considering the SSA analyses for robbery compared to burglary and discuss what logical, relevant changes in meaning may be implied by their change of region.

The variables “married” and “married plus” moved from the facet element *Family/Violence* of robbery to the facet element *Casual/Drugs* of burglary and the variable “scare” moved from the facet element *Casual/Drugs* of robbery to the facet element *Family/Violence* of burglary (see Appendix II and III for description of these variables).

However, the impact of these moves does not seem to be very significant to the framework for testing the hypotheses formulated by this present study (chapter 8, section 8.1). This is because these variables primarily formed the facet element *Interpersonal* that is related to both the elements, *Family/Violence* and *Casual/Drugs* (see figures 11.2.1, 11.6.1, 16.2.1 and 16.2.1). Indeed, the facet element *Interpersonal* expresses an interpersonal approach to the crime, for example, referring to the desire to establish contact with their victims during the crimes. Thus as a whole there is a desire to have contact with people based on ill-formed relationships (see Narrative Theory, pg. 223). This thematic is well expressed here by the variables “married”, “married plus” and “scare”. Thus, these variables might move between the facet elements *Family/Violence* and *Casual/Drugs* without affecting the meaning of the thematic interpersonal expressed by both the facet elements *Family/Violence* and *Casual/Drugs*.

Indeed, there was no significant changes in the meaning of the thematic of these facet elements also because of the less extreme nature of these variables corresponding to being married or having been married many times compared with having violent parents, witnessing violence in family, having alcoholic parents (i.e. the variables “violent parents”, “violence family” and “alcohol parents”, respectively) that did not move position on the SSA plots between robbery and burglary (see figure 11.6.1 and 16.6.1).

The variable “plan” moved from the facet element *Family/Criminality* of robbery to the facet element *Financial/Property* of burglary and the variables “conv-20” and “conv+3” moved from the facet element *Financial/Property* of robbery to the facet element *Family/Criminality* of burglary (see Appendix II and III for a description of these variables).

The impact of these moves again did not seem to be very significant to the hypotheses formulated by this present study (chapter 8, section 8.1) because these variables primarily formed the facet element *Instrumental* which expresses an instrumental approach to the crime that is related to both the elements, *Family/Criminality* and *Financial/Property* (see figures 11.2.1, 11.6.1, 16.2.1 and 16.2.1).

Indeed, the facet element *Instrumental* expresses an instrumental approach to crime referring mainly to the commitment to a criminal life and to the planning of the offences. This thematic is well expressed here by the variables “plan”, “conv-20” and “conv+3”. Thus, it would be expected that some variables might move between the facet elements *Family/Criminality* and *Financial/Property* because both refer to the facet element *Instrumental*.

The variables “mum/dad” and “brothers” moved from the facet element *Family/Violence* of robbery to the facet element *Casual/Drugs* of burglary (see Appendix II and III for these variables). However, this has no impact basically because of the general nature of these variables.

The characteristics of living with both parents and brothers when a child was common across the study sample as a whole (“mum/dad”= 80%; “brothers”= 80%) and so could be positioned by the SSA analyses in any facet element without damaging the meaning of the thematic of the facet elements identified by the SSA analyses.

CHAPTER 17

ASSOCIATIONS OF THE VARIABLES ON BURGLARY

17.1 - The Strength and Prediction of the Associations on Burglary

The programme Smallest Space Analysis (SSA) shows the overall relationship between the variables and deals with a pattern of relative relationships so some relationships can be weak. However, to deal with this problem it is usual practice to use other statistical tests. Firstly, here, the relationships between the variables within each of the facet elements were examined using the Phi coefficient of correlation, to test the strength of the associations between the variables, and then Binary Logistic Multiple Regression Analysis, to predict the value of a dependant variable in relation to the independent variables. Secondly, the relationships between variables across the facets elements were examined using the Point-biserial correlation test. In this way the strength of the partitions suggested by the SSA plot could be tested and also it could be verified which variables, if any, influenced facet elements other than the one they were allocated (chapter 8 for the details on the statistical tests).

17.2 - The Strength of the Associations Within the Facets Elements of Burglary

In this section the correlations between the variables within each of the facet elements of burglary are examined to identify which variables are important in defining each of the SSA elements. To examine the significant correlations between the variables within the elements the Phi coefficient was used and to estimate the impact of the variables on the elements Regression Analysis was used (see chapter 8 for details).

17.2.1 - Associations Within the Element Family/Violence of Burglary

In the SSA structure the facet element *Family/Violence* on burglary contains the variables “house”; “leave tool”; “educem”; “unskilled”; “unskilled father”; “mum/dom”; “mum/bad”; “violent parents”; “violence family”; “abused”; “alcohol parents”; “alcohol you”; “gambling”; “scare” and “crime person” (see Appendix III for description of these variables).

The grouping of these variables in the SSA structure suggested that the main feature of this element would be experience with violence and abuse in the family, addiction to alcohol and gambling, having only an elementary level of education and being unskilled, the committing of crimes against the person and the choice of houses as the target premises.

Within the facet element *Family/Violence* there are significant correlations between the variable “violent parents” and the variables “violence family”, “abused”, “alcohol parents”, “alcohol you” and “gambling”; between the variable “violence family” and the variables “abused”, “alcohol parents”, “alcohol you”; between the variable “abused” and the variables “alcohol parents”, “alcohol you”; between the variable “alcohol parents” and “alcohol you” and between the variable “alcohol you” and “gambling” (table 17.2.1). Thus, as suggested by the SSA structure, violence, abuse in the family and addiction to alcohol and gambling are characteristics that form the behavioural pattern of the element *Family/Violence*.

There are also significant correlations between the variable “mum/bad” with the variables “violent parents” and “house”, showing that having a bad relationship with the mother is related to having violent parents and that this bad relationship with the mother is probably related to the choice of houses as the target premises. Thus, as suggested by the SSA structure, a possible interpersonal desire is related to the choice of houses and the lifestyle characteristic of having a bad relationship with the mother. The significant correlation between the variables “mum/dom” and “unskilled” suggests that the individual who comes from a family where the mother

is the dominant figure is likely to be unskilled. This may be because the dominant mother needs to work outside the home and so gives less attention to the children's formal education.

Furthermore the significant correlations between the variable "educem" with the variables "unskilled" and "unskilled father"; and between the variables "unskilled" and "unskilled father" suggest there is a relationship between having only an elementary level of education and being unskilled and with having an unskilled father.

The SSA structure, referring to the facet element *Family/Violence*, suggested that having only an elementary education and being unskilled could influence the criminal actions of the burglar, because these may affect his thinking pattern. In fact it can be observed that there are significant correlations for example between the variable "leave tool" and the variables "educem", "unskilled" and "unskilled father". Thus, the burglars who leave the tools used to break-in at the scene of the crime are likely to be those who are unskilled and poorly educated, lifestyle characteristics that are likely to influence their capacity to think effectively since mistakes like leaving a tool at the crime scene may increase the risk of apprehension.

There are significant correlations within this facet element *Family/Violence* between the variables reflecting lifestyle characteristics with the variables referring to criminal actions. For example, there are significant correlations between the variable "scare" and the variables "abused", "alcohol parents" and "alcohol you" suggesting that those robbers who use the approach of scaring their victims during the crimes are probably the ones who had suffered from parental abuse, had parents addicted to alcohol and who were addicted to alcohol themselves. Therefore having felt threatened themselves may be why these criminals learned that making others feel scared is a way of controlling people.

Table 17.2.1 - Significant Correlations Between the Variables Within the Element Family/Violence of Burglary

Variables	House	Leave Tool	EducElem	Unskilled	Unskilled Father	Mum/Dom	Mum/Bad	Violent Parents	Violence Family	Abused	Alcohol Parents	Alcohol You	Gambling	Score	Crime Person
House	—	—	—	—	—	—	0.18*	—	—	—	—	—	—	—	0.22**
Leave Tool	—	—	0.16*	0.18*	0.20**	—	—	—	—	0.20**	—	—	—	—	—
EducElem	—	0.16*	—	0.72**	0.25**	—	—	—	—	—	—	—	—	—	—
Unskilled	—	0.18*	0.72**	—	0.35**	0.20**	—	—	—	—	—	—	—	—	—
Unskilled Father	—	0.20**	0.25**	0.35**	—	—	—	—	—	—	—	—	—	—	—
Mum/Dom	—	—	—	0.20**	—	—	—	—	—	—	—	—	—	—	—
Mum/Bad	0.18*	—	—	—	—	—	—	0.20**	—	—	-0.21**	—	—	—	—
Violent Parents	—	—	—	—	—	—	0.20**	—	0.57**	0.56**	0.22**	0.29**	0.17*	—	0.26**
Violence Family	—	—	—	—	—	—	—	0.57**	—	0.43**	0.36**	0.26**	—	—	0.19*
Abused	—	0.20**	—	—	—	—	—	0.56**	0.43**	—	0.32**	0.34**	—	0.24**	0.24**
Alcohol Parents	—	—	—	—	—	—	—	0.22**	0.36**	0.32**	—	0.56**	—	0.17*	—
Alcohol You	—	—	—	—	—	—	-0.21**	0.29**	0.26**	0.34**	0.56**	—	0.19*	0.22**	—
Gambling	—	—	—	—	—	—	—	0.17*	—	—	—	—	—	—	—
Score	—	—	—	—	—	—	—	—	—	0.24**	0.17*	0.22**	—	—	—
Crime Person	0.22**	—	—	—	—	—	—	0.26**	0.19*	0.24**	—	—	—	—	—

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

Importantly, it can be observed in table 17.2.1 that there are significant correlations between the variable “crime person” with the variables “violent parents”, “violence family”, “abused” and “house”. Thus, those burglars who also commit crimes against the person likely have lifestyles related to violence and abuse in their families and, interestingly, probably choose houses as their target premises because it increases the chance of contact with a victim. Therefore, as suggested by the SSA analysis, criminal activity and lifestyle characteristics seem to reflect each other.

In summary, experience with violence and abuse in family and addiction to alcohol and gambling are the behavioural characteristics that form the SSA facet element *Family/Violence*. Having only an elementary level of education and being unskilled may also influence the way the burglars commit their crimes. In fact, the correlations here on burglary are showing that the lifestyle and the criminal actions may combine to express a pattern of behaviour.

Indeed, within burglary, the committing of crimes against the person was related to a lifestyle of violence and abuse in family and the choice of houses as the premises targeted. There are not other correlations in the Phi test in relation to the element *Family/Violence*. However as explained before (pg.123) SSA is searching for the theoretical framework related to the grouping and co-occurrence of the variables under study and thus the variables represent a coherent set of interrelationships rather than significant correlations. Other statistics will be used later to verify the impact of these variables in forming the element *Family/Violence*.

17.2.2 - Associations Within the Element Casual/Drugs of Burglary

The SSA facet element *Casual/Drugs* in burglary contains the variables “school”; “restaurant”; “shop”; “club”, “garage”; “married”; “marries plus”; “mum/dad”; “brothers”; “glue”; “drugs”; “barbiturates”; “psychiatric”; “threat”; “verbal”; “physical” and “humiliate” (see Appendix III for description of these variables).

The grouping of these variables in the SSA structure suggested that the main features of this element *Casual/Drugs* would be the breaking into public-commercial premises and small shops; an approach to crime based on threatening behaviour, humiliating the victims, verbal and physical attack; a lifestyle of addiction to glue, drugs and barbiturates and a history of psychiatric treatment.

Table 17.2.2 shows significant correlations between the variables referring to the choice of different types of public-commercial premises targeted. There are significant correlations between the variable “school” with the variables “restaurant”, “club” and “garage”; between the variable “restaurant” with the variables “club” and “garage”; between the variable “club” with “garage”.

However, there are no significant correlations between the variable “shop” and the other types of target premises. With this exception the correlations between the variables referring to the types of premises chosen to burgle are confirming a preference for selecting public-commercial premises in relation to the facet element *Casual/Drugs*.

In the SSA structure a lifestyle of addiction to drugs and glue seemed to be related to characteristics such as barbiturate abuse and psychiatric treatment. In Table 17.2.2 the variable “glue” correlates significantly with the variables “drugs” and “barbiturates”. The variable “drugs” also correlates significantly with the variable “barbiturates”.

However the variable “psychiatric” does not correlate significantly with the variables “glue” and “drugs” only with “barbiturates”. Thus although the abuse of glue, drugs and barbiturates seem to form part of the same pattern of behaviour, the abuse of glue and drugs may or may not relate to a history of psychiatric treatment which is more likely to be relate to the abuse of barbiturates.

Table 17.2.2 - Significant Correlations Between the Variables Within the Element Casual/Drugs of Burglary

Variables Casual/Drugs	School	Restaur	Shop	Club	Garage	Married	Married Plus	Mum/ Dad	Brothers	Glue	Drugs	Barbitur	Psychiat	Threat	Verbal	Physical	Humiliat
School		0.35**	—	0.33**	0.33**	0.20**	—	—	—	0.22**	—	—	0.25**	—	0.18*	0.21*	—
Restaurant	0.35**		—	0.32**	0.38**	—	—	—	—	—	—	—	—	—	—	—	—
Shop	—	—		—	—	—	0.18*	—	—	—	—	—	—	—	—	—	—
Club	0.33**	0.32**	—		0.30**	—	—	—	—	—	—	—	—	0.16*	—	—	—
Garage	0.33**	0.38**	—	0.30**		—	—	—	—	0.22**	0.19*	0.20*	—	—	—	—	—
Married	0.20*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.18*	—
Married Plus	—	—	0.18*	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mum/Dad	—	—	—	—	—	—	—	0.24**	—	—	—	—	—	—	—	—	—
Brothers	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Glue	0.22**	—	—	—	0.22**	—	—	—	—	—	0.34**	0.38**	—	—	0.20*	—	—
Drugs	—	—	—	—	0.19*	—	—	—	—	0.34**	—	0.30**	—	0.19*	—	—	—
Barbiturates	—	—	—	—	0.20*	—	—	—	—	0.38**	0.30**	—	0.24**	—	—	—	—
Psychiatric	0.25**	—	—	—	—	—	—	—	—	—	—	0.24**	—	—	0.19*	—	—
Threat	—	—	—	0.16*	—	—	—	—	0.20*	—	—	—	—	—	—	—	—
Verbal	0.18*	—	—	—	—	—	—	—	—	0.20*	—	—	0.19*	—	—	0.27**	0.22**
Physical	0.21*	—	—	—	—	0.18*	—	—	—	—	—	—	—	0.27**	—	—	0.21*
Humiliate	—	—	—	—	—	—	—	—	—	—	—	—	—	0.22**	0.21*	—	—

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

Indeed when considering the variables “glue”, “drugs”, “barbiturates” and “psychiatric” in relation to criminal activity some peculiarities can be observed in table 17.2.2. The variable “glue” correlates significantly with the variables “school”, “garage” and “verbal”. This suggests that a lifestyle of glue sniffing may be related to breaking into schools and garages, and to verbally attacking the victim during the crimes. The significant correlations between the variable “drugs” and the variables “garage” and “threat” imply that the abuse of drugs can be related to breaking into the commercial premises garage using threatening behaviour but not to burgling public premises such as schools.

Still in relation to criminal activity, within the element *Casual/Drugs*, it can be observed that the variable “barbiturates” correlates significantly with the variable “garage” and that the variable “psychiatric” correlates significantly with the variables “school” and “verbal” (table 17.2.2). Thus, breaking into a garage may be related to the abuse of barbiturates but not necessarily to psychiatric treatment. However breaking into a school correlates with a history of psychiatric treatment and may also involve verbal attack during the crime. Thus to an extent it could be inferred that breaking into commercial premises may be related to the abuse of barbiturates whilst the breaking into public premises may relate more to psychological disturbance involving a history of psychiatric treatment.

When considering the burglars’ approach towards their victims, the variable “threat” does not correlate with any other variable referring to the approach to the crime. However there are significant correlations between all the other variables namely, “verbal”, “physical” and “humiliate”.

When considering the approach to crime in relation to lifestyle and criminal activity the variables referring to the choice of premises targeted some other correlations can be observed. The variable “threat” correlates significantly with the variables “club” and “drugs”; the variable “verbal” correlates with the variables “school”, “glue” and “psychiatric” and the variable “physical” correlates with the variable “school”. Thus breaking into clubs is probably related to a lifestyle of drug abuse

and to threatening the victim. Breaking into schools may involve verbal and physical attack but when verbal attack is used it is more likely to be related to the use of drugs and to a history of psychiatric treatment.

Thus, in summary, a lifestyle of abuse involving glue, barbiturates and drugs can be confirmed as a pattern related to the element *Casual/Drugs*, as was suggested by the SSA structure as can the approach of threatening, humiliating, verbal and physical attack the victim. Thus, all these characteristics seem to form the behavioural pattern of this facet element despite some anomalies in the correlations. Furthermore as previously stated SSA is searching for the theoretical framework related to the grouping and co-occurrence of the variables under study and thus the variables represent a coherent set of interrelationships rather than significant correlations.

17.2.3 - Associations Within the Element Family/Criminality of Burglary

The SSA facet element *Family/Criminality* of burglary contains the variables “flat”; “disguise”; “mess”; “conv-20”; “conv+3”; “young”; “criminal family” and “divorced parents” (see Appendix III for the descriptions of these variables). The grouping of these variables suggested that the main feature of this element would be the targeting of the type of residential premises flat, an early start to a criminal career and being part of a criminal family.

Correlations between the variables forming the facet element *Family/Criminality* are presented in table 17.2.3. There are significant correlations between the variable “mess” with the variables “flat”, “disguise” and “criminal family”. Thus, causing a mess to the property burgled can be related to the choice of flat, being part of a criminal family, and to the use of a disguise to commit the crimes and hence to the consideration of the risk of apprehension. As mentioned previously when examining the SSA structure, in the literature some researchers argued that causing a mess to the premises is a rational action, whilst others contradict this assumption suggesting instead that it is an impulsive irrational action (see chapter 16).

In this study causing a mess to the property would be seem to be a rational action because it correlates significantly with the use of a disguise which is considered a planning issue; with being part of a criminal family and so is related to learning from within the family and to burgling flats which are considered more complicated to break into than houses so demanding more developed criminal skills.

There are also significant correlations between the variable “young” and the variables “conv+3” and “divorced parents”. Thus an early beginning to a criminal career is probably related to a lifestyle characteristic of coming from a broken family and to the criminal characteristic of having many convictions for crimes.

Indeed there is also a significant correlation between the variable “young” and “conv+3” confirming the relationship between an early beginning to a criminal career and to having many convictions.

There are no other significant correlations between the variables within the facet element *Family/Criminality*. However, the lack of significant correlations does not mean that the SSA structure, in relation to this element should be ignored.

This is because, as explained before, SSA is looking for a theoretical framework related to the co-occurrence of the variables that is based on the rank order of the variables rather than on strong significant correlations. For example there are no significant correlations between the variable “criminal family” and the other variables of criminal actions and it was suggested before, when examining the SSA structure, that these variables would be important in defining this facet element *Family/Criminality*.

Table 17.2.3 - Significant Correlations Between the Variables Within the Element Family/Criminality of Burglary

Variables	Flat	Disguise	Mess	Conv-20	Conv+3	Young	Divorced Parents	Criminal Family
Flat	—	—	0.21**	—	—	—	—	—
Disguise	—	—	0.21**	—	—	—	—	—
Mess	0.21**	0.21**	—	—	—	—	—	0.23**
Con-20	—	—	—	—	—	—	—	—
Conv+3	—	—	—	—	—	0.22**	—	—
Young	—	—	—	—	0.22**	—	0.17*	—
Divorced Parents	—	—	—	—	—	0.17*	—	—
Criminal Family	—	—	0.23	—	—	—	—	—

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

17.2.4 - Associations Within the Element Financial/Property of Burglary

The facet element *Financial/Property* of burglary contains the variables “office”; “factory”; “petrol station”; “plan”; “weapon”; “escape route”; “£10,000”; “select premise”; “group” and “security” (see Appendix III for the descriptions of these variables).

The SSA structure suggested that the main features of the facet element *Financial/Property* would be breaking into purely commercial premises such as offices, factories and petrol stations; the stealing of large amounts of money; the planning of the crimes, involving the use of a weapon, careful selection of the premises and working in groups. The offenders would also have experience of having been in maximum-security prisons.

Table 17.2.4 shows that there are significant correlations between the variable “office” with the variables “factory” and “petrol station” and between the variable “factory” and the variable “petrol station”. These correlations further confirm the notion that breaking into these purely commercial premises is related to the behavioural pattern of the facet element *Financial/Property*.

Table 17.2.4 shows that there are significant correlations between the variable “plan” with the variables “weapon”, “escape route”, “£10,000” and “select premise”; between the variable “weapon” with the variables “escape route” and “select premise”; between the variable “escape route” with the variables “£10,000” and “select premise”; and between the variable “£10,000” with the variable “select premise”.

Thus these correlations lend support to the suggestion from the SSA plot that the planning of the crimes, the use of a weapon, the preparation of escape routes previous to the crime, the stealing of large amounts of money and the careful selection of the premises targeted are characteristics that are likely to form a distinct behavioural pattern, which here refers to the facet element *Financial/Property*.

There are also significant correlations between the variables referring to the choice of purely commercial premises and those variables referring to planning issues. For example there are significant correlations between the variable “office” and the variables “plan”, “weapon”, “escape route”, “£10,000” and “select premises” and these same variables and “factory”.

Thus, breaking into purely commercial premises involves the planning of the crime, the use of a weapon, the preparation of escape routes, the stealing of large amount of money and the careful selection of the premises targeted.

Burgling petrol stations seems to reflect a lower level of planning than breaking into offices and factories since there are significant correlations between the variable “petrol station” and the variables “weapon”, “£10,000” and “select premises” but no significant correlations between “petrol station” and the variables “plan” and “escape route”.

Thus, breaking into petrol stations is likely to involve the use of a weapon, the stealing of large amounts of money and the careful selection of the premises, but does not necessarily involve very elaborate planning.

Table 17.2.4 shows significant correlations between the variables “group” and “security”. The variable “group” also correlates significantly with “plan”, “weapon”, “escape route”, “£10,000” and “select premise”.

Thus, working in groups to commit crimes is linked to the planning of the crime, to the use of a weapon, to the preparation of escape routes, to the stealing of large amounts of money and to the careful selection of the premises.

The variable “security” correlates significantly with the variables “£10,000” and “select premises”. Thus the stealing of large amounts of money and the careful selection of the premises target seems to be related to those burglars who have experience with maximum-security prisons.

Table 17.2.4 - Significant Correlations Between the Variables Within the Element Financial/Property of Burglary

Variables	Office	Factory	Petrol Station	Plan	Weapon	Escape Route	£10,000	Select Premise	Group	Security
Office		0.37**	0.22**	0.22**	0.19*	0.26**	0.27**	0.28**	—	—
Factory	0.37**		0.27**	0.18*	0.21*	0.18*	0.19*	0.23**	—	—
Petrol Station	0.22**	0.27**		—	0.32*	—	0.27**	0.22**	—	—
Plan	0.22**	0.18*	—		0.16*	0.55**	0.21*	0.44**	0.27**	—
Weapon	0.19*	0.21*	0.32**	0.16*		0.29**	—	0.30**	0.20*	—
Escape Route	0.26**	0.18*	—	0.55**	0.29**		0.28**	0.53**	0.23**	—
£10,000	0.27**	0.19*	0.27**	0.21*	—	0.28**		0.37**	0.18*	0.24**
Select Premise	0.28**	0.23**	0.22**	0.44**	0.30*	0.53**	0.37**		0.29**	0.20*
Group	—	—	—	0.27**	0.20*	0.23**	0.18*	0.29**		—
Security	—	—	—	—	—	—	0.24**	0.20*	—	—

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

However, at this point it is important to point out some peculiarities referring to the characteristic of working in groups to commit the robberies (variable “group”) and to the characteristic of having being in maximum-security prisons (variable “security”).

These variables “group” and “security” do not correlate significantly with the variables referring to the choice of the purely commercial premises offices, factories and petrol stations.

Thus, the characteristics of working in groups to commit burglary and/or the characteristic of having being in maximum-security prisons may or may not relate to the breaking into of purely commercial premises. In fact working in groups and having been in maximum-security prisons seemed to be linked more closely with planning issues as discussed before.

Thus, and in summary, the many significant correlations between the variables of the facet element *Financial/Property* tend to confirm the SSA structure of this element but with some peculiarities in the relationships between certain of the variables.

The lack of other correlations between the variables representing this facet element *Financial/Property* is because SSA is searching for the theoretical framework related to the grouping of the variables and thus the variables represent a coherent set of interrelationships even if there are no significant correlations.

17.3 - The Prediction of the Associations Between the Variables of Burglary

Previously, the strength of the associations between pairs of variables was determined by calculating the correlation coefficients. In this section the presence of associations between the variables will be examined using Regression Analysis (see chapter 8, methodology, for details on Regression Analysis).

17.3.1 - Predicted Associations of the Element Family/Violence of Burglary

In the facet element *Family/Violence* the Regression Analysis showed an association between the criterion variable “crime person” and the variables “house” ($p < .01$) and “violent parents” ($p < .005$). These variables describe the variable “crime person” and explain 14% of its variance ($\text{crimeperson} = .92\text{house} + 1.12\text{violentparents}$; $R^2 = .14$). Thus, considering the burglary sample, the committing of crime against the person associates with having violent parents and the choice of houses as the target premises.

When considering the criterion variable “leave tool” there is association between this and the variables “unskilled” ($p < .01$) and “abused” ($p < .01$), with these variables explaining 12% of the variance of the variable “leave tool” ($\text{leavetool} = 1.25\text{unskilled} + .97\text{abused}$; $R^2 = .12$). Thus, the mistake of leaving the tool used to break into the property at the crime scene associates with the characteristic of being unskilled and having abusive parents.

In the element *Family/Violence* the criterion variable “violent parents” showed an association with the variables “mum/dom” ($p < .05$), “mum/bad” ($p < .005$), “violence family” ($p < .0001$) and “abused” ($p < .0001$). These variables explained 61% of the variance of the variable “violent parents” ($\text{violentparents} = -1.39\text{mum/dom} + 2.58\text{mum/bad} + 3.00\text{violencefamily} + 2.24\text{abused}$; $R^2 = .61$). Thus, there is an association between having violent parents and have witnessed violence in family, being abused by the parents (physically, verbally and emotionally) and a bad relationship with the mother, but having the mother as the dominant figure in the family decreased the chance of having violent parents.

The results also showed that there is association between the criterion variable “violence family” and the variables “mum/dom” ($p < .005$), “violent parents” ($p < .0001$) and “alcohol parents” ($p < .0001$), with these variable accounting for 52% of the variance of the variable “violence family” ($\text{violencefamily} = -1.85\text{mum/dom} + 3.10\text{violentparents} + 1.62\text{alcoholparents}$; $R^2 = .52$). Thus, there is an association

between having witnessed violence in family and having alcoholic and violent parents, but having the mother as the dominant figure in the family decreased the chances of witnessing violence in family.

The criterion variable “abused” associated with the variables “violent parents” ($p < .0001$), “alcohol parents” ($p < .01$) and “scare” ($p < .05$) which explained 46% of its variance ($\text{abused} = 2.67\text{violentparents} + 1.15\text{alcoholparents} + 1.74\text{scare}$; $R^2 = .46$). Thus, parental abuse associates with having violent and alcoholic parents and with using the approach of scaring the victim during the crimes.

When considering “mum/bad” as the criterion variable there is association between this variable and the variables “house” ($p < .01$), “violent parents” ($p < .005$) and “alcohol parents” ($p < .0001$) that explains 38% of its variance ($\text{mum/bad} = 2.09\text{house} + 2.02\text{violentparents} + 9.71\text{alcoholparents}$; $R^2 = .38$). Thus there is association between having a bad relationship with the mother and having violent and alcoholic parents.

With “unskilled” as the criterion variable, the variables “educelem” ($p < .0001$) and “unskilled father” ($p < .005$) explain 62% of its variance ($\text{unskilled} = 11.31\text{educelem} + 1.72\text{unskilledfather}$; $R^2 = .62$). Thus, there is association between being unskilled, having an elementary level of education and having an unskilled father.

In the case of the criterion variable “alcohol parents” there is association between this variable and the variables “mum/bad” ($p < .005$), “violence family” ($p < .0001$) and “alcohol you” ($p < .0001$), which explain 49% of the variance of the variable “alcohol parents” ($\text{alcoholparents} = 9.10\text{mum/bad} + 1.55\text{violencefamily} + 2.59\text{alcoholyou}$; $R^2 = .49$). Thus, having alcoholic parents associates with having a bad relationship with the mother, witnessing violence in the family and being an alcoholic.

The criterion variable “alcohol you” associates with the variables “violent parents” ($p < .01$) and “alcohol parents” ($p < .0001$). These variables account for 42% of its variance ($\text{alcoholyou} = 1.08\text{violentparents} + 2.60\text{alcoholparents}$; $R^2 = .42$). Thus being addict to alcohol associates with having violent and alcoholic parents.

With the variable “gambling” as the criterion variable the only association was with the variable “alcohol you” ($p < .05$), with this variable explaining only 5% of the variance ($\text{gambling} = .87\text{alcoholyou}$; $R^2 = .05$). However, despite the low frequency of the variance, there is an association between being addicted to gambling and being addicted to alcohol.

Thus the results of the Regression Analyses in general supported the SSA structure of the element *Family/Violence* and the significant associations that could be identified (see also chapter 17, Phi test, table 17.2.1).

17.3.2 - Predicted Associations of the Element Casual/Drugs of Burglary

In the element *Casual/Drugs* Regression Analysis showed an association between the criterion variable “school” and the variables “restaurant” ($p < .05$), “clubs” ($p < .01$), “garage” ($p < .05$), “married” ($p < .01$) and “psychiatric” ($p < .005$). These variables describe 41% of the variance of the variable “school” ($\text{school} = 1.20\text{restaurant} + 1.58\text{club} + 1.26\text{garage} + 1.56\text{married} + 1.53\text{psychiatric}$; $R^2 = .41$). Thus the results of the burglary sample are showing that breaking into schools associates with breaking into the restaurants, clubs and garages, with being married and with a history of psychiatric treatment.

When considering the variable “garage” as the criterion variable there is association between this variable and the variables “restaurant” ($p < .0001$), “club” ($p < .05$) and “glue” ($p < .01$). These variables describe 29% of the variance of the variable “garage” ($\text{garage} = 1.73\text{restaurant} + 1.09\text{club} + 1.17\text{glue}$; $R^2 = .29$). Thus breaking into garages associates with the breaking into clubs and with being addicted to sniffing glue.

There is an association between the criterion variable “shop” and the variable “married plus” ($p < .05$), but with the variable “married plus” describing only 4% of the variance “shop” ($\text{shop} = .84\text{marriedplus}$; $R^2 = .04$). However, despite the low frequency

of the variance, there is an association between the break into the premises shops and having a history of many broken relationships.

The criterion variable “glue” associates with the variables “school” ($p < .01$), “drugs” ($p < .001$) and “barbiturates” ($p < .0001$) and these variables explain 32% of its variance ($\text{glue} = 1.41\text{school} + 1.83\text{drugs} + 1.38\text{barbiturates}$; $R^2 = .32$). Thus, an addiction to glue sniffing associates with an addiction to drugs and barbiturates and with breaking into schools.

The results for the criterion variable “drugs” show an association with the variables “glue” ($p < .001$), “barbiturates” ($p < .005$) and “threat” ($p < .01$). These variables explain 29% of the variance of the variable “drugs” ($\text{drugs} = 1.69\text{glue} + 1.41\text{barbiturates} + 1.04\text{threat}$; $R^2 = .29$). Thus, addiction to drugs associates with addiction to glue and barbiturates and with the approach of threatening the victims during the crimes.

When considering “barbiturates” as the criterion variable there is association between it and the variables “glue” ($p < .001$), “drugs” ($p < .01$) and “psychiatric” ($p < .01$) with these variables describing 28% of the variance ($\text{barbiturates} = 1.26\text{glue} + 1.32\text{drugs} + 1.08\text{psychiatric}$; $R^2 = .28$). Thus, the persistent use of barbiturates is associated with an addiction to glue and drugs and with a history of psychiatric treatment.

The criterion variable “psychiatric” associates with the variables “school” ($p < .005$) and “barbiturates” ($p < .005$), these variables describing 15% of its variance ($\text{psychiatric} = 1.40\text{school} + 1.11\text{barbiturates}$; $R^2 = .15$). Thus, a history of psychiatric treatment associates with the abuse of barbiturates and with breaking into schools.

When considering the approach towards the victim other associations were found. For example there is an association between the criterion variable “threat” and the variables “brothers” ($p < .05$) and “drugs” ($p < .05$), however these variables describe only 9% of the variance of “threat” ($\text{threat} = .99\text{brothers} + .85\text{drugs}$; $R^2 = .09$). Thus, the approach of threatening the victims during the crime associates with living with parents and brothers as a child and addiction to drugs.

Taking the criterion variable “verbal” there is association between it and the variables “psychiatric” ($p < .01$) and “physical” ($p < .005$), with these latter variables accounting for 15% of its variance ($\text{verbal} = 1.11\text{psychiatric} + 1.95\text{physical}$; $R^2 = .15$). Thus, the use of a verbal approach towards the victim associated with a history of psychiatric treatment and with the action of physically attacking the victims during the crimes.

The variable “physical” associates with the variables “garage” ($p < .05$) and “verbal” ($p < .001$). These variables describe 17% of the variance of “physical” ($\text{physical} = 1.29\text{garage} + 1.90\text{verbal}$; $R^2 = .17$). Thus the action of physically attacking the victims during the crimes associates with verbal attack and with breaking into garages.

With “humiliate” as criterion variable only the variable “verbal” ($p < .01$) showed an association with “humiliate” describing just 6% of its variance ($\text{humiliate} = 1.10\text{verbal}$; $R^2 = .06$). However, there is still an association between humiliating the victims and with the approach of verbally attacking the victims during the crimes.

Therefore the Regression Analyses in the main supported the SSA structure for the element *Casual/Drugs* and associations between certain variables that could not be identified by the Phi test (coefficient of correlation) were found using Regression Analysis. For example it showed an association between the variable “physical” and the variable “garage” that was not shown by the Phi test (see chapter 17, table 17.2.2).

17.3.3 - Predicted Associations of the Element Family/Criminality of Burglary

In the case of the element *Family/Criminality* of burglary Regression Analysis shows an association between the criterion variable “flat” and the variables “mess” ($p < .01$), “young” ($p < .05$) and “divorced parents” ($p < .01$). These variables describe the variable “flat” explaining 15% of its variance ($\text{flat} = .95\text{mess} + 1.01\text{young} + 1.19$; $R^2 = .15$). Thus the breaking into flats associates with having been in institution for young offenders, suggesting an early start to a criminal career, and with the action of causing mess to the property and with having experience divorce between the parents.

When considering “mess” as the criterion variable there is an association between it and the variables “flat” ($p < .005$) and “criminal family” ($p < .005$), with these variables accounting for 13% of the variance of the variable “mess” ($\text{mess} = 1.09 + 1.43\text{criminalfamily}$; $R^2 = .13$). Thus, causing a mess to the property associates with breaking into flats and with the characteristic of having a criminal family with brothers and/or parents also committing crimes.

There is also an association between the criterion variable “disguise” and the variable “mess” ($p < .01$). But the variable “mess” accounts for only 6% of its variance ($\text{disguise} = .95\text{mess}$; $R^2 = .06$). Thus, despite the low frequency of the variance, there is still an association between the use of a disguise to commit crimes and the action of causing a mess to the property.

When considering the variable “young” as the criterion variable there is association between it and the variables “flat” ($p < .05$), “conv+3” ($p < .01$) and “divorced parents” ($p < .01$), with these variables accounting for 16% of the variance of the variable “young” ($\text{young} = 1.00\text{flat} + 1.17\text{conv}+3 + 1.23\text{divorcedparents}$; $R^2 = .16$). Thus, having been in institutions for young offenders, indicating an early start to a criminal career, associates with breaking into flats, many convictions for crime and the characteristic of coming from a broken family.

There is an association between the criterion variable “divorced parents” and the variables “flat” ($p < .01$) and “young” ($p < .01$), with these variables describing 10% of its variance ($\text{divorcedparents} = 1.14\text{flat} + 1.17\text{young}$; $R^2 = .10$). Thus, coming from a broken family associates with the breaking into flats and the characteristic of having been in institution for young offenders.

Thus the results of the Regression Analyses in the main supported the SSA structure for the element *Family/Criminality* on burglary and found associations between certain variables that could not be identified by the Phi test. For example the association between the variable “flat” with the variables “young” and “divorced parents” (see chapter 17, table 17.2.3).

17.3.4 - Predicted Associations of the Element Financial/Property of Burglary

In the element *Financial/Property* Regression Analysis shows association between the criterion variable “office” ($p<.0001$), “factory” ($p<.0001$) and “£10,000” ($p<.01$). These variables describe “office” explaining 24% of its variance ($\text{office} = 1.67\text{factory} + 1.08\text{£10,000}$; $R^2=.24$). Thus, breaking into offices is associated with breaking into factories and with stealing large amounts of money from the crime scene.

When considering the variable “factory” as the criterion variable there is association with the variables “office” ($p<.0001$) and “petrol station” ($p<.01$). These variables explain 23% of its variance ($\text{factory} = 1.64\text{office} + 1.04\text{petrolstation}$; $R^2=.23$). Thus, breaking into factories associates with breaking into offices and petrol stations.

When taking “petrol station” as the criterion variable there is association between it and the variables “factory” ($p<.05$), “weapon” ($p<.0001$) and “£10,000” ($p<.01$). These variables describe the variable “petrol station” explaining 26% of its variance ($\text{petrolstation} = .87\text{factory} + 1.63\text{weapon} + 1.04\text{£10,000}$; $R^2=.26$). Thus, breaking into petrol stations associates with breaking into factories, the use of a weapon to commit crimes and the stealing of large amounts of money.

When considering the variable “plan” there is association between this criterion variable and the variables “escape route” ($p<.0001$) and “select premise” ($p<.01$) with these variables describing 41% of the variance of the variable “plan” ($\text{plan} = 2.06\text{escaperoute} + 1.09\text{selectpremise}$; $R^2=.41$). Thus, the planning of crimes associates with the preparation of escape routes prior to the crime and with the careful selection of the target premises.

Considering “weapon” as the criterion variables there is association between it and the variables “petrol station” ($p<.0001$) and “escape route” ($p<.0001$) with these variables explaining 24% of its variance ($\text{weapon} = 1.90\text{petrolstation} + 1.29\text{escaperoute}$; $R^2=.24$). Thus, the use of a weapon to commit crimes associates with breaking into petrol stations and with preparing escape routes in advance of the crimes.

With “escape route” as the criterion variable there was an association with the variables “plan” ($p < .0001$), “weapon” ($p < .05$) and “select victim” ($p < .0001$) and these variables account for 51% of its variance ($\text{escaperoute} = 2.10\text{plan} + .88\text{weapon} + 1.70\text{selectpremise}$; $R^2 = .51$). Thus, the preparing of escape routes associates with planning, the use of a weapon and the careful selection of the target premises.

There is an association between the criterion variable “£10,000” and the variables “petrol station” ($p < .05$), “select premise” ($p < .0001$) and “security” ($p < .05$) which explain 26% of its variance ($\text{£10,000} = .96\text{petrolstation} + 1.38\text{selectpremise} + .78\text{security}$; $R^2 = .26$) and thus the stealing of large amounts of money, such as more than £10,000, associates with the break into petrol station, the careful selection of the premise target and the characteristic of have being in maximum-security prisons.

Taking the criterion variable “select premise” there is association between it and the variables “plan” ($p < .05$), “weapon” ($p < .05$), “escape route” ($p < .001$) and “£10,000” ($p < .005$), which accounts for 47% of its variance ($\text{selectpremise} = 1.14\text{plan} + .95\text{weapon} + 1.55\text{escaperoute} + 1.32\text{£10,000}$; $R^2 = .47$). Thus, the careful selection of the target premises associates with the use of a weapon, the preparation of escape routes prior to the crime and with the stealing of large amount of money.

With “group” as the criterion variable there is association with the variables “plan” ($p < .05$) and “select premise” ($p < .01$), with these variables describing 15% of the variance of “group” ($\text{group} = .81\text{plan} + .91\text{select}$; $R^2 = .15$). Thus, the characteristic of working in groups to commit crimes associates with planning and careful selection of the target premises.

When considering “security” as the criterion variable there is association between it and the variable “£10,000” ($p < .005$), however in this case the variable “£10,000” accounts for only 8% of the variance of the variable “security” ($\text{security} = 1.03\text{£10,000}$; $R^2 = .08$). Thus, despite the low frequency of the variance, the characteristic of having being in maximum-security prison associates with the stealing of large amounts from the scene of the crime.

Thus the Regression Analyses generally supported the SSA structure for the element *Financial/Property* of burglary.

Having discussed the relationships and predicted relationships between the variables within their respective facet elements as proposed by the SSA structure, the impact of the variables across the elements will now be considered.

17.4 - The Strength of the Associations Across the Facet Elements of Burglary

The variables of each individual facet element were examined across the different facet elements of burglary to see for example if a given variable influences other elements apart from the one suggested by the SSA plot.

17.4.1 - Associations Across the Element *Family/Violence* of Burglary

The pattern of behaviour reflected by the facet element *Family/Violence* of burglary is formed by the variables listed in the far left column of table 17.4.1 (see Appendix III for a description of these variables).

Thus, there are significant correlations between all these variables and their respective element *Family/Violence* supporting the SSA structure that suggested that these variables would form the pattern of behaviour of *Family/Violence* (chapter 16).

When these same variables were examined against the patterns of behaviour of the other elements suggested by the SSA structure, there were also other significant correlations (table 17.4.1). The variables “house”, “crime person” and “educem” correlated significantly with the element *Casual/Drugs*. This is explicable since both elements (*Family/Violence* and *Casual/Drugs*) relate to the element *Interpersonal* in the first SSA plot (see figure 16.2.1) and so it might be expected that some variables of the element *Family/Violence* would correlate with the element *Casual/Drugs*.

Table 17.4.1 - Significant Correlations Between the Variables of the Element Family/Violence Across the Elements of Burglary

Family/Violence Variable's label	Family/Violence	Casual/Drugs	Family/Criminality	Financial/Property
House	.339**	.360**	—	—
Leave Tool	.386**	—	—	—
EducElem	.402**	.163*	—	—
Unskilled	.423**	—	—	—
Crime Person	.420**	.318**	.184*	.237**
Unskilled Father	.318**	—	—	—
Mum/Dom	.223**	—	—	—
Mum/Bad	.184*	—	—	—
Violent Parents	.636**	—	.355**	.164*
Violence Family	.489**	—	—	.178*
Abused	.666**	—	—	—
Alcohol Parents	.487**	—	—	—
Alcohol You	.536**	—	—	—
Gambling	.296**	—	—	—
Scare	.252**	—	—	—

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

There are also significant correlations between the variables “violence parents” and “crime person” and the facet element *Family/Criminality* and between the variables “crime person”, “violent parents” and “violence family” and the facet element *Financial/Property*. This was not expected since the facet element *Family/Violence* refers to an interpersonal approach to crime whereas the elements *Family/Criminality* and *Financial/Property* refers to an instrumental approach to crime, as shown in the first SSA plot (see figure 16.2.1). Therefore witnessing violence in the family, having violent parents and committing crimes against the person are not characteristics peculiar to the facet element *Family/Violence* and thus some care needs to be taken in considering this variable in relation to this pattern of behaviour.

The variables that significantly correlated just with the facet element *Family/Violence* were “leave tool”; “unskilled”; “unskilled father”; “mum/dom”; “mum/bad”; “abused”; “alcohol parents”; “alcohol you”; “gambling” and “scare”. Therefore it can be said that these variables more precisely reflect the pattern of behaviour of this facet element *Family/Violence*.

However all the variables grouped within the SSA facet element *Family/Violence* showed higher significant correlations with this element than with the other elements and thus it can be said that indeed they reflect the pattern of behaviour of this facet element *Family/Violence*. A few of these variables also correlated with other facet elements albeit with lower correlation values.

17.4.2 - Associations Across the Element Casual/Drugs of Burglary

The variables defining the pattern of behaviour for the facet element *Casual/Drugs* in burglary are listed in the far left column of table 17.4.2 (see Appendix III for a description of these variables).

There are significant correlations between all these variables and their facet element *Casual/Drugs* (table 17.4.2) thus reinforcing the SSA structure that suggested that these variables form the pattern of behaviour for this element *Casual/Drugs*.

The variables “club”; “garage”; “married”; “glue” and “psychiatric” also correlated significantly with the facet element *Family/Violence*. As mentioned before, it might be expected that some variables in the facet element *Casual/Drugs* would correlate with the facet element *Family/Violence* since both these elements share the same facet element *Interpersonal* in the first SSA plot (see chapter 16, figure 16.2.1).

There were also significant correlations between the variables “restaurant”; “garage”; “glue” and “drugs” from the facet element *Casual/Drugs* and the facet element *Family/Criminality*. There were also correlations between the variables “school”;

“restaurant”; “garage”; “drugs” and “humiliate” from the facet element *Casual/Drugs* with the facet element *Financial/Property*. This was not expected since the element *Casual/Drugs* in the first SSA (see chapter 16, figure 16.2.1) refers to an interpersonal approach to crime whilst the element *Family/Criminality* and the element *Financial/Property* refer to an instrumental approach to crime.

Table 17.4.2 - Significant Correlations Between the Variables of Element Casual/Drugs Across the Elements of Burglary

Casual/Drugs Variable's label	Casual/Drugs	Family/Violence	Family/Criminality	Financial/Property
School	.530**	—	—	.198*
Restaurant	.451**	—	.205*	.191*
Shop	.245**	—	—	—
Club	.389**	.166*	—	—
Garage	.417**	.262**	.224**	.217**
Married	.362**	.162*	—	—
Married Plus	.353**	—	—	—
Mum/Dad	.185*	—	—	—
Brothers	.301**	—	—	—
Glue	.517**	.233**	.210*	—
Drugs	.415**	—	.185*	.201*
Barbiturates	.468**	—	—	—
Psychiatric	.370**	.178*	—	—
Threat	.343**	—	—	—
Verbal	.395**	—	—	—
Physical	.373**	—	—	—
Humiliate	.359**	—	—	.251**

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

This could infer that certain behavioural actions associated with the element *Casual/Drugs* could be practiced by offenders at the beginning of their criminal careers before they established an instrumental approach to their crimes as reflected by the elements *Family/Criminality* and *Financial/Property*.

Thus, the element *Casual/Drugs* could represent a transition from the facet element *Interpersonal* to the facet element *Instrumental*. However this suggestion is somewhat speculative since the data for the present study did not consider different periods of the individuals' criminal careers.

Nevertheless, the significant correlations between these variables are higher for their assigned facet element *Casual/Drugs* than with the elements *Family/Criminality* and *Financial/Property*.

The variables that uniquely correlate with the facet element *Casual/Drugs* are “object low”; “food”; “verbal” and “psychiatric”. Thus, the actions of stealing low value items and food, verbally attacking the victim and having a history of psychiatric treatment could be the characteristics that more specifically represent the pattern of behaviour of the facet element *Casual/Drugs*.

17.4.3 - Associations Across the Element *Family/Criminality* of Burglary

The variables that express the pattern of behaviour of the facet element *Family/Criminality* are listed in the extreme left column of table 17.4.3 (Appendix III for a description of these variables). There are significant correlations between all these variables and their facet element (table 17.4.3) a situation that serves to support the SSA structure, which suggested that these variables formed the pattern of behaviour associated with the *Family/Criminality* element (chapter 16, topic 16.6.3).

When examining these same variables against the other facet elements (table 17.4.3) the variables “flat”, “disguise” and “mess” also correlate significantly with the element *Financial/Property*. It might be expected that some variables from the

element *Family/Criminality* would correlate with the element *Financial/Property* since both elements share the facet element *Instrumental* in the first SSA plot (see chapter 16, figure 16.2.1). However, the correlation coefficients for these variables were always higher in relation to their original element *Family/Criminality*.

The variables “flat” and “mess” correlate significantly with the element *Family/Violence* and with the element *Casual/Drugs*. These variables are of an interpersonal nature since flats, as with houses, are where people live and causing a mess in peoples’ homes is a way of affecting people in a personal way. Thus, despite these variables forming the element *Family/Criminality*, which belongs in the first SSA plot to the element *Instrumental* (see chapter 16, figure 16.2.1), these variables have an interpersonal nature so explaining their significant correlation here with the elements *Family/Violence* and *Casual/Drugs*.

Table 17.4.3 - Significant Correlations Between the Variables of the Element Family/Criminality Across the Elements of Burglary

Family/Criminality Variable's label	Family/Criminality	Family/Violence	Casual/Drugs	Financial/Property
Flat	.395**	.227**	.265**	.352**
Disguise	.482**	—	—	.336**
Mess	.573**	.169*	.233**	.319**
Conv-20	.259**	—	—	—
Conv+3	.452**	—	—	—
Young	.484**	—	—	—
Divorced Parents	.310**	—	—	—
Criminal Family	.379**	—	—	—

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

The variables “criminal family”; “young”; “conv-20”; “conv+3” and “divorced parents” uniquely correlated with the facet element *Family/Criminality* and so are characteristics that more precisely define the pattern of behaviour associated with offenders in this facet element *Family/Criminality*.

17.4.4 - Association Across the Element Financial/Property of Burglary

The facet element *Financial/Property* in burglary is defined by the variables listed in the left hand column of table 17.4.4. These variables are described in Appendix III.

There are significant correlations between all these variables and their facet element *Financial/Property*. This supports the SSA structure, which suggested that these variables formed the pattern of behaviour of the element *Financial/Property* (see chapter 16, figure 16.6.1).

When examining these same variables against the other facet elements in the SSA plot the variables “office”; “factory”; “petrol station”; “plan”; “weapon”; “escape route” and “select premise” also correlated significantly with the facet element *Family/Criminality*. This might be expected since the elements *Financial/Property* and *Family/Criminality* both share the same facet element *Instrumental* in the first SSA plot (see chapter 16, figure 16.2.1). However, here the highest significant correlations were still between these variables and their original element *Family/Criminality*.

Somewhat unexpectedly the variables “office”; “factory”; “petrol station” and “weapon” correlated significantly with the facet element *Casual/Drug*. This was not expected since the element *Casual/Drugs* is linked to the facet element *Interpersonal* while the element *Financial/Property* is related to the facet element *Instrumental* (see the first SSA, figure 16.2.1).

**Table 17.4.4 - Significant Correlations Between the Variables of the Element
Financial/Property Across the Elements of Burglary**

Financial/Property Variable's label	Financial/Property	Family/Violence	Casual/Drugs	Family/Criminality
Office	.539**	—	.301**	.230**
Factory	.485**	—	.296**	.245**
Petrol Station	.485**	—	.301**	.166*
Plan	.605**	—	—	.256**
Weapon	.537**	—	.199*	.250**
Escape Route	.649**	—	—	.211**
£10,000	.580**	—	—	—
Select Premise	.717**	—	—	.352**
Group	.474**	—	—	—
Security	.391**	—	—	—

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

However as was suggested before, the correlations between some variables of the facet element *Casual/Drugs* with the facet element *Financial/Property* may infer that some of the behavioural characteristics of the element *Casual/Drugs* could be practiced by offenders at the beginning of their criminal careers and before they have established a clear instrumental approach to their crimes as reflected by the element *Financial/Property*. Thus, as with robbery the element *Casual/Drugs* could represent a transition from the facet element *Interpersonal* to the facet element *Instrumental*. Nevertheless, the significant correlations between these variables and their facet element *Financial/Property* are higher than with the facet element *Casual/Drugs*.

The variables that uniquely correlate significantly with the facet element *Financial/Property* are “£10,000”, “group” and “security”. Thus, the action of stealing very large amounts of money, working in groups to commit the crimes, having been in maximum security prisons seem to be the characteristics that appear to more precisely define the pattern of behaviour of the element *Financial/Property*.

17.5 - Similarities and Differences Between the Facet Elements of Burglary

The first SSA plot for burglary (see chapter 16, figure 16.2.1), was divided into two facet elements (*Interpersonal* and *Instrumental*) and the second SSA plot (chapter 16, figure 16.6.1) was divided into four facet elements (*Family/Violence*, *Casual/Drugs*, *Family/Criminality* and *Financial/Property*). This chapter has looked at the statistical significance of the variables comprising these facets elements.

Some variables correlated significantly with both the facet elements *Family/Violence* and *Casual/Drugs*, referring to an interpersonal approach to crime, but not with the facet elements *Family/Criminality* and *Financial/Property*, referring to an instrumental approach to crime, thus these variables suggest a stronger link with an interpersonal approach to crime. These variables were “house”, “educelam”, “club”, “married” and “psychiatric”. Thus, the criminal action of breaking into houses and clubs and a lifestyle of being married or cohabiting with someone and a history of psychiatric treatment are characteristics that are more uniquely linked to an interpersonal desire in relation to burglary.

In contrast some variables correlated significantly with both facet elements *Family/Criminality* and *Financial/Property*, referring to an instrumental approach to crime, but not with the facet elements *Family/Violence* and *Casual/Drugs*, referring to an interpersonal approach to crime, thus these variables suggest a stronger link to an instrumental approach to the crime. These variables were “disguise”; “plan”; “escape route” and “select premise”. Thus, the actions of planning carefully the crimes, preparing escape routes in advance, selecting the target premises and the use of a disguise to commit the crimes are characteristics that uniquely and thus perhaps more precisely reflect an instrumental desire related to the crime of burglary.

Certain other variables correlated significantly across the facet elements of *Interpersonal* and *Instrumental*, thus showing a link with both these facet elements. Therefore these variables represent more general characteristics of robbery.

The variables common to both facet elements *Interpersonal* and *Instrumental* are: “crime person”, “violent parents”, “violence family”, “school”, “restaurant”, “garage”, “glue”, “drugs”, “humiliate”, “flat” and “mess”.

Thus, a lifestyle reflecting witnessing violence in the family, having violent parents and the abuse of drugs are general characteristics of burglars’ lives. Similarly, there are some criminal actions general to burglaries as a whole. These include: committing crimes against the persons; breaking into flats, schools, restaurants and garages, using the approach of humiliating their victims and causing a mess when burgling properties.

Some of the variables just correlated significantly with the facet elements to which they were assigned in the second SSA plot (see chapter 16, figure 16.6.1), suggesting that they may best define these individual facet elements. These are presented in Table 17.5.1.

Table 17.5.1 Variables that Uniquely Correlate With the Elements of Burglary

Family/Violence	Casual/Drugs	Family/Criminality	Financial/Property
Leave tool	Shop	Criminal Family	£10,000
Unskilled	Married Plus	Young	Group
Unskilled Father	Mum/Dad	Conv-20	Security
Mum/Dom	Brothers	Conv+3	
Mum/Bad	Barbiturates	Divorced Parents	
Abused	Threat		
Alcohol Parents	Verbal		
Alcohol You	Physical		
Gambling			
Scare			

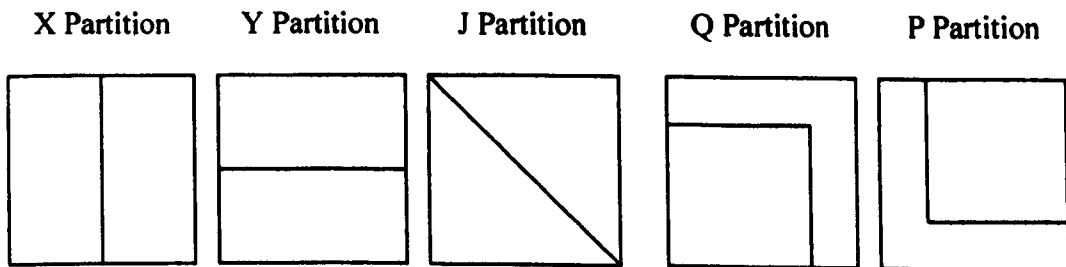
CHAPTER 18

POSA ANALYSES ON BURGLARY

18.1 - The Results of the POSA Analysis on Burglary

In order to further investigate the thematic structure suggested by the SSA analysis on burglary a Partial Order Scalogram Analysis (POSA) was performed as was the case with robbery (for details on POSA see Shye, 1978). To facilitate understanding of the POSA plots for burglary it is worth reiterating what was said previously for robbery. POSA generates numerical profiles for each individual in relation to the score for each selected variable. The main plot contains the profiles and the item plots maintain the same configuration of points as the main plot, but each item plot shows in more details the structure of the scale in relation to the presence or absence of each variable. POSA also suggests different types of partition by considering the order and/or sub order imposed on the variables under examination (see chapter 8, topic 8.2.3). Partition along the X-axis and Y-axis indicates that an essential factor underlies the relationship between the variables. The Q-axis partition accentuates these essential factors, whilst the P-axis partition moderates these essential factors. Partition along the J-axis reveals the quantitative differences (figure 18.1.1).

Figure 18.1.1: Different Types of POSA Analysis Partition



18.2 - The Thematic Structure of POSA Analyses on Burglary

Four POSA analyses were performed on the burglary data set of 148 subjects based on the thematic structure suggested by the results of the SSA analysis on burglary that showed four facet elements (see chapter 16, figure 16.6.1). As with robbery only five variables that best reflected the structure of each of the four SSA facet elements for burglary were chosen because the POSA analysis is restricted in the number of variables that can be analysed.

18.2.1 - The Use of POSA Analyses on Burglary

The basic frequencies, correlations and co-occurrence of variables do not say everything about the behaviour of the individuals. Thus, as for the analysis on robbery, even after applying the various statistical procedures used up to this point in the study (SSA, Phi coefficient and Regression Analysis) still many questions arise about the identified patterns of behaviour of burglars' criminal actions and lifestyle characteristics. For example, does an individual demonstrate one of the behaviours or a combination of behaviours? On what scale does the behaviour happen? Which are the more common and which are the rare characteristics?

In relation to the element *Family/Violence* for example, between burglars is it common or rare characteristic to break into houses? What will be the next stage on, the committing of crimes against the person? If so, on a scale of behaviour where is committing crimes against the person positioned? Is it a common or a rare characteristic for burglars to have violent parents and to witness violence in family?

When considering the element *Casual/Drugs* in which order do the behavioural characteristics form a scale? Do most burglars break into public premises such as school and restaurants? Are most of these burglars addict to drugs? If the answer is yes, then do they become physically violent towards the victim? Is it a common occurrence or extreme behaviour to physically attack the victim during the crime?

In the element *Family/Criminality*, what are the combinations and the scale of behaviour? For example, do most burglars related to this element break into flats? Do most burglars use a disguise? At which point on a scale of behaviour is the characteristic of using a disguise? In a scale of behaviour, having many convictions for crimes is positioned where? It is coming from a family with criminal members a common or a rare characteristic?

In relation to the element *Financial/Property* what scale of behaviour occurs? Is it the action of stealing larger amounts preceded by the careful selection of the premises target? Do most burglars plan their crimes? Do they prepare escape routes previously to the crime? Is the break into purely commercial premises such as offices a common or rare characteristic in the case of burglars?

In order to try and answer these questions a Partial Order Scalogram Analysis - POSA was employed, more precisely POSAC or POSAX, which is a more complex POSA analysis (see Dancer, 1990; for POSAC and examples of its uses).

POSA is a nonparametric statistical technique that can be used to examine similarities and differences between sub-groups of people across the variables under study. POSA creates numerical profiles for each individual with respect to the score on each variable. The profiles of the variables are summed to produce a score and then the cases are ranked with respect to this score, which represent the level of behaviour being measured (for more details of POSA see also chapter 8, topic 8.2.3).

POSA assumes an underlying order to the variables presenting a scale of behaviour. In fact, in this present study although behaviour has been identified as forming distinct patterns, it was not clear how these behaviours combined and in which range of sequence. Therefore POSA was used to demonstrate the stages and the possible combinations in which the behaviour occurs in relation to the various facet elements identified by the SSA.

In summary, the aim in using POSA was to examine which combinations and scale of behaviour occur in relation to the facet elements identified by the SSA. The aim is then to answer the questions posed earlier in this section and to define what is typical of the sample under study and what is rare and may be coincidental.

18.2.2 - The Variable Chosen for the POSA Analyses on Burglary

Because the POSA analyses are restricted in the total number of variables that can be included, representative variables were chosen for each facet element from the SSA analysis. Thus, five variables that best reflected each of the SSA facet elements were chosen for POSA analysis.

The choice of the variables for the POSA analyses was based on the hypotheses of the present study (see chapter 8) which supposes that it should be possible to identify distinct patterns of behaviour related to the co-occurrence of the variables on the SSA plot. From this perspective the variables for POSA analyses were chosen with reference to criminal actions and lifestyle characteristics shown by the SSA plots. The choice was thus based on the interpretation of the SSA structures showing the themes for the distinct facet elements identified.

Accordingly, if the co-occurrence of the variables in a given facet element showed mainly a thematic referring to the criminal action break into houses and lifestyles characteristics of violence and a lower level of education then the variables that best reflect this characteristic were chosen for the POSA analysis. When considering the facet element *Family/Violence* (see figure 11.6.1), for example, the variable “mum/bad”, referring to a bad relationship with the mother, contains a important information, however priority was given to the variables that reflect the main thematic expressed by the element *Family/Violence*, and so variables such as “house”, “violent parents”, “violence family” and “crime person” were chosen in preference to the variable “mum/bad” because these variables more obviously reflected the thematic violence (see Appendix III for description of these variables).

In the case of the facet element *Casual/Drugs* (see figure 16.6.1), the variables that reflect the break into public-commercial premises, drug addiction and contact with the victim were chosen because this was the main thematic expressed by the element *Casual/Drugs*. Thus variables such as “school”, “drugs”, “physical” and “verbal”, referring to the break into schools, drug addiction and contact with the victims during the crime, were chosen in preference for example to the variable “married”, which refers to the offender being married. Also if two or more variables expressed basically the same theme such as addiction then the more expressive variable, in relation to the theme, was again chosen to represent the others. For example, in relation to the facet element *Casual/Drugs*, of the three variables “glue”, “barbiturates” and “drugs” the latter was chosen for the POSA analysis (see Appendix III for description of these variables).

Taking the facet element *Family/Criminality* (see figure 16.6.1) the variables that reflect breaking into flats, criminality in family and the early beginning to a criminal career were chosen because this was the main thematic expressed by the element *Family/Criminality*. Variables such as “flat”, “criminal family” and “young” were thus chosen in preference for example to the variable “divorced parents”, which refers to having divorced parents. Therefore despite the importance of the information referring to divorce between the parents, it was considered that for example the variable “criminal family” better reflected the main thematic related to the element *Family/Criminality* and thus the variable “criminal family” was chosen for the POSA analysis (see Appendix III for description of these variables).

In the case of the facet element *Financial/Property* (see figure 16.6.1), the variables that reflect breaking into purely commercial premises, ‘professionalism’ and less impulsivity were chosen because this was the main thematic expressed by the element *Financial/Property*. Thus variables such as “office”, “plan” and “select premise”, referring to the break into offices, the planning of the crimes and careful selection of the premises targets were chosen because they were in accordance with the main thematic of the element *Financial/Property*. Also if two or more variables expressed basically the same theme such as breaking into purely commercial premises then one

was chosen to represent the others. For example, when considering the facet element *Financial/Property*, the variable “office” was chosen for the POSA analysis to represent also the variable “petrol station”, other commercial premise (see Appendix III for description of these variables).

As explained in the robbery section (pg. 161), there were other reasons to choose the variables to include in POSA analysis. For example an attempt was made to select the variable central to the facet element but away from the middle of the SSA plot since the variables close to the middle of the plot are usually the more common ones (core variables) and so not very distinguishable. An attempt was made to avoid variables with a very high frequency because these variables are also more common and so are not very helpful in distinguishing differences between the patterns. The selection was also based on an attempt to choose variables not very close to the SSA division lines since these variables may also relate to other facet elements (see figure 16.6.1).

However despite these considerations in few cases a variable was chosen even though it was close to the middle of the SSA plot or to the boundaries or with a high frequency. This was because of the necessity to examine the importance of the peculiar nature of this variable to the element and to the SSA thematical structure. Thus in element *Family/Violence* this was the case with the variable “crime person”, in element *Casual/Drugs* for the variable “drugs”, in element *Family/Criminality* for the variable “criminal family” and in element *Financial/Property* for “conv+3”.

Also, related to the analysis on burglary, an attempt was made to include variables referring to the choice of the premises. Thus in the facet element *Family/Violence* the variable “house” was selected, in the element *Casual/Drugs* the variable “school” and “restaurant”, in the element *Family/Criminality* the variable “flat” and in the element *Financial/Property* the variable “office”.

For the POSA analysis of the facet element *Family/Violence*, the variables “house”, “violent parents”, “violence in family”, “abused”, and “crime person” were chosen (see Appendix III for a description of the variables). This was because in the SSA

analysis these variables correlated best with the lifestyle of the burglars that reflected experience with violence. These individuals reported having violent parents, witnessing violence in the family and were abused by their parents. They also committed crimes against the person and chose to burgle houses. Thus the five variables chosen for the POSA analysis of the element *Family/Violence* reflect a lifestyle of violence and abuse linked to criminal activity against the person (which would include choosing houses as discussed in sub-section 16.6.1).

The lifestyle related to the facet element *Casual/Drugs* expressed a life of drug abuse. The SSA results (see sub-section 16.6.2) showed that these burglars displayed a desire for some type of contact with the victim with actions of an interpersonal nature being displayed during the offences. The SSA results also implied that these burglars were likely to choose mainly premises of a public-commercial nature. Therefore the variables chosen to represent the element *Casual/Drugs* for the POSA analysis were “drugs”, “verbal”, “physical”, “restaurant”, and “school” (see Appendix III for a description of these variables).

The variables “verbal” and “physical” were chosen because they reflect the extreme nature of the desire for interpersonal contact with the victims. Although the variables “shop” and “garage” referring to commercial premises were located within the element *Casual/Drugs* they were close to its delimiting boundary implying some doubts about the strength of their relationship with this facet element. In contrast the variables referring to public-commercial premises were located more centrally within the region and therefore were chosen as being more representative of the element *Casual/Drugs*. Thus the variables chosen were “restaurant” which occurred with a high frequency and the variable “school” with a low frequency. These were chosen to represent extremes of choice within the public-commercial types of premises since the other variable “club” within this group could be considered to be similar in nature to a restaurant.

The SSA facet element *Family/Criminality*, (see sub-section 16.6.3), was linked to a lifestyle based on criminality within the family with close members of the family committing crimes. The criminal actions of these burglars reflected experience of criminality and showed the development of criminal skills such as the ones related to risk of apprehension (e.g. the use of disguise). These burglars had experience of criminality within the family could be linked to an early start to their criminal career (variable “conv-20”) and with having been in institutions for young offenders (the variable “young”). The SSA results also showed that these burglars were likely to choose flats as targets, which may provide both, instrumental and psychological opportunities to show their criminal skills learned from the family. Thus the variables “criminal family”, “disguise”, “conv-20”, “young” and “flat” (see Appendix III for a description of these variables) were chosen for the POSA analysis on the facet element *Family/Criminality*.

The fourth facet element, *Financial/Property*, identified by the SSA results on burglary (see sub-section 16.6.4), was linked to a strong commitment to a life of crime. The main characteristics of these burglars were that they planned their offences carefully (linked to the variables “plan”, “select premises” and “escape route”), and searched for targets of high reward (as suggested by the variable “£10,000”). Because these offenders focused on the instrumental and profitable side of their burglaries, they also tended to choose purely commercial premises as their targets (e.g. the variable “office”).

Thus the variables “plan”, “£10,000”, “select premises”, “escape route”, and “office” were included in the POSA analysis on the facet element *Financial/Property*. The variable “office” was chosen to represent the tendency to select purely commercial premises, despite the presence of other variables of the same nature (e.g. factory and petrol station), because this variable “office” was positioned centrally within in the boundaries of the facet element *Financial/Property*. Variables chosen for the POSA are in table 18.2.1 below.

The choice of the variables for the POSA Analyses, in relation to the SSA facet elements, was made also on the basis of a “mapping sentence”. Basically the range and sequence of the variables can be expressed as a structural hypothesis through the use of a mapping sentence (Shy, Elizur & Hoffman, 1994). A mapping sentence is thus a concise way of specifying the research domains. The four mapping sentences considered here, in relation to each facet element of the facets of burglars’ criminal behaviour and lifestyle characteristics, are presented below:

- The Mapping Sentence for the Facet Element *Family/Violence*

An offender’s behavioural pattern relating to the element *Family/Violence* can be characterized by the extent to which he adheres to the following:

- | | | |
|--|------|-------|
| 1) Has break into houses | No=1 | Yes=2 |
| 2) Has parents who are violent towards him | No=1 | Yes=2 |
| 3) Witnessed violence in the family | No=1 | Yes=2 |
| 4) Was abused by his parents | No=1 | Yes=2 |
| 5) Commits crimes against the person | No=1 | Yes=2 |

- The Mapping Sentence for the Facet Element *Casual/Drugs*

An offender’s behavioural pattern relating to the element *Casual/Drugs* can be characterized by the extent to which he conforms to the following:

- | | | |
|--|------|-------|
| 1) Breaks into schools | No=1 | Yes=2 |
| 2) Breaks into restaurants | No=1 | Yes=2 |
| 3) Is addicted to drugs | No=1 | Yes=2 |
| 4) Uses a verbal approach towards the victim | No=1 | Yes=2 |
| 5) Apply physical attack on the victim | No=1 | Yes=2 |

- The Mapping Sentence for the Facet Element *Family/Criminality*

An offender’s behavioural pattern relating to the element *Family/Criminality* can be characterized by the extent to which he demonstrates the following:

- | | | |
|---|------|-------|
| 1) Breaks into flats | No=1 | Yes=2 |
| 2) Belongs to a criminal family | No=1 | Yes=2 |
| 3) Uses a disguise to commit the crimes | No=1 | Yes=2 |
| 4) Have many convictions for crimes | No=1 | Yes=2 |
| 5) Have been in institution for young offenders | No=1 | Yes=2 |

- The Mapping Sentence for the Facet Element *Financial/Property*
An offender's behavioural pattern relating to the element *Financial/Property* can be characterized by the extent to which he:
 - 1) Breaks into offices No=1 Yes=2
 - 2) Plans the crimes No=1 Yes=2
 - 3) Steals large amounts of money No=1 Yes=2
 - 4) Selects carefully the premises targets No=1 Yes=2
 - 5) Prepares escape routes previously to the crimes No=1 Yes=2

Thus, the mapping sentence is a strategy for organising the research domains in a concise way to help examine possible combinations and sequences or scales. Table 18.2.1 summarises the variables chosen for the POSA analyses for the facet elements *Family/Violence*, *Casual/Drugs*, *Family/Criminality*, *Financial/Property* (the variables are in the sequence in which they appear across the POSAC plot).

Table 18.2.1 - Variables for POSA Analyses of the Four Facet Elements Identified by the SSA Analysis on Burglary

Family/Violence	Casual/Drugs	Family/Criminality	Financial/Property
House	Restaurant	Flat	Office
Violent Parents	School	Criminal Family	Plan
Violence Family	Drugs	Disguise	£10,000
Abused	Verbal	Conv-20	Select Premise
Crime Person	Physical	Young	Escape Route

Having discussed the aim behind the use of POSA Analysis and the choice of the variables, the POSA main plots and items plot will now be presented and discussed. Also, at the end of each POSA analysis, the frequencies of the different profiles will be discussed to demonstrate aspects of the sample as a whole such as what is typical of the sample and what is rare and may be coincidental.

18.3 - POSA Analysis of the Element Family/Violence of Burglary

The results of the POSA analysis of the facet element *Family/Violence* showed the existence of 27 different possible profiles resulting from the combination of the five selected variables. Of these 27 profiles, based on data for 148 burglars, there were 14 cases that had the extreme profile of having all five variables present (e.g. 22222), and 28 cases with an extreme profile of having none of the five variables present (e.g. 11111).

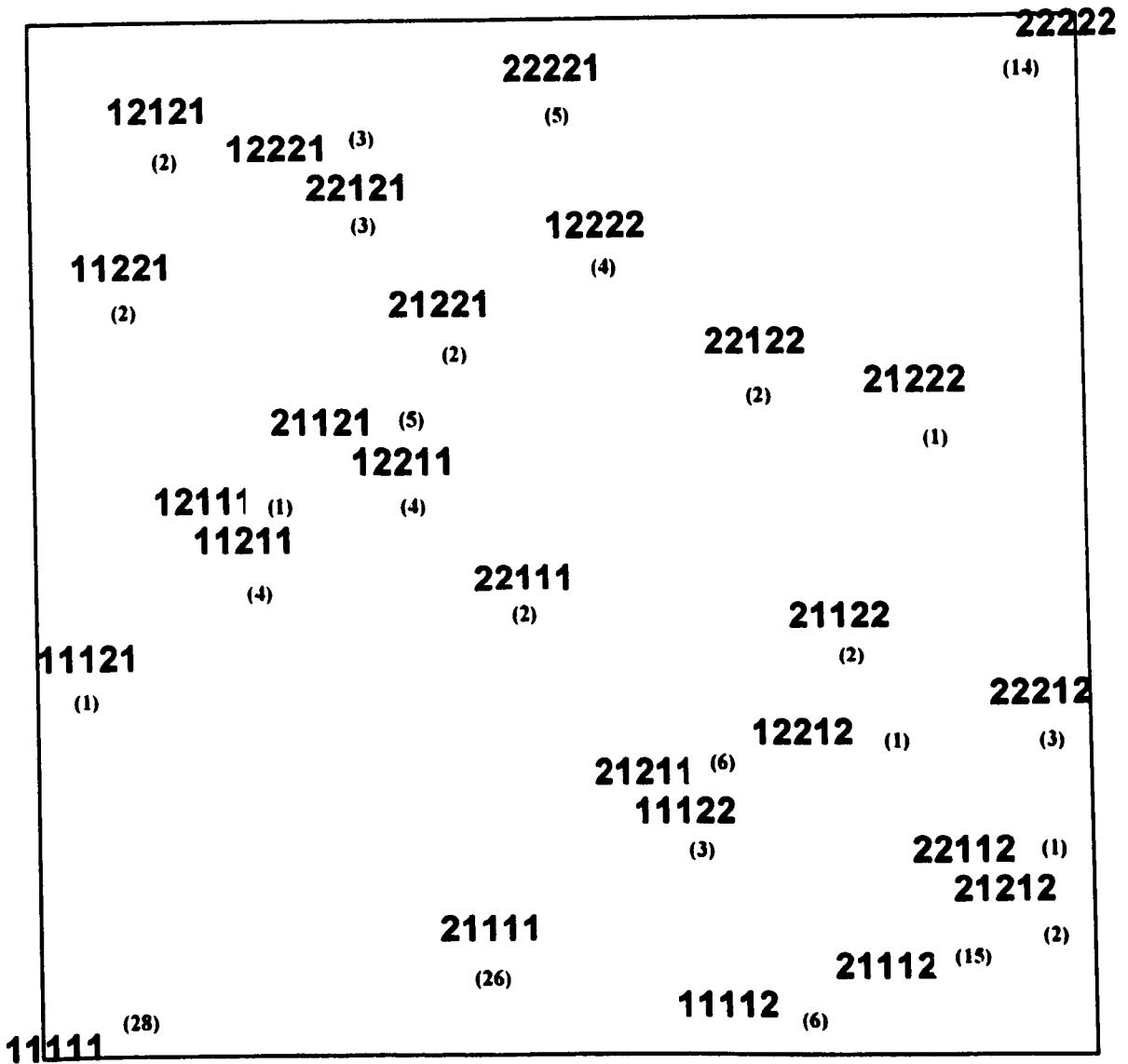
It is also important to re-emphasise here that the main POSA plot will contain all the possible profiles in relation to the 5 variables, (i.e. 22 different profiles). The item plots for each variable are simply the same initial main plot presented over and over again, but indicating which cases scored for the presence of each individual variable.

Each variable has a coefficient of monotonicity and a coefficient of 1 demonstrates a perfect partition. It is also important to understand that partition along the X-axis and Y-axis indicates that an essential factor underlies the phenomenon, the element being considered.

The main POSA plot containing the 27 possible profiles are presented in figure 18.3.1 (The frequencies showing the number of case for each profile are in brackets on the POSA main plot).

The individual plots for each of the variables (item plots) are presented in figure 18.3.2 to figure 18.3.6 and figure 18.3.7 is the combined structure made up of the partitions from each of the item plots for the five variables related to the facet element *Family/Violence*.

Figure 18.3.1: POSA Main Plot for the Element Family/Violence of Burglary



The sequence of variables across the POSA is “house” - “violent parents” - “violence family” - “abused” - “crime person” and the frequencies are shown in brackets (see Appendix III for these variables).

Figure 18.3.2: "House"

Item Plot X-axis/Burglary

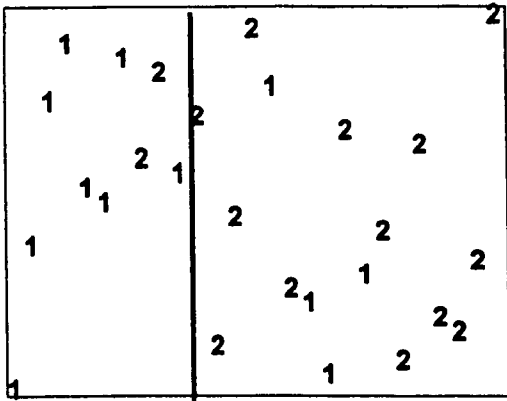


Figure 18.3.3: "Crime Person"

Item Plot X-axis/Burglary

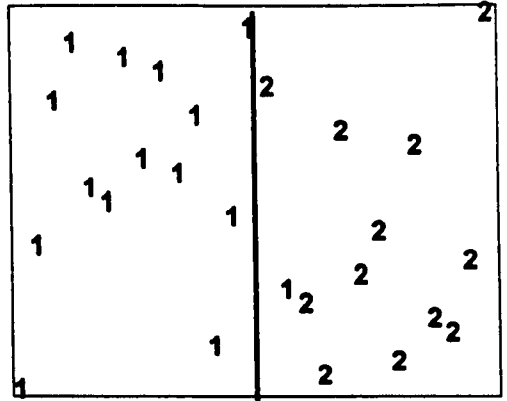


Figure 18.3.4: "Abused"

Item Plot Y-axis/Burglary

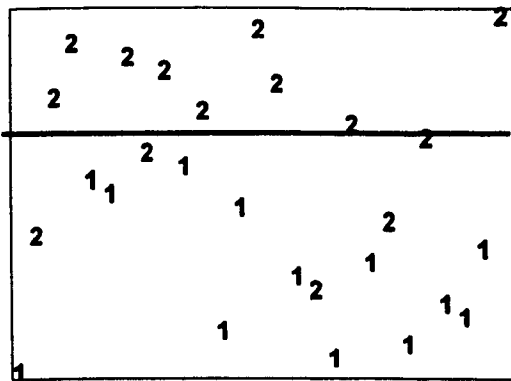


Figure 18.3.5: "Violent Parents"

Item Plot J-axis/Burglary

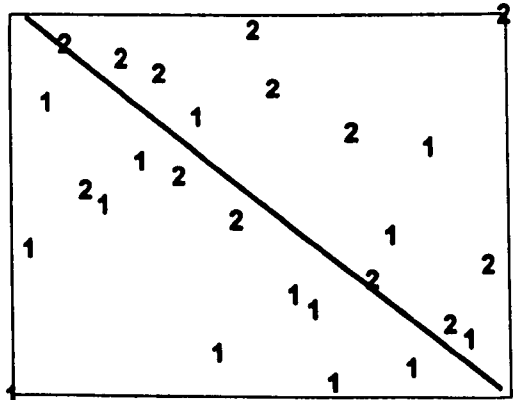


Figure 18.3.6: "Violence in Family"

Item Plot J-axis/Burglary

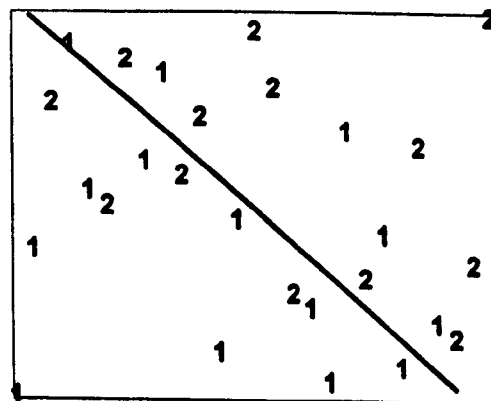
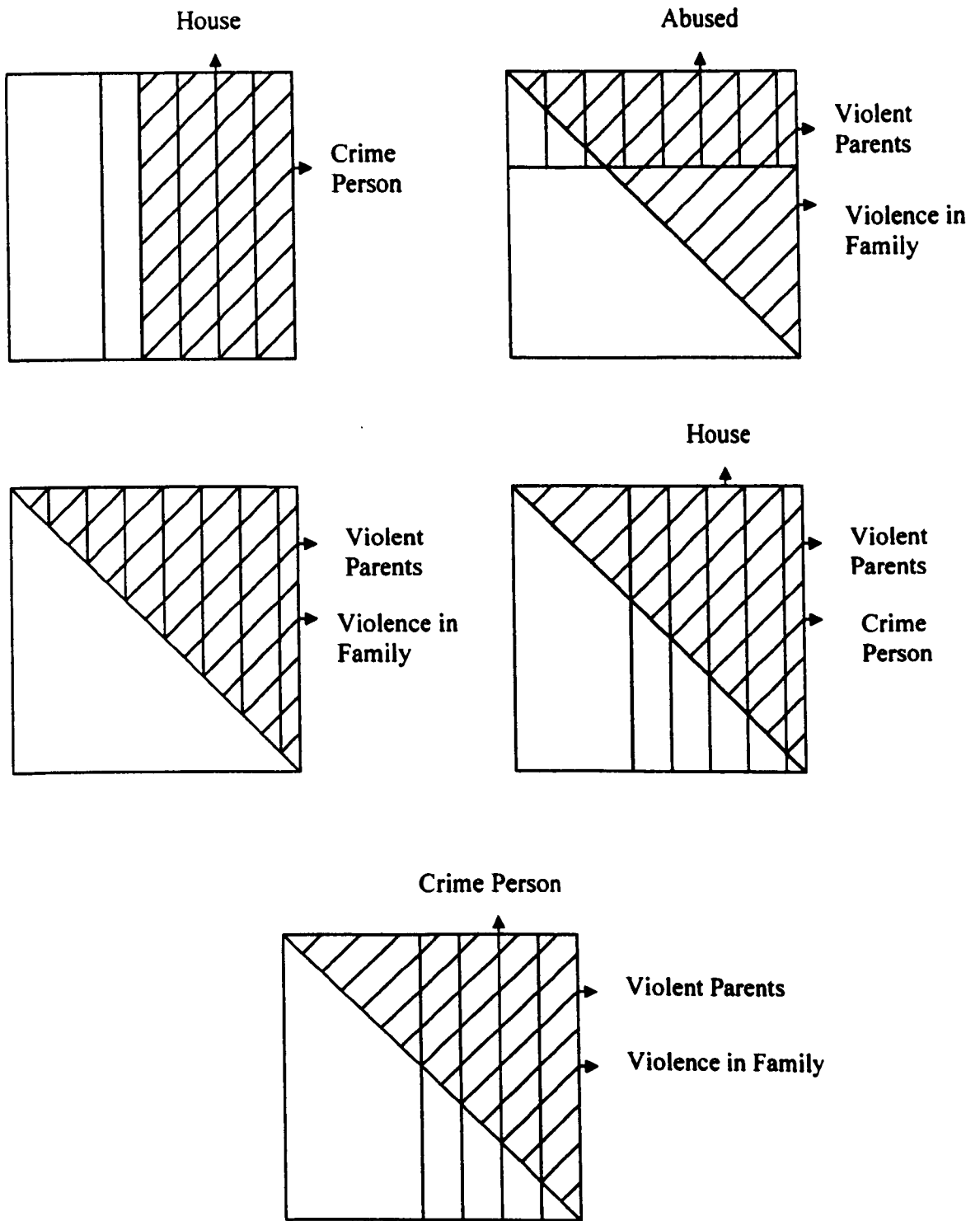


Figure 18.3.7: Combined Structure of the Element Family/Violence of Burglary



The variable “house” (figure 18.3.2) and the variable “crime person” (figure 18.3.3) both show a partition along the X-axis. The variable “house” has a coefficient of monotonicity of 0.83 and the variable “crime person” has a perfect coefficient of monotonicity of 1.0. Partition along this X-axis indicates that these variables are essential factors underlining the facet element *Family/Violence* and that they conform to a common order.

Thus those burglars who target houses are likely to be those who at the same time commit crimes against the person such as grievous bodily harm, rape and murder. These characteristics are therefore essential factors related to the facet element *Family/Violence*.

In figure 18.3.4, the variable “abuse” shows a division along the Y-axis with a coefficient of monotonicity of 0.94. Thus, it can be said that being abused verbally and physically by parents is an essential factor underlying the facet element *Family/Violence*.

However, despite this variable “abused” and the two previous variables of “house” and “crime person” all being essential factors there is a qualitative difference between the variable “abused” and the variables “house” and “crime person”. This is because the variable “abused” partitioned along the Y-axis whilst the variables “house” and “crime person” both partitioned along the X-axis.

Thus, although there is some common overlap area between these three item plots, more precisely in the upper right corners, the qualitative differences implies that burglars who choose houses and who commit crimes against the person were not necessarily abused by their parents. Conversely those burglars who were abused by their parents are not necessarily the ones who commit crimes against the person and choose houses to burgle.

The plots for the variables “violent parents” (figure 18.3.5) and “violence in family” (figure 18.3.6) both partition along the J-axis and therefore conform to a common order that indicates a relevant scale of behaviour. Thus, burglars who suffered from violent parents are likely to be the same ones who witnessed other violent actions in the family in general.

However, since the coefficient of monotonicity is 0.79 for “violent parents” and 0.75 for “violence in family” both slightly below the minimum value of 0.80 usually accepted as significant (see Shye *et al*, 1994), some care needs to be taken in their interpretation. However since these variables conform to a common order they are important to the interpretation of the POSA analysis.

Figure 18.3.7 shows the combined structure for the five selected variables referring to the facet element *Family/Violence* in burglary. This shows that the variables “house” and “crime person” are essential factors and they also overlap completely reflecting a relevant scale of behaviour.

The variable “abused” also an essential factor is however qualitatively different from the variables “house” and “crime person”. The common overlap area between these three variables is concentrated in the upper right corner of these three item plots that contains 30 cases with high profiles in terms of the presence of the variables (e.g. 22222, 22221, 22122, etc). Thus, this region is an important area in defining the cases referring to the facet element *Family/Violence*.

It is tempting to examine the variables “house” and “crime person” in separation from the other variables because of the complete overlaps representing a strong scale of behaviour.

The same interpretation could be applied to the variables “violent parents” and “violence in family” because they also represent a scale of behaviour between them, despite their coefficients of monotonicity being slightly lower (.80).

The variable “abused” overlaps with all the other variables when considering the upper right area and this variable is also an essential factor to the facet element *Family/Violence*.

Thus, considering the overlap area between the variables, being abused by parents is an important factor particularly if this is linked to lifestyle characteristics of having violent parents, witnessing violence in the family, choosing houses to burgle and committing crimes against the person.

The analysis of this overall situation is what may help to define the phenomenon *Family/Violence*. Thus, POSA draws attention to the interpretation of a meaningful conceptual scale and not to what is a more or less important event.

This is basically because POSA demands in the first instance, an existing relationship between the variables under analysis, as was identified here by the SSA results on these thematic structures.

Considering the POSA for the element *Family/Violence* POSA main plot, figure 18.3.1) it can be observed that there is not a dominant route through the POSA. Thus, the results do not show any simple linear dimension indicating that certain profiles form a cumulative scale in relation to the element *Family/Violence* of burglary as was found for example for the element *Family/Violence* in robbery (pg. 172).

However it is still possible to identify some combinations of variables in relation to the element *Family/Violence* when considering all the profiles in the POSA main plot. For example, there is a combination between the variable “house” and “violent parents” that appears in 31 cases (out of the total of 148); a combination between “house” and “violence family” that appears in 33 cases and between “house” and “abused” that appears in 31 cases.

Thus, if one considers “house” = “violent parents”(31) + ”violence family”(33) + “abused”(31) this combination together with the variable “house” appears in 95 cases (31+33+31=95) accounting for 64% of the total of 148 cases. Thus, the results show that the action of breaking into house relates as a whole to the thematic of violence and abuse in over two thirds of the cases.

In summary, despite there no a simple linear dimension indicating that the profiles form a cumulative scale, the results showed that the combined characteristics of breaking into houses and having a lifestyle of violence and abuse are not rare and so may have an important influence when considering the element *Family/Violence*.

18.4 - POSA Analysis of the Element Casual/Drugs of Burglary

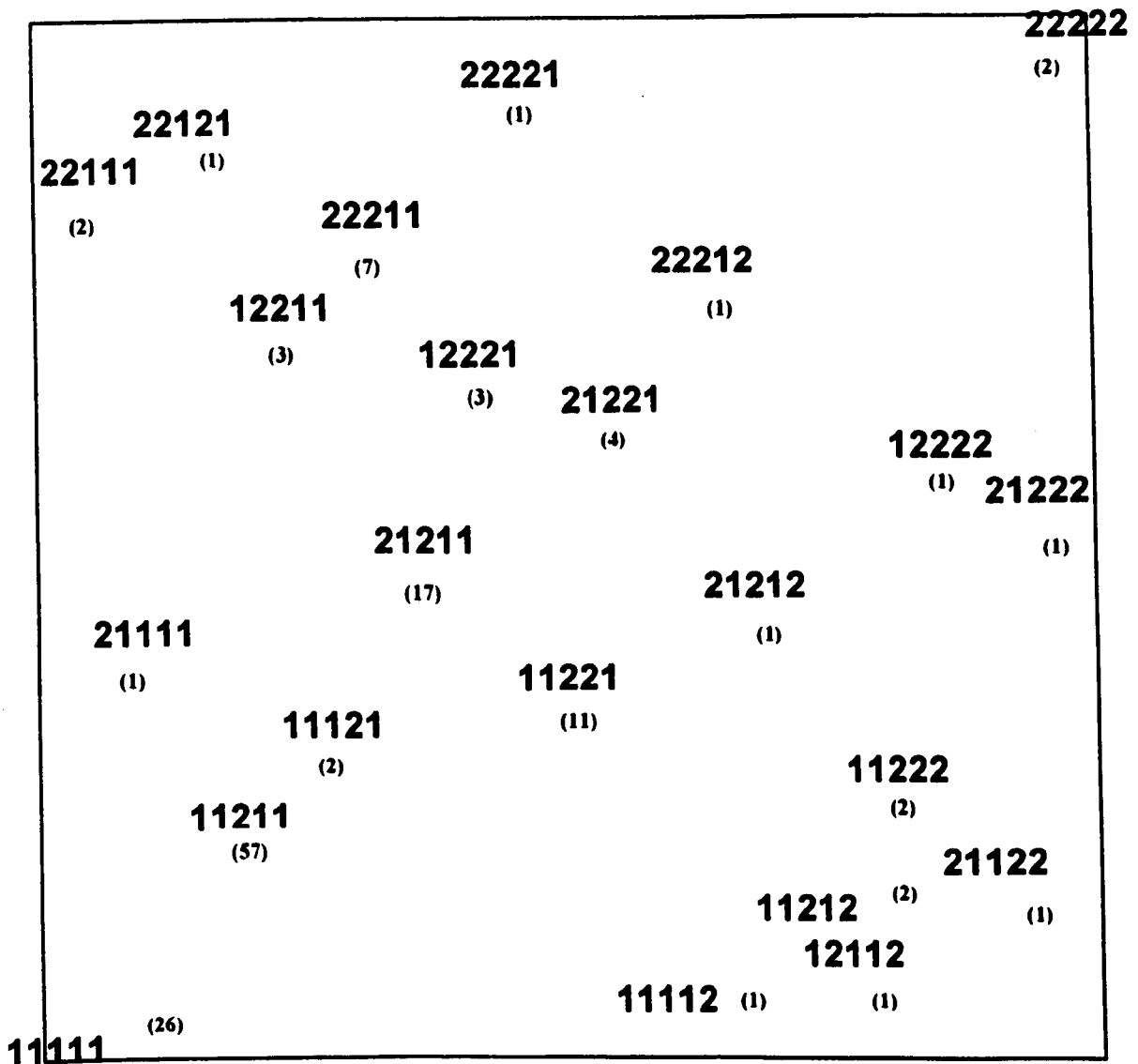
The results of the POSA analysis for the facet element *Casual/Drugs* showed the existence of 23 possible different profiles resulting from the combination for the five selected variables “drugs”, “restaurant”, “school”, “verbal” and “physical”.

Of these 23 profiles for 148 burglars there were 2 cases that had the extreme profile of having all five variables present (e.g. 22222) and 26 cases that had the extreme profile of having none of the five selected variables (e.g. 11111).

The POSA main plot containing the 23 possible profiles is presented in figure 18.4.1 (The frequencies showing the number of case for each profile are in brackets on the POSA main plot).

The item plots for each variable are presented in figures 18.4.2 to 18.4.6. The combined structure for the facet element *Casual/Drugs* is presented in figure 18.4.7.

Figure 18.4.1: POSA Main Plot for the Element Casual/Drugs of Burglary



The sequence of variables across the POSA is “restaurant” - “school” - “drugs” - “verbal” - “physical” and the frequencies are shown in brackets (see Appendix III for these variables).

Figure 18.4.2: "Restaurant"

Item Plot Y-axis/Burglary

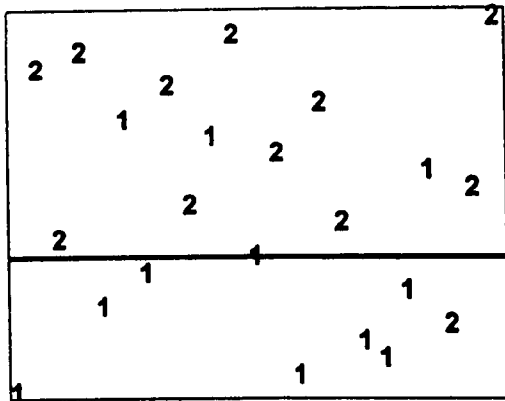


Figure 18.4.3: "School"

Item Plot Y-axis/Burglary

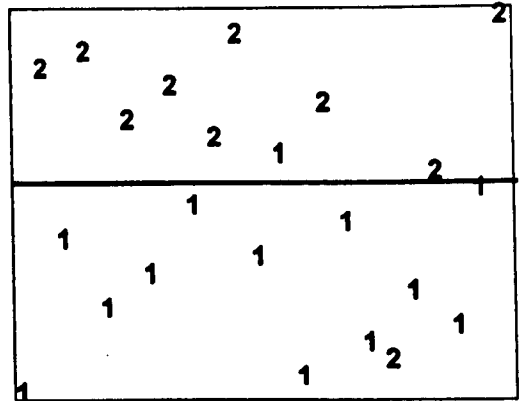


Figure 18.4.4: "Physical"

Item Plot X-axis/Burglary

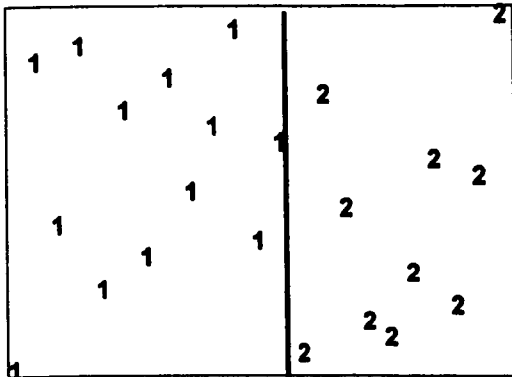


Figure 18.4.5: "Drugs"

Item Plot J-axis/Burglary

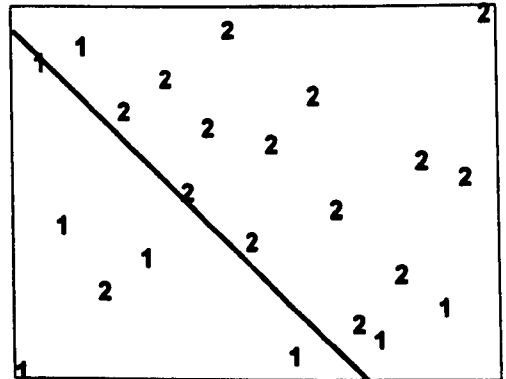


Figure 18.4.6: "Verbal"

Item Plot J-axis/Burglary

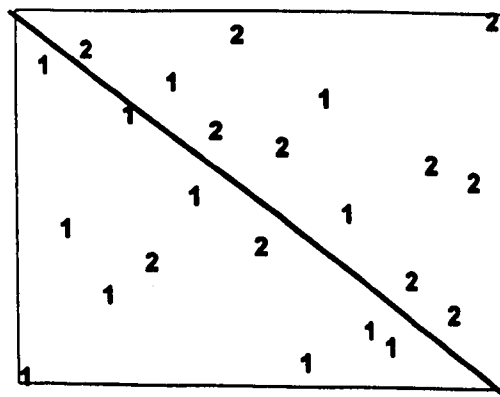
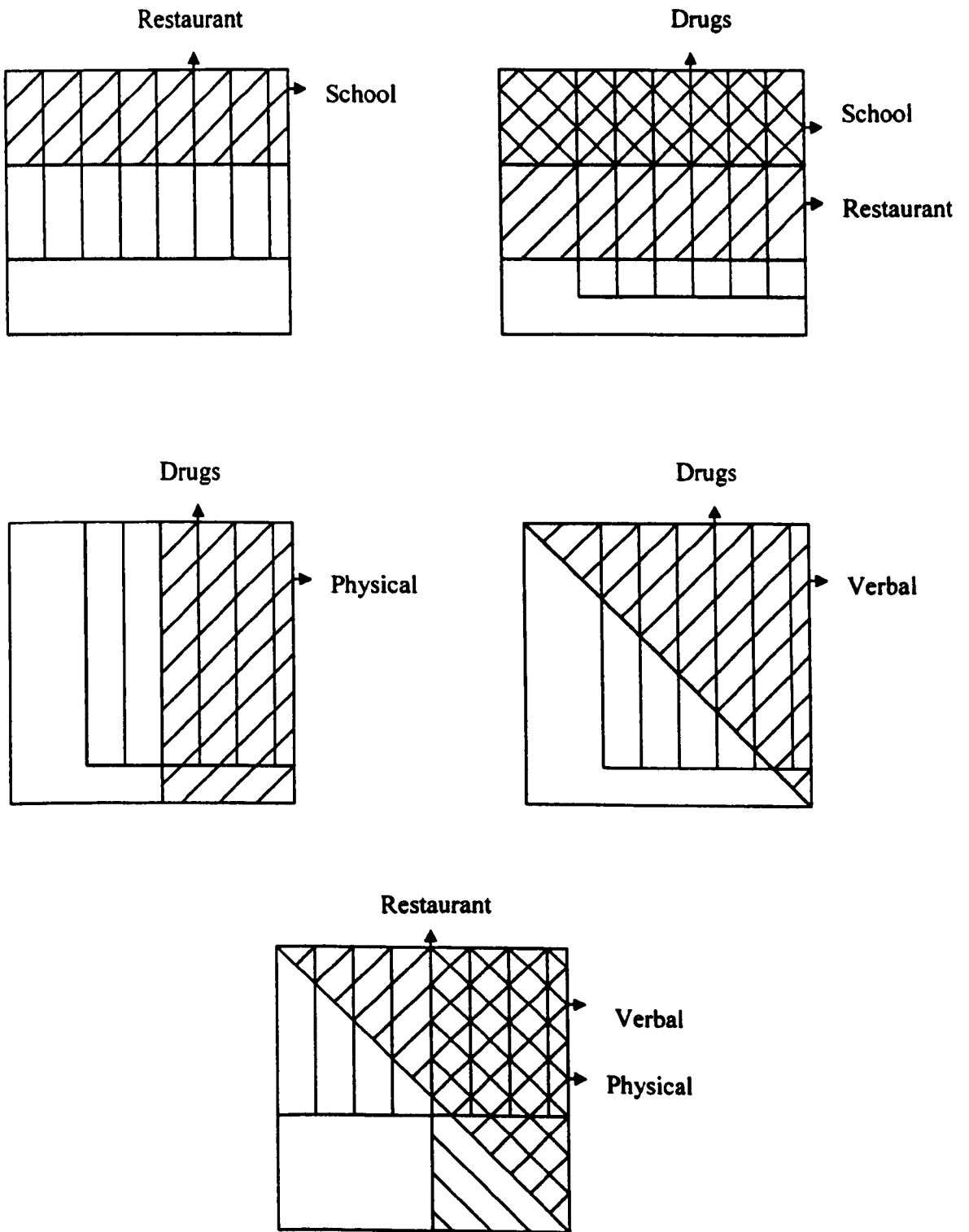


Figure 18.4.7: Combined Structure of the Element Casual/Drugs of Burglary



In figure 18.4.2 the variable “restaurant” shows a division along the Y-axis with coefficient of monotonicity of 0.84. In figure 18.4.3 the variable “school” also shows a division along the Y-axis with a coefficient of monotonicity of 0.90. Thus, the variables “restaurant” and “school” represent essential factors underlying the facet element *Casual/Drugs*.

Thus there is a major difference in this element between those burglars who break into public-commercial premises, such as restaurants and schools, and those who do not. The POSA result is also showing that because these variables both partition along the Y-axis, they conform to a common order.

Thus, it is being implied that the burglars who break into premises such as restaurants are likely to show a tendency to break into other public premises such as schools and vice versa. It is important to emphasise that these premises represent the targeting of public-commercial premises rather than purely commercial ones.

The common order between the variables “restaurant” and “school” serves to reinforce the hypothesis based on the SSA analysis (see sub-section 16.6.2) that, although these burglars break into small commercial establishments such as shops, they show a particular tendency to break into public-commercial types of premises, such as restaurants, schools, clubs, that are relevant to the definition of this element *Casual/Drugs*. Indeed, here in the POSA analysis these variables “restaurant” and “school”, representing the public nature of the premises chosen, were shown to be essential factors of this facet element *Casual/Drugs*.

The variable “physical” (figure 18.4.4) shows a division along the X-axis with a perfect coefficient of monotonicity of 1.0. Thus, “physical” is also an essential factor underlying this element suggesting a major difference between burglars who physically attack their victims during an offence and those burglars who do not display such physical violence.

However, despite this variable “physical” and the other two variables “restaurant” and “school” all being essential factors there is a qualitative difference between the variable “physical” and the variables “restaurant” and “school” since “physical” partitions along X-axis while “restaurant” and “school” partition along the Y-axis.

Thus, those burglars who choose premises of a public-commercial nature such as restaurants and schools do not necessarily always physically attack their victims and vice versa. However, there is some overlap between these three variables as can be observed when considering the upper right area of their three item plots.

Therefore, when these three variables occur together in a case they will reinforce each other and consequently reinforce the definition of the pattern of behaviours related to the facet element *Casual/Drugs*. Indeed, POSA is showing that the choice of premises such as restaurants and schools and physically attacking the victims are all essential factors underlying the phenomenon *Casual/Drugs*.

In figure 18.4.5 the variable “drugs” shows a division along the P-axis with a coefficient of monotonicity of 0.98. The variable “verbal” (figure 18.4.6) also shows a division along the J-axis with a coefficient of monotonicity of 0.80 and so these two variables conform to a common order. There is a considerable overlap between the POSA item plot for “drugs” and the item plot for “verbal” strongly suggesting that those burglars who abuse drugs are likely to verbally attack their victims using insults and swearwords and vice versa.

Figure 18.4.7 shows the combined structure made for the five item plots representing the facet element *Casual/Drugs* for burglary. It can be observed that there is a complete overlap between “restaurant” and “school” both of which partition along the Y-axis. The overall overlapping between all five variables occurs in the upper right region of the combined structure plots. In this upper right area are the cases with extreme profiles for the presence of the variables defining this element *Casual/Drugs*.

There is a bigger overlap area between the variables “restaurant” and “school” with the variables “drugs” and “verbal” than between the variables “restaurant” and “school” with the variable “physical”. This implies that the burglars who break into restaurants and schools are more likely to be individuals who abuse drugs and who verbally attack rather than physically attack their victims.

However, as said previously, the variable “physical” is an essential factor to the phenomenon of *Casual/Drugs* because it partitions on the Y-axis. There is also a significant overlap between “physical” and “drugs” which implies that those who use drugs may attack the victim physically.

Thus, physically attacking the victim is a particular action that defines the facet element *Casual/Drugs* particularly if this happens together with verbal attack, drug abuse, and with breaking into public-commercial premises such as restaurants and schools.

Interestingly, the results of the POSA analysis for the facet element *Casual/Drugs*, in the chapter on robbery in relation to the variable “drugs” (see sub-section 13.4), are quite different from the results for this variable when examining burglary. In the analysis of robbery the variable “drugs” was shown to be an essential factor to the phenomenon *Casual/Drugs*.

Here, when analysing burglary the variable “drugs”, despite having a high coefficient of monotonicity of 0.98, was not an essential factor because it did not partition along either the X-axis or Y-axis. The essential factors for burglary were “restaurant”, “school” and “physical”.

This implies that in the case of burglary, the choice of public-commercial premises and physically attacking the victim are more important in defining the phenomenon than the abuse of drugs.

This is in accordance with the main difference between robbery and burglary, which is that burglary is defined as breaking into premises, so not surprisingly the choice of premises will have a strong impact on the analysis of the crime of burglary.

Therefore as hypothesised in the present study, the burglar's choice of target premises reveals relevant factors that can be used to help distinguish between and identify the criminals' patterns of behaviour and general characteristics.

In the POSA main plot (figure 18.4.1) for *Casual/Drugs* there is a dominant route through the POSA showing a simple linear dimension indicating that the profiles form a cumulative scale in relation to the element *Casual/Drugs*. However the six profiles forming the cumulative scale account for only for 39 cases out of a total of 148 cases for burglary (i.e.26%).

Therefore, despite there is a cumulative scale, the number of cases represented by these six profiles is very low. The sequence of variables across the plot is "restaurant" - "school" - "drugs" - "verbal" - "physical" (see Appendix III for description of these variables. The frequencies are in brackets as in the POSA plot. The six profiles are:

22222 (2)

22221 (1)

22211 (7)

22111 (2)

21111 (1)

11111 (26)

However when considering all the profiles in the main POSA plot not just those forming a linear scale there is a combination between the variables "drugs" and "restaurant" in 13 cases and a combination between "drugs" and "school" in 18 cases making 31 cases where the lifestyle of addiction to drugs combines with the action of breaking into public premises.

There is also a combination between the variable “drugs” and “verbal” in 25 cases and a combination between “drugs” and “physical” in 10 cases, making 35 cases where the addiction to drugs combines with the desire to establish some contact with the victim.

In summary, therefore there is a cumulative scale but the number of cases represented by the profiles is very low adding little additional information when considering the combinations between the selected variables of the element *Casual/Drugs*.

18.5 - POSA Analysis of the Element Family/Criminality of Burglary

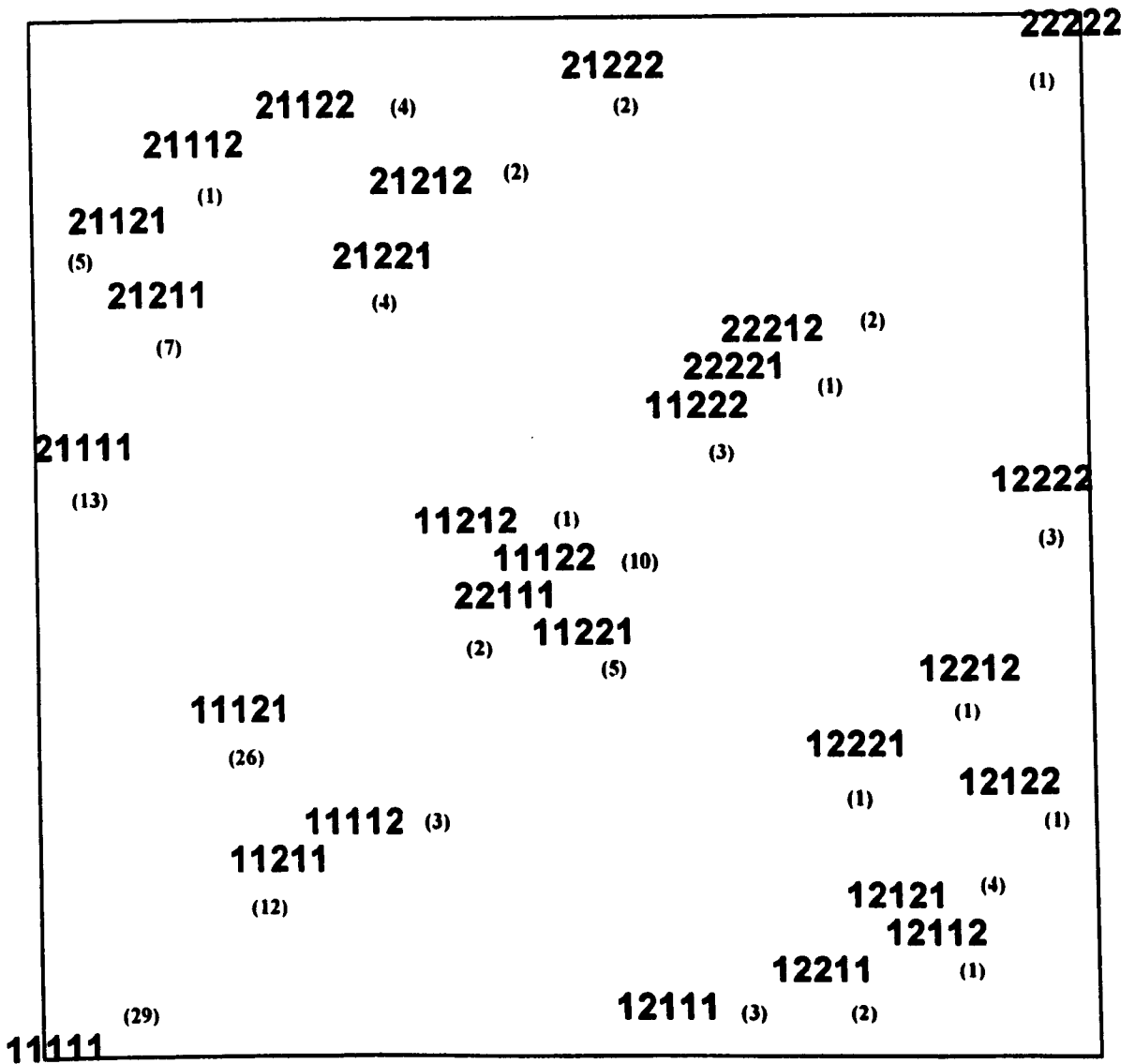
The results of the POSA analysis for the element *Family/Criminality* using the variables “criminal family”, “flat”, “disguise”, “conv-20”, and “young” showed the existence of 28 possible different profiles.

Of these 28 profiles, there was 1 case that had the extreme profile of all the five variables being present (i.e. 22222) and 29 cases with the extreme profile of having none of the five variables present (i.e. 11111).

The main plot containing the 28 possible profiles related to the facet element *Family/Criminality* is presented in figure 18.5.1 (The frequencies showing the number of cases for each profile are in brackets on the POSA main plot).

The item plots for each of the variables are presented in figures 18.5.2 to 18.5.6. Figure 18.5.7 shows the combined structure for the five variables under analysis.

Figure 18.5.1: POSA Main Plot in the Element Family/Criminality of Burglary



The sequence of variables across the POSA is “flat” - “criminal family” - “disguise” - “conv-20” - “young” and the frequencies are shown in brackets (see Appendix III for these variables).

Figure 18.5.2: "Criminal Family"

Item Plot X-axis/Burglary

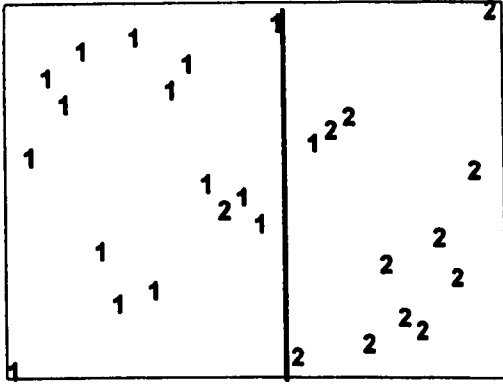


Figure 15.5.3: "Flat"

Item Plot Y-axis/Burglary

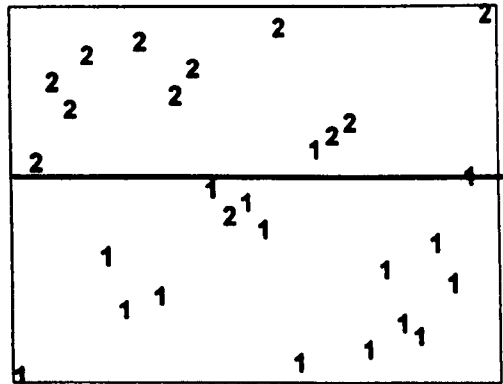


Figure 18.5.4: "Young"

Item Plot J-axis/Burglary

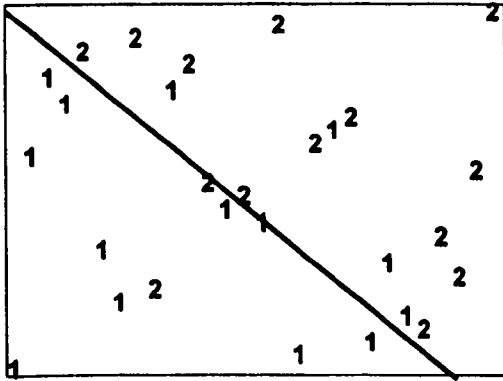


Figure 18.5.5: "Conv-20"

Item Plot J-axis/Burglary

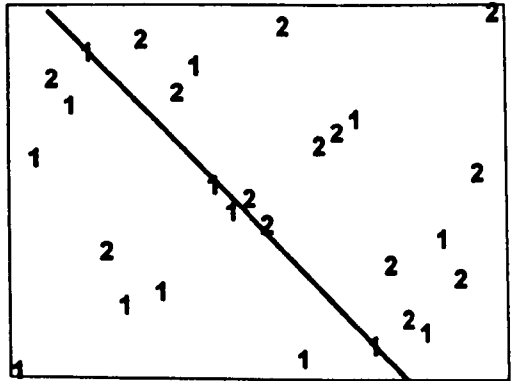


Figure 18.5.6: "Disguise"

Item Plot P-axis/Burglary

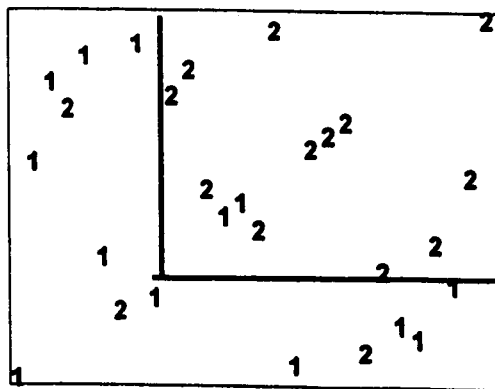
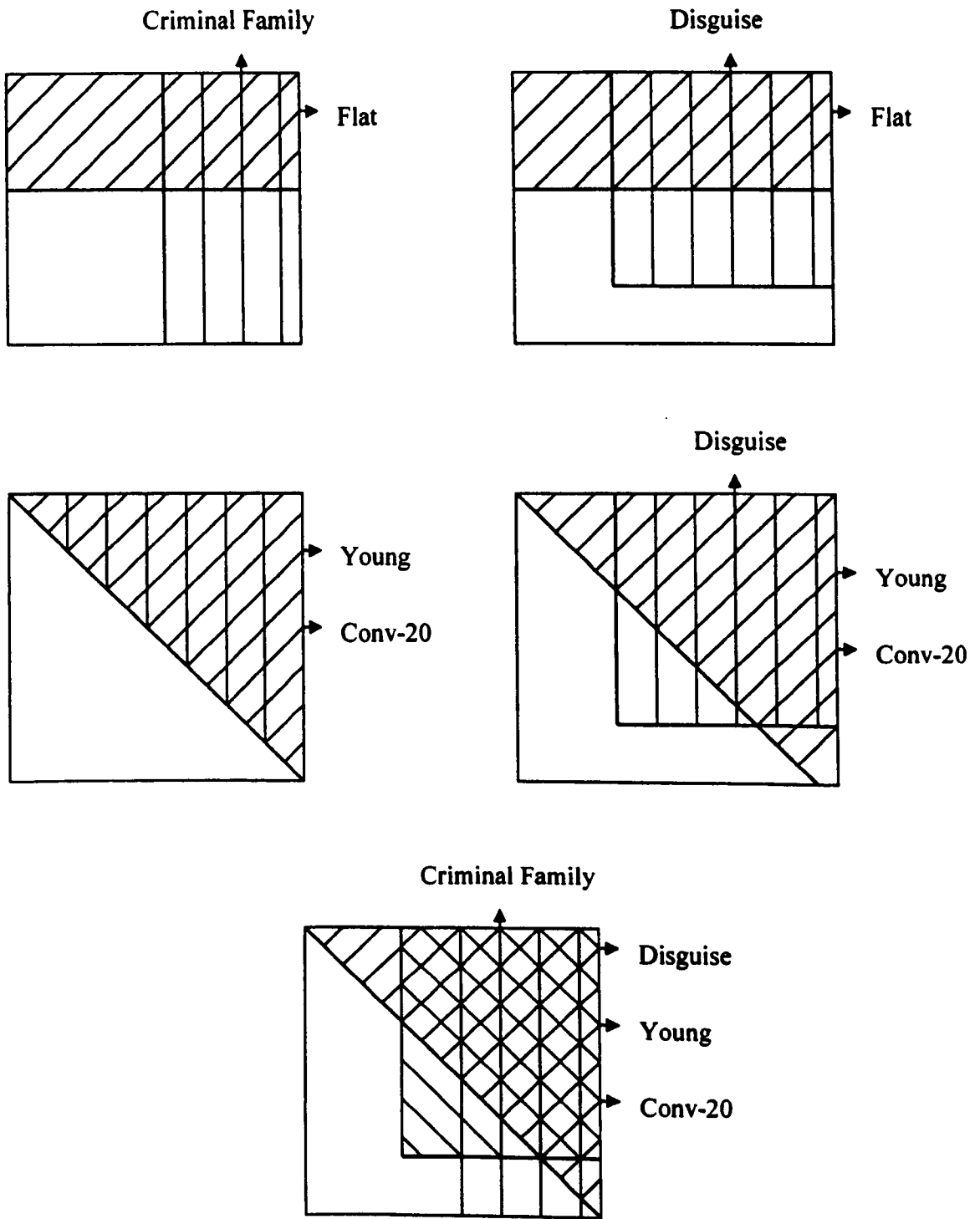


Figure 18.5.7: Combined Structure of the Element Family/Criminality of Burglary



In figure 18.5.2 the variable “criminal family” shows a division along the X-axis with a coefficient of monotonicity of 0.99. Thus, “criminal family” is an essential factor underlying the element *Family/Criminality*. This implies that there is a major difference, when defining the element *Family/Criminality*, between those burglars who also have close members of the family committing crimes from those burglars who do not come from a criminal family background. In figure 18.5.3 the variable “flat” shows a division along the Y-axis with coefficient of monotonicity of 0.99.

Thus, the choice of breaking into a flat is also an essential factor in the facet element *Family/Criminality*. However, the variable “criminal family” and the variable “flat” are qualitatively different since the first partitions along the X-axis whilst the second partitions along the Y-axis. This means that those burglars who choose to break into flats are not necessarily the same ones who came from a criminal family background. However, the results of the POSA analysis showed that having members of the family committing crimes and the choice of flats as targets are both essential factors that define the facet element *Family/Criminality*.

In figure 18.5.4 the variable “young” shows a division along the J-axis with a coefficient of monotonicity of 0.85. In figure 18.5.5 the variable “conv-20” also shows a division along the J-axis with coefficient of monotonicity of 0.74. Thus, those burglars who have been in institutions for young offenders are likely to be the same ones who started to commit crimes from an early age and tended to receive their first conviction when less than 20 years old.

The fact that the variable “conv-20” shows a coefficient of monotonicity lower than 0.80 does not affect what is being said. This is because the variable “young”, which also expresses starting a criminal career early, showed quite a high coefficient of monotonicity of 0.85. Thus, the variable “young” also serves to reinforce the main concept of an early beginning to the criminal careers of these burglars related to the facet element *Family/Criminality*.

In figure 18.5.6 of the variable “disguise” shows a division along the P-axis with a coefficient of monotonicity of 0.84. This P partition is a moderator so it moderates the effects of the essential factors (X-axis or Y-axis). This does not mean that the essential factors, which here are “criminal family” and “flat”, are now ‘less essential’ to the phenomenon. It just means that the P partition moderates the essential factors because of the influence that this P partition is going to impose as well on the facet element. This is particularly the situation if the plot area covered by the P partition is a considerable one, as is the case here.

Thus, the results of the POSA analysis suggest that the variable “disguise” is a moderator of the essential factors “criminal family” and “flat” because of the impact that the variable “disguise” itself will have on the phenomenon. Hence using a disguise to commit the burglaries is very relevant to the facet element *Family/Criminality* to the point where it moderates the essential factors referring to having members of the family committing crimes and to the choice of the premises flats as targets.

Figure 18.5.7 shows the combined structure for the five variables referring to the facet element *Family/Criminality*. It can be observed that despite the variables “criminal family” and “flat” both being essential factors to the phenomenon they are qualitatively different and the overlap between them occurs in the upper right regions of their item plots. There is a moderate overlap between the variables “criminal family” and “flat” with the variable “disguise”, which means that it is not always those who come from a criminal family or choose flats as targets will use a disguise and vice versa.

The overlaps between these three variables also occur in the upper right areas with a slightly bigger overlap between the variable “flat” and “disguise” than between the variable “criminal family” and “disguise”. There is also a considerable overlap between the variable “disguise” and the variables “conv-20” and “young”. This is implying that those burglars who start their criminal careers early, receiving their first convictions when less than 20 years old and having been in an institution for

young offenders, are more likely to be the ones who use a disguise during their offences. Therefore, those burglars who begin their criminal career early are likely to be the ones who consider issues related to the risk of recognition and apprehension and thus behaviour such as using a disguise to commit their crimes.

In the POSA for the element *Family/Criminality* (figure 18.5.1) it can be observed that there is again no dominant route through the POSA. In fact it was not possible to identify any combinations between the variables that appeared in more than 21 cases. Thus, in summary, the selected variables for POSA analysis (i.e. “flat” - “criminal family” - “disguise” - “conv-20” – “young” as they appear across the plot) add little to support the element *Family/Criminality* of burglary.

18.6 - POSA Analysis of the Element Financial/Property of Burglary

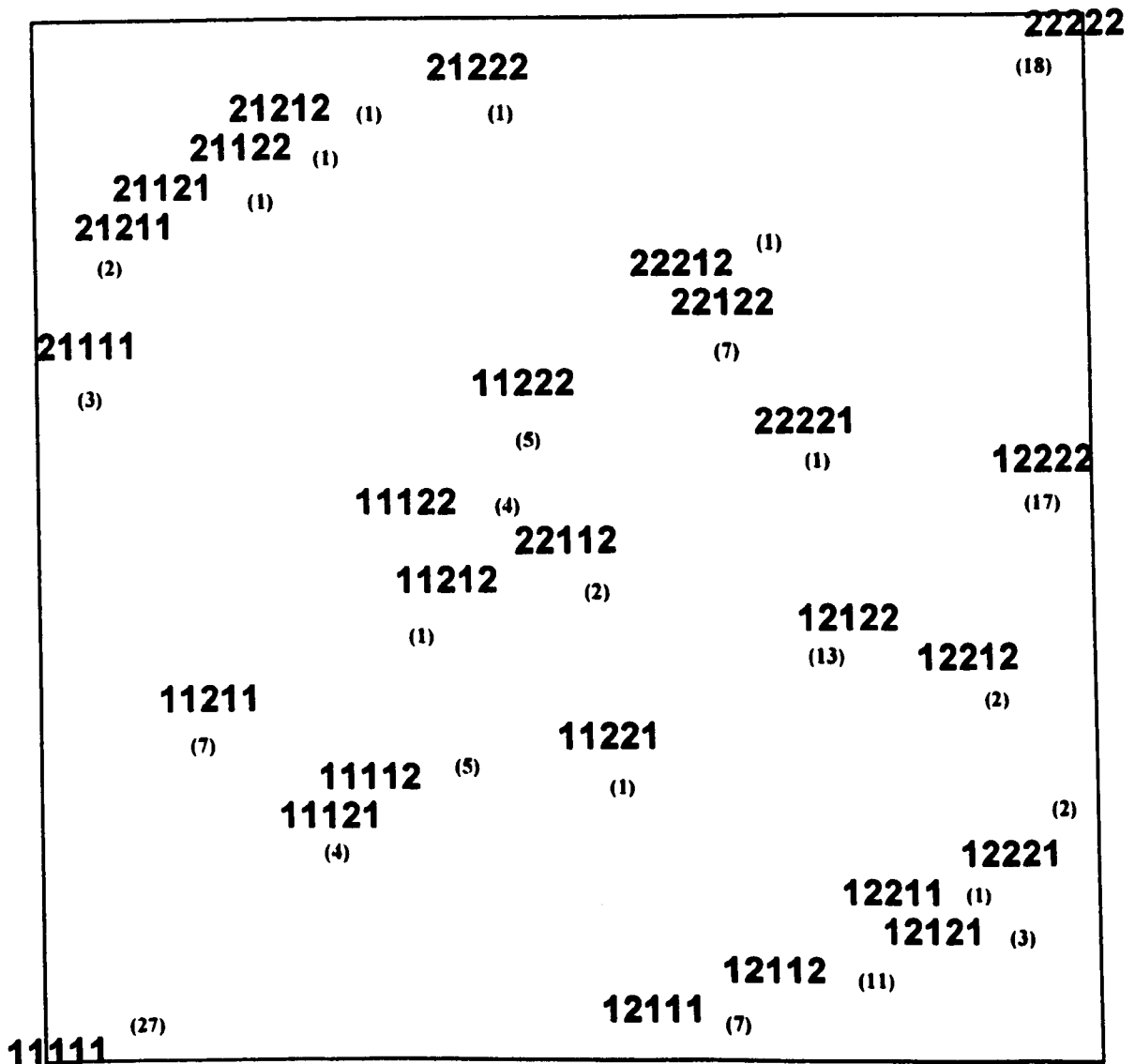
The results of the POSA analysis on the facet element *Financial/Property* referring to the selected variables “plan”, “office”, “£10,000 “select premise”, and “escape route” showed the existence of 27 different profiles resulting from the combination of these five variables.

Of these 27 profiles, 18 cases had the extreme profile of all the five variables being present (e.g. 22222) and 27 cases where none of the five variables were present (e.g. 11111).

The main plot containing the 27 possible profiles is presented in figure 18.6.1 (The frequencies showing the number of case for each profile are in brackets on the POSA main plot).

The item plots for each of the variables are presented in figures 18.6.2 to 18.6.6 and figure 18.6.7 shows the combined structure for the five variables examined for the facet element *Financial/Property*.

Figure 18.6.1: POSA Main Plot for the Element Financial/Property of Burglary



The sequence of variables across the POSA is “office” - “plan” - “£10,000” - “select premise” - “escape route” and the frequencies are shown in brackets (see Appendix III for these variables).

Figure 18.6.2: "Plan"

Item Plot X-axis/Burglary

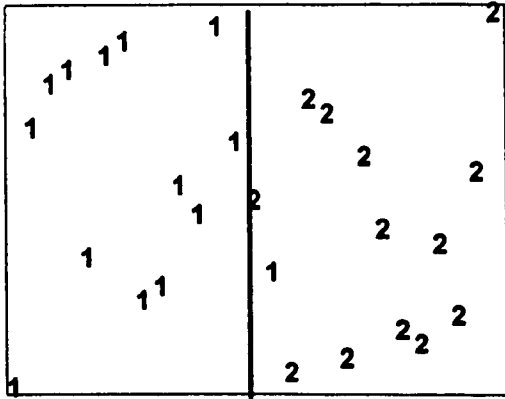


Figure 18.6.3: "Office"

Item Plot Y-axis/Burglary

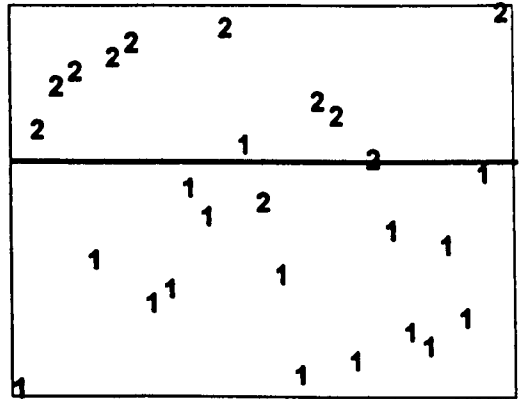


Figure 18.6.4: "£10,000"

Item Plot J-axis/Burglary

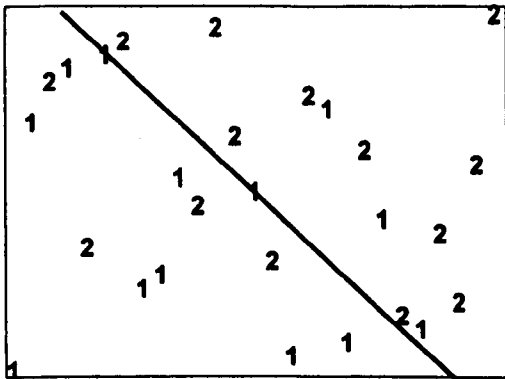


Figure 18.6.5: "Select Premise"

Item Plot J-axis/Burglary

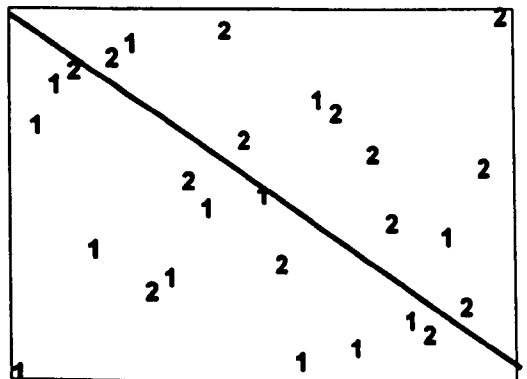


Figure 18.6.6: "Escape Route"

Item Plot P-axis/Burglary

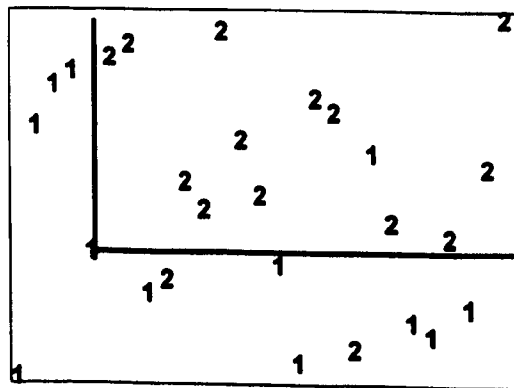
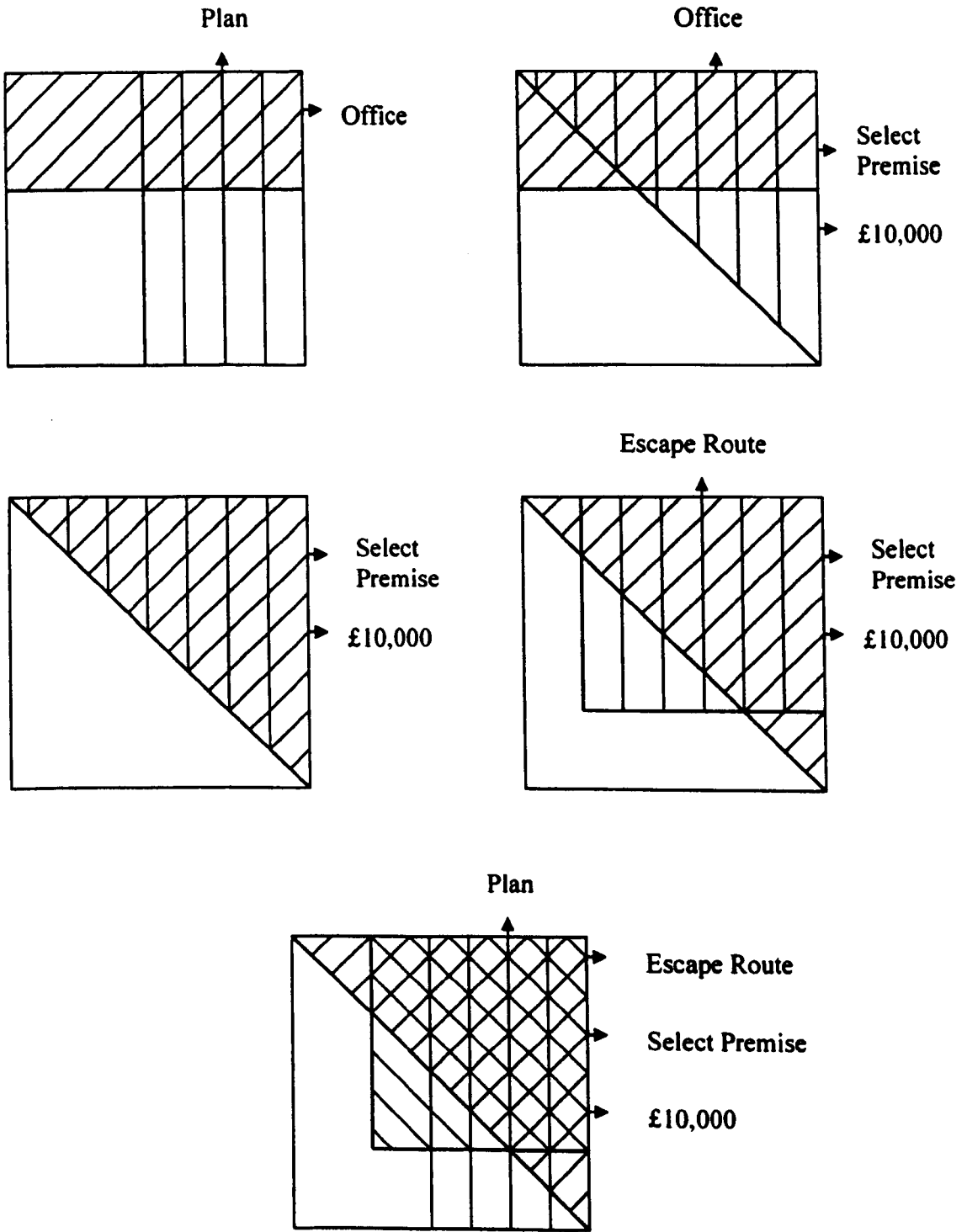


Figure 18.6.7: Combined Structure of the Element Financial/Property of Burglary



The variable “plan” (figure 18.6.2) shows a partition along the X-axis with a perfect coefficient of monotonicity of 1.0. Thus “plan” is an essential factor to the facet element *Financial/Property*. Therefore there will be a major difference between those burglars who plan their crimes carefully and those who do not.

In figure 18.6.3 the variable “office” shows a partition along the Y-axis with a coefficient of monotonicity of 0.99. Thus, choosing to break into offices is also an essential factor to the element *Financial/Property*. The variable “plan” and the variable “office” are qualitatively different since the first partitions along the X-axis and the second along the Y-axis. This means that those burglars who carefully plan their crimes do not always choose to break into offices and vice versa. However, it is important to explain that the premises office represents the choice of a purely commercial target.

In the SSA results on burglary (see sub-section 16.6.4) variables referring to other premises of a purely commercial nature, such as “factory” and “petrol station”, were found close to the variable “plan” and to other variables related to planning issues within the facet element *Financial/Property*, so reinforcing the relationship between planning and the choice of purely commercial premises.

Indeed, here the POSA results, despite the qualitative difference, support the notion that planning the burglaries and choosing premises of a purely commercial nature are essential factors related to the facet element *Financial/Property*.

In figure 18.6.4 the variable “£10,000” shows a division along the J-axis with a coefficient of monotonicity of 0.74. Figure 18.6.5 for the variable “select premise” also shows a division along the J-axis with a coefficient of monotonicity of 0.73. Since these variables partition along the same axis, it suggests that burglars who steal large amounts of money are likely to be the same ones who show careful selection of the premise to be burgled and vice versa. In other words, this careful selection of the premise is related to the search for higher rewards.

However it is important to observe that the coefficients of monotonicity of these variables are lower than the accepted .80. Thus, care needs to be taken in interpreting these variables when defining cases, nevertheless, the important issue is the common order between them means such that when they do occur together they are strongly related to the facet element *Financial/Property*.

Indeed, the selection of the premises may sometimes be related to other factors than just high rewards, such as the search for a premise providing easy access, etc. However, the selection of the premises in relation to stealing high value goods expresses that this careful selection is probably linked to the burglar's desire for higher rewards from the crime.

In figure 18.6.6 the variable "escape route" shows a division along the P-axis with a coefficient of monotonicity of 0.85. This P partition is a moderator to the phenomenon so it moderates the effect of the essential factors (X or Y). Thus, since the P partition moderates the essential factors, preparing an escape route in advance of committing the burglaries is relevant to the facet element *Financial/Property* at the point where it moderates the essential factors of planning the crimes and choosing purely commercial premises.

However, it should be understood that preparing an escape route is also an issue related to the planning of the burglaries and thus the variable "escape route", despite here moderating the essential factor of "plan", also emphasises the planning nature of those burglars related to the facet element *Financial/Property*.

Figure 18.6.7 shows the combined structure for the five variables of the facet element *Financial/Property*. The variables "plan" and "office" are essential factors to this element, but because they are qualitatively different they overlap in the upper right area of their item plots. There is a total overlap between the variables "£10,000" and "select premise" showing that those who select carefully the premise are searching for higher rewards.

Also there is a relevant overlap between the variables “£10,000” and “select premise” with the variable “escape route”. This shows that the burglars who carefully select their premises and who desire higher rewards from their crimes show a tendency to prepare escape routes in advance.

The combined structure shows a moderate overlap area between the variables “plan” and “office” and the variables “£10,000” and “select premise”. There is a considerable overlap area between the variables “plan” and “office” in relation to the variable “escape route”. However what needs primarily to be taken into consideration is that in reality selecting carefully the premise, stealing large amounts of money and preparing an escape route in advance are all planning issues so they reinforce the planning nature of those burglars related to this facet element *Financial/Property*.

Considering the POSA main plot (figure 18.6.1) for the element *Financial/Property* containing the variables “office” - “plan” - “£10,000” - “select premise” – “escape route” (see Appendix III for these variables), it can be observed that there is no dominant route through the POSA and thus no simple linear dimension indicating that certain profiles form a cumulative scale in relation to this element.

The only combination of variables in relation to the element *Financial/Property* which account for more than 30 cases, when considering all the profiles in the POSA main plot, are between “escape route” and “£10,000” (46 cases, 31% of 148 cases) and between the variables “escape route” and “select premise” (66 cases, 44% of 148 cases). Therefore in 31% of the cases there is combination between the preparation of escape routes prior to the crime and the stealing of large amounts of money. In 44% of the sample there is a combination between the preparation of escape routes and the careful selection of the premises target.

Thus, in summary, the preparation of escape routes prior to the crime and the careful selection of the target premises is the most common combination accounting for nearly half of the sample in the element *Financial/Property*.

CHAPTER 19

APPLICATIONS OF THE RESEARCH

19.1 - A Structural Model to Analyse Criminal Behaviour

The present research examined some issues about the profiling of the property crimes robbery and burglary. The main aim was to investigate the criminal activities and lifestyle characteristics of robbers and burglars using data originating from a self-report survey where the offenders answered questions in an anonymous questionnaire giving information about their crimes and themselves.

These data expressed the behaviour of those who committed the crimes of robbery and burglary and this behaviour could be linked to their crimes and their lives in general.

However, a simplistic presentation of the behaviour of offenders is not going to give answers about the criminal activity and the lifestyle characteristics of these individuals. In fact, the complexity becomes evident when considering the issues of what is behaviour, what behaviour is relevant and in relation to what?

Examining peoples' general behaviour is a difficult task and examining criminal behaviour could be considered even more complicated. From this perspective what needs to be considered is how the analysis of differences and consistencies in behaviour can help to explain how people differ from one another.

Indeed the first thing to understand when examining criminal behaviour is that some behaviour can be consistent and that exactly because of this consistency in some behaviour it is possible to identify differences between individual criminals (Canter, 1994). In other words, people will have some consistent actions related to their pattern of behaviour and the variations between individuals will emerge and be identified only after considering their recognisable and consistent patterns of behaviour.

Therefore if it is patterns of consistent behaviour that needs to be of primary consideration, then another relevant issue is how to identify which behaviours will form a given behavioural pattern. At this point it is important to have in mind that a pattern of behaviour will make reference to different types of behaviour that co-occur so forming a pattern. This raises the questions “Which behaviour will be part of a given behavioural pattern and how can different behavioural patterns help to identify differences between people”?

It might seem to be a complicated if not a utopian task to identify different behavioural patterns. However this is not always the case, one emerging way of studying criminal behaviour is to construct a model or models to try and identify different behavioural patterns, as suggested by Canter and Alison (2000). This type of model will assist in the process of differentiating between individuals because it can provide a structured and organised way of identifying co-occurring behavioural characteristics.

Therefore the model will identify and contain different behavioural patterns and within these patterns will be the behavioural characteristics peculiar to one pattern or another. Thus, to minimise the complexity of the model and make it possible to analyse the different patterns of behaviour it is necessary to start with more general considerations (a structural model identifying the behavioural patterns) before moving on to more specific issues (the specific actions related to different behavioural patterns).

From this perspective, this research presents a model for analysing criminal behaviour and the profiling of the property crimes of robbery and burglary. The relationship between the criminal activities and the lifestyle characteristics of the offenders were considered when developing the model to identify the different patterns of behaviour that could be used to help to differentiate between offenders.

19.2 - Applying the Model

The results from using the proposed model primarily identified the *Instrumental* and *Interpersonal* patterns of behaviour, referring to offenders' criminal behaviour, and these were different in nature. The distinguishable behavioural characteristics co-occurring within these patterns made it possible to identify consistency and variation in behaviour between the offenders under study.

The *Instrumental* pattern of behaviour focused on aspects of the crime, such as the planning approach and profitability of the crime. The desire here is to obtain profit from the crime and attention focuses on the things to be taken and thus the behaviour here is more planning-instrumental and less emotional-impulsive.

This pattern of behaviour will demonstrate professionalism and less emotion and thus the avoidance of gratuitous violence towards the victims. The literature indeed identifies this instrumental context when studying criminal behaviour (Bennett and Wright, 1984; Walsh, 1986). However these studies did not consider lifestyle characteristics in relation to a model for analysing criminal behaviour.

Applying the model showed here that the lifestyles related to the instrumental context refer to non-impulsive lifestyle characteristics and to a more stable and non-violent family background. Furthermore since this behavioural pattern refers to less impulsivity there seems to be also a psychological "protection" from alcohol and drug addiction (see later) and better education and skills.

However the results also showed that this pattern of behaviour might also refer to a background of criminality within the family and lifestyle characteristics that reflect this peculiarity.

The primary structure of the model also identified an *Interpersonal* pattern of behaviour different in nature from the *Instrumental* pattern. The *Interpersonal* pattern refers to the focus on the interpersonal aspects of the crime with emphasis on a desire to establish a relationship with the victim.

Thus attention is not on planning issues or profitability but on the victims and this lack of attention to material reward is exemplified by the stealing of low value items. The literature also refers to this interpersonal context but again lifestyle characteristics are not considered (Merry and Harsent, 2000; Alison *et al*, 2000).

The reward here is a psychological satisfaction based on contact with the victim. What matters is the interpersonal aspects, based on the over-attention given to the victim's presence, thus the behaviour is emotional-impulsive, with attention diverted away from other features of the crime.

Related to this *Interpersonal* pattern of behaviour are likely criminal activities based on the desire to establish an interpersonal contact with the victims demonstrated by the thoughtless, impulsive and violent actions of physically and verbally attacking the victim, scaring and humiliating them during the execution of the crime. However a formal and precise link between interpersonal actions of an emotional nature and particular offending styles has yet to be established.

However here it was suggested for example that this *Interpersonal* pattern of behaviour seems to be linked to the extreme and so to commitment of crimes against the person, when committing the property crimes of robbery and burglary as was found in the present research.

The lifestyle characteristics like the criminal activities relate here more to emotional-impulsive behaviour. Also exhibited is a disturbed lifestyle that includes alcohol abuse and drug addiction and a lack of education and skills. Suffering violence at the hands of the parents (who may also be addicts) and the witnessing of violence in the family is also more likely.

In summary the *Interpersonal* pattern of behaviour emphasises impulsivity and emotionality. The criminal activities and the lifestyles relating to this behavioural pattern reflect unthinking actions, disturbance, addiction and violence.

The primary structure of the proposed model identified two elements of the facet of the offenders' criminal behaviour namely *Interpersonal* and *Instrumental* that seemed to drive the offenders' behaviour in different ways and serve to identify consistency and variation of behaviour between the offenders.

These facet elements seem to confirm a consistency in behaviour when considering criminal actions particularly when combined with lifestyle characteristics and because these facet elements are different in nature they highlighted variations between offenders in accordance with one element or the other.

The model when studied in depth showed the existence of more specific elements, related to the two facet elements *Interpersonal* and *Instrumental* identified previously, which help to identify even more distinctly the different patterns of behaviour.

These elements refer to the facet of the offenders' lifestyles, and they are: *Family/Violence* and *Casual/Drugs* (related to the facet element *Interpersonal*) and *Family/Criminality* and *Financial/Property* (related to the facet element *Instrumental*). Each of these four facets elements showed peculiarities reflecting consistency of actions in the criminal activities and lifestyle characteristics.

The facet element *Family/Violence* expressed a lifestyle related to a disturbed family background, to a history of violence in family and to suffering parental violence. This pattern of behaviour is also more likely to relate to addiction to alcohol and gambling and more likely to be linked to a history of several broken relationships since the data showed the characteristic of having been married at least twice and also to a lack of skills and education and a tendency to alcohol addiction in the case of both the offenders and their fathers.

The criminal background here refers, in relation to the facet element *Family/Violence*, more to the stealing of low value items. Therefore financial gain is not an important feature of the crime and it seems that there are other underlying causes for the commitment of the crime. The results here showed that the behavioural pattern related to the facet element *Family/Violence* likely refers to the commitment of both property crimes and crimes against the person thus expressing desires that are not linked to property.

This finding may not be surprising given that this behavioural pattern that includes the performing of violent actions against the person also included experience with violence in family and parental violence directed towards the offenders. The literature (Merry and Harsent, 2000; Alison *et al*, 2000) does not make such inferences presumably because of the lack of consideration of lifestyle issues such as the ones related to experience with violence in every day life.

In relation to robbers' criminal activities the results showed that there was more emphasis on the stealing of low value items related to the facet element *Family/Violence*. In the case of burglary linked to the facet element *Family/Violence* was not just the likelihood of stealing low value items (absence of variables relating to the stealing of large amounts of money) but also the choice of houses as the target premises.

Indeed this lack of attention to the profitability of the crime and the over-attention on the victim are the main issues related to the interpersonal nature, which is reinforced by the criminal's disturbed and violent lifestyle.

The facet element *Casual/Drugs*, also linked to the *Interpersonal* facet element, expressed a lifestyle of impulsivity and addiction to drugs. According to the results, the behavioural pattern related to this facet element *Casual/Drugs* refers to a history of drug addiction and also a history of psychiatric treatment probably necessitated by psychological disturbance linked to the high level of impulsivity. The lifestyle characteristics will influence the criminal actions and the impulsivity will be responsible for spontaneous unplanned crimes.

This pattern, in relation to the facet element *Casual/Drugs*, consequently refers to the stealing of low value objects and/or small amounts of money to support the addiction to drugs and this urgent need for drugs may lead to the selection of less appropriate targets and to the stealing of less profitable items.

Again the literature examines the relationship between drug addiction and criminal behaviour but seems confused about the causality or lack of it between drugs and crime (Bean, 2002; Mawby, 2000). However, again lifestyle characteristics as related to crime were not fully considered and this could have helped to answer many question referring to these confusions.

It is suggested by the present study that this impulsive-emotional lifestyle seems to be motivated by interpersonal desires rather than by instrumental ones. This explains the actions displayed during the crimes that, according to the results here, suggests that the more likely behaviour will be to threaten the victims, humiliate them, and to verbally insult and physically attack them, so reinforcing the focus on the interpersonal aspects of the crime where the victim is the central issue.

However, despite this focus on the interpersonal desires, the results implied that the pattern of behaviour relating to the facet element *Casual/Drugs* is less likely to include the extreme action of committing a serious crime against the person such as rape and murder as was the case with the facet element *Family/Violence*. This suggests that having a violent family and having violence directed towards them (characteristics of the facet element *Family/Violence*) would seem to be the trigger that leads impulsive-emotional criminals to commit crimes against the person, characteristic not associated with the facet element *Casual/Drugs*.

In relation to the robbers' criminal activities it becomes evident that the pattern of behaviour linked to the facet element *Casual/Drugs* refers to the stealing of low value items and to the committing of unplanned-spontaneous crimes driven by the need to support a drug dependency.

In burglary the pattern of behaviour related to the facet element *Casual/Drugs* likely refers to the stealing of low value items (absence of variables relating to the stealing of large amounts) and to the commitment of unplanned crimes. There was also a tendency to choose public-commercial premises such as schools, clubs, restaurants and small shops as targets in relation to this behavioural pattern. These criminal activities reinforce the interpersonal nature, particularly if the premises chosen are open and people are present. However the formal link between specific criminal activities, such as the choice of the premises, and interpersonal nature is not yet established.

Taking low value items infers a lower expectancy in terms of financial gain from the crime. The choice of public-commercial premises, despite being different from the choice of houses, still expresses the interpersonal desire since these kinds of premises are related to the extension of peoples' personal lives. In these premises for example people relax and enjoy themselves and also these premises may provide an encounter between the offender and the victim where the offender can display his interpersonal desires.

Thus, this pattern of behaviour referring to less attention to profit from the crime and also the desire to engage in a relationship with the victim expresses the interpersonal desire that here is a reflection of a lifestyle of impulsivity and addiction to drugs.

The facet element *Family/Criminality*, in contrast to the facet elements *Family/Violence* and *Casual/Drugs*, seems to be related to an instrumental rather than to an interpersonal context. According to the present research it expresses a lifestyle of being part of a criminal family.

However, the behavioural pattern of this facet element *Family/Criminality* does not seem to be linked to a chaotic lifestyle referring to alcohol and drug addiction or to violence in family or of being a victim of parental violence. This behavioural pattern includes characteristics such as having a cold, aloof or hostile mother and a broken home where the parents divorced but this does not seem to be linked to the development of strong violent interpersonal desires.

The criminal background in the facet element *Family/Criminality* focuses on the instrumental aspects of the crime and on the avoidance of any kind of contact with the victims during the crime. The results from this study showed that related to this element are actions referring to planning issues, including the search for greater rewards and the stealing of high value items and the consideration of the risk of recognition by the use of disguise.

Indeed the literature refers to the instrumental context, here linked to the facet element *Family/Criminality*, as relating to planning and higher rewards from the crime (Maguire, 1982; Bennett and Wright, 1984; Cromwell *et al*, 1991). But again the lifestyles, particularly those referring to the lack of chaotic and disturbed characteristics and to issues such as planning and professionalism, were not fully considered in the literature.

The lifestyle and the criminal activities here therefore seem to combine to replicate the criminality within the family but without expressing violent actions towards the victim because the own lifestyle is not linked to experiencing violence.

In terms of robbery, this pattern of behaviour seems to be related to stealing high value objects such as a car or even to specialising in car theft. In the case of burglary, the pattern of behaviour does not seem to be linked to the stealing of low valuable items but relates to the choice of premises that are more difficult to access such as flats.

In relation to burglary, despite flats being residential premises that could be linked to an interpersonal desire, what is important here is the grouping of actions such as planning and the increased difficulty in entering flats, which demands developed criminals skills, that emphasise the instrumental rather than the interpersonal context. Therefore, it is fundamental to examine a group of actions co-occurring to define a given pattern of behaviour and not just consider isolated actions.

Thus in summary, the behavioural pattern related to the facet element *Family/Criminality* will express a focus on the instrumental aspects of the crime and thus on the planning of the crimes, consideration of the risk of apprehension, the stealing of high value objects, emphasising the profitability of the crime and less attention to emotional contact with the victim. The lifestyle here reinforces the instrumental nature since disturbance; addiction and violence are not key issues of this behavioural pattern.

The facet element *Financial/Property* as in the case of the facet element *Family/Criminality* is also related to the instrumental context. The results of the present research demonstrated that in this element the lifestyle and the criminal activities were cohesive in expressing instrumental desires and reflected a strong commitment to crime.

Crime is the only life known and the lifestyle is one of financial gain from criminal activities. This strong commitment to crime is associated with a history of several arrests referring to the high number of crimes committed, characteristics related to this facet element *Financial/Property*.

The arrests occur because of the high number of crimes committed and not because of a lack of concern with issues related to the risk of apprehension. These tendencies are already established in the literature (see chapters 1, 2 and 3) but lifestyle characteristics, implying for example a better education and no addiction to alcohol and drugs, are not considered when identifying these professional criminals.

On the contrary, the behavioural pattern related to the facet element *Financial/Property* refers to the careful planning of the crimes and to concentrating on instrumental issues when committing the crimes. The results here showed that the stealing of valuable objects and larger amounts of money was more likely. Indeed this behavioural pattern seems to refer to the elite of the criminals, probably members of an organised criminal network who work in groups to commit their crimes and to dispose of the stolen goods immediately.

Relating to this behavioural pattern is also the more likely use of a weapon that infers an instrumental approach to crime. The weapon is used to intimidate and to apply control rather than to cause injuries to the victims. Indeed this behavioural pattern refers to the avoidance of displaying violent actions towards the victim since violence is not the central focus of the criminal activities or of the lifestyle. This behavioural pattern does not seem to be marked by personal experience of violence.

Thus referring to this behavioural pattern of the element *Financial/Property* is “professionalism” and the avoidance of unnecessary contact with the victims. The focus is on the acquisition of valuable items and on the financial gain rather than on the desire to establish an interpersonal relationship with the victim.

In relation to robbery this behavioural pattern refers to a tendency to work in groups, use weapons and to the stealing of more valuable objects and larger amounts of money.

In the case of burglary, this behavioural pattern refers also to the working in groups, the use of a weapons and the stealing of valuable objects and large amounts of money but in addition includes the tendency of choosing purely commercial premises as targets, such as offices, petrol stations and factories in contrast to houses.

In summary, the structural model proposed by the present research makes it possible to identify different patterns of behaviour containing distinct co-occurring actions. From the primary structure of the model it was possible to identify the elements *Instrumental* and *Interpersonal* of the facet of offenders' criminal behaviour, which were different and distinguishable from one another.

Deeper examination of these two facet elements made it possible to identify more specific patterns of behaviour referring to the elements of the facet of offenders' lifestyles, namely: *Family/Violence*, *Casual/Drugs*, *Family/Criminality* and *Financial/Property*, with their own peculiarities which help to recognise consistency and variation in the offenders' behavioural patterns.

19.3 - The Usefulness of the Model: A Process of Measurement

The model proposed here was based on a consideration of actions referring to the offenders' criminal behaviour as related to their lifestyle characteristics. The model serves to show that the lifestyle and behaviour displayed during criminal activities reinforce each other and form a consistent pattern of behaviour for a given offender.

The identification of a pattern of behaviour is a complex task and any kind of measurement is difficult. The proposed model is an attempt to provide a structure firstly, for identifying different patterns of behaviour and secondly, for measuring consistency and variation between offenders in relation to the different patterns of behaviour.

From this perspective the model made it possible to identify distinct patterns of behaviour for robbers and burglars. When a given behavioural pattern is driven by interpersonal desires the criminal activities will focus on contact with and violence towards the victim rather than on planning and profitability of the crime. However when a behavioural pattern is driven by instrumental desire the criminal actions will be related to planning issues aiming to make the crime profitable.

Thus, the usefulness of the present research is related to the fact that the proposed model provides a framework for showing that the offenders' patterns of behaviour can be identified by the examination of the relationship between criminal behaviour and lifestyle.

This suggested framework may be useful to future studies concentrating on interpersonal and/or instrumental issues (see chapter 2 and 3) by adding the context of lifestyles that may help to answer questions referring to, for example, consistency in patterns of offending style.

In other words, the criminal actions and the lifestyle characteristics will compliment and reflect one another and the way in which this happens can be examined and measured with the support of the proposed model. It is therefore plausible to believe that the proposed model can be relevant to the analysis of other forms of crime.

19.4 - Separating Robbers from Burglars

The current study used data from two types of property crime, namely robbery and burglary, to develop a model linking the lifestyles of offenders to their criminal actions.

The data on robbery was analysed separately from that on burglary despite they're being considerable overlap, with the same people in the sample committing both types of crime (only 19% of the offenders claimed to exclusively commit robbery). This was because the two crimes although having many similar variables also contained variables exclusive to one crime or the other.

This separate approach to the data analyses was potentially advantageous in that the same elements defining criminal actions and lifestyles could be evaluated against two different types of property crime and some attempt could also be made to see if it was possible to separate burglary from robbery in terms of the behavioural characteristics and actions of the offenders.

The results for both types of property crimes fitted the model, the question then arises can it help separate robbers from burglars?

The short answer is no and this may be because the criminal actions and lifestyles of Brazilian robbers and burglars are very similar or because in this particular sample none of the burglars were exclusively burglars but admitted to other crimes as well and the sub-set of exclusively robbers was too small to effect an impact on the results. Indeed there are many similarities between the results on robbery and burglary with the defined elements containing the same groupings of many common variables.

There was some difference in relation to the committing of crimes against the person, which was higher for robbery (52%) than for burglary (38%) as shown in chapters 10 and 15. More interestingly when verifying the relationships between the variables across the facet elements (end of chapter 12 and 17) it was found that the variable "crime person" appeared to be linked just to the element *Family/Violence* in robbery, whilst in the case of burglary, it was linked to all the four elements of *Family/Violence, Casual/Drugs, Family/Criminality* and *Financial Property*.

Thus in robbery the committing of crimes against the person relates just to the element *Family/Violence* and can be linked to criminal actions referring to violence and to a lifestyle of violence, but this is not the case with burglary as it relates to all the elements.

Perhaps crime against the person is a more complex feature of burglary. Thus, it seems to be that in burglary actions related to crime against the person will take on many facets. For example crime against the person within burglary may be related to the control of the burglary event (instrumental) or just to satisfaction in hurting people (interpersonal). Details of how the crime was committed may help to make distinctions between different patterns of burglars' behaviour. However this specific information was not available here since this present research is mainly on proper crimes.

CHAPTER 20

Putting the Present Study in Perspective

20.1 - The Relevance to Research in Investigative Psychology

Researchers into crime have argued that criminal behaviour is a product of psychological and material goals (Canter, 2000). However, the majority of the research into property crimes still emphasises the material nature of the crime as defining the offending styles of those who commit property crimes (Petersilia *et al*, 1977; Matthews, 2002). Emerging studies in Investigative Psychology have focused on the psychological issues driving offenders' behaviour to analyse criminal behaviour and to identify variations and consistencies of behaviour between different offenders (Merry and Harsent, 2000; Alison *et al*, 2000). It is accepted that property crime is related to material gain but in the studies where psychological issues are taken into consideration an interpersonal dimension is added to analyse the offenders' behavioural patterns.

The psychological issues, such as those related to the kind of actions displayed towards the victims during the crime, are examined to explain the offenders' behaviour. It is believed that psychological issues referring to the offenders' levels of interpersonal desire will be expressed at the crime scene and these will reflect consistency and variations in the offenders' behaviour. An analysis of the crime scene behaviour that considers the criminal activities and also the levels of interpersonal desire displayed will help to identify co-occurring sets of behaviour of the offenders.

However, there are still some gaps to be filled in even after considering both the criminal actions driven by material goals and the psychological issues defining behaviour. One such gap is related to the consistency of behaviour. For example, which behaviour is going to be consistent from crime to crime and over an extended period of time? Another aspect is the complexity in identifying the nature of a given behaviour, that is, does it relate to material gain or to psychological reward? For example, is causing a mess in a burgled property the result of the haste in searching for a specific object (material gain) or just for the sake of destroying or damaging the property (psychological gain)?

The present research does not just propose analysing criminal actions referring to the material gain and actions referring to psychological reward but also suggests examining both contexts in relation to the offenders' lifestyle characteristics. Thus the present research adds and considers a third element of lifestyle as being important when analysing criminal behaviour.

For example the question of whether the action of causing a mess in the property has a material or psychological context can be answered by examining lifestyle issues reinforcing the instrumental aspect of material gain or the interpersonal aspect referring to psychological reward.

If the actions displayed at the crime scene are based on instrumental, less impulsive-emotional characteristics it is likely that the mess caused at the crime scene will be related to the search for a specific object of material value. But if the lifestyle of a given offender focused on interpersonal, impulsive-emotional issues it is likely that the mess is related to the desire for psychological rewards by attacking the victim in this manner. Thus, in order to help to solve crimes, for example if the mess was caused in relation to less impulsive actions then the search would be for someone who is less impulsive in his every day life (see Canter 1994; Narrative Theory applied to criminal behaviour).

Considering lifestyle characteristics can also help to answer questions about the consistency of behaviour over a period of time and from crime to crime. Thus, violent behaviour towards the victim displayed at the crime scene will have a tendency to be consistent from crime to crime and with time, if this behaviour is linked to a lifestyle of violence. This is because the violence shown at the crime scene in reality was created and developed by this lifestyle of experiences with violence. The lifestyle is what will serve to feed this violent behaviour reinforcing it and reproducing it consistently from crime to crime.

Therefore, the present research considered other studies in Investigative Psychology (see the book of Canter and Alison, 2000) that emphasised instrumental issues (material gain) and interpersonal issues (psychological gain) but in addition demonstrated that lifestyle characteristics reinforce if not define the instrumental and interpersonal aspects.

Indeed, the present research proposed a model for analysing criminal behaviour considering instrumental or interpersonal actions as being related to lifestyle characteristics.

From this perspective, the model served to show that distinct lifestyle characteristics are not just brought to and expressed at the crime scene but in fact are responsible for the development of different behavioural patterns. This examination of criminal actions in relation to lifestyle characteristics helps to define different patterns of behaviour and makes it possible to differentiate between offenders.

Thus, the model proposed by the present research provides additional information about the offenders' identity and in this way contributes to studies in Investigative Psychology.

20.2 - Possible Future Implications for Police Investigations

The contribution of the present study is mainly to the investigation of property crimes, more specifically the crimes of robbery and burglary. The examination of the different dimensions of behaviour presented the opportunity of classifying offenders' patterns of behaviour and thus their offending styles.

The specific elements of behaviour examined here were those of the instrumental and interpersonal dimensions and showed more precisely which actions tended to co-occur to form the characteristic behavioural patterns of the offenders.

Since offenders' actions will form a pattern of behaviour that in some will be related to the instrumental dimension while in other offenders to the interpersonal dimension, some inferences about the offenders' identity can be made by an appreciation of the different patterns of behaviour displayed at the crime scene.

For example, if during a given property crime, a crime against the person was also committed this implies that the person responsible was being driven by his interpersonal desires. This interpersonal focus is likely to be reinforced by actions such as the stealing of low value items and a lack of planning since this offender's attention is on the victim and not on the profitability of the crime.

In this case the police investigation can concentrate on the search for someone who will show characteristics of a lifestyle of violence. The offender is likely to be someone with previous convictions for property crimes and also for crimes against the person and is also likely to be someone who abuses alcohol and drugs, is addicted to gambling and because of this disturbed lifestyle is unskilled and poorly educated.

In contrast, if the crime scene expresses an avoidance of contact with the victim for example reinforced by the choice of a commercial premise at a time when people are not suppose to be there, this refers to an offender who is expressing his instrumental desires. These desires will be reinforced by actions such as the stealing of high value items and planning because the attention here is on the profitability of the crime.

In this case, the police search could concentrate on someone who is likely to have previous convictions for purely property crimes and therefore will not have committed crimes against the person. Also it is more likely that the offender here will not be someone related to a lifestyle of extreme violence or impulsive behaviour such as addiction to drugs and alcohol. Because of the lower level of impulsivity and over attention to planning driven by thinking actions, this offender is more likely to have a better level of education and to be skilled.

Thus, the present research by identifying distinct patterns of behaviour could help the police to make inferences about the identity of those they are searching for. The examination by the police of the actions displayed at the crime scene showing either the instrumental or interpersonal desires will present a distinct pattern of behaviour consistent with a specific offending style and lifestyle characteristic. From this perspective, the proposed model for analysing criminal behaviour could be developed to assist the police investigation.

However the usefulness of the current model and any need for refinement can only come from applying it to other data sets to test its robustness. At present therefore it only represents a potential tool to assist the police investigation.

20.3 - Limitations of the Present Research

One limitation of the present research is related to the way in which the proposed model can be applied when analysing criminal behaviour. It is necessary to consider the patterns of behaviour when applying the model and if isolated behaviour is the focus then the model will produce unreliable results. Furthermore to analyse patterns of behaviour it is necessary to have a considerable number of relevant actions co-occurring to form behavioural patterns.

Another limitation is that it is necessary to collect a considerable amount of data referring to both criminal activities and lifestyle characteristics for the model to be effective. Thus, it is clear that the proposed model can be better applied and will express the findings more accurately if the information (data) used has quality and is related to the aim of the model. The data used here were collected from male offenders in Northeast Brazil and the results may vary when data for female offenders is analysed or when using data collected in other countries.

Another point is that studies on criminal behaviour (see Ainsworth, 2001) particularly those considering a model to analyse behaviour based on instrumental and interpersonal dimensions are recent (see Salfati, 2000). Thus, care needs to be taken when considering these recent researches and during the application of their findings. Indeed there is no reference in the literature to the examination of these instrumental and interpersonal dimensions in relation to lifestyle characteristics as proposed here.

However, this does not decrease the findings of the present research. On the contrary, the lack of studies in this field shows the need to fill this gap and the present investigation may motivate further research into the relationship between criminal activities and lifestyle characteristics of those who commit crimes.

20.4 - Further Research

Further studies employing larger data sets related to criminal activities and lifestyle characteristics would add to the findings of this present research. In relation to the criminal activities, data indicating different methods of entry into premises or different styles of searching for objects to steal would be particularly relevant. Also data on the characteristics of the victims chosen by the offenders and the actions of offenders who work in groups as compared to those who operate alone could show interesting results.

It may be interesting to see how the offenders' ages relate to the different regions (facet elements) of the SSA plot since there are several reports in the literature to the effect that offenders change their style/type of crime, as they get older. When considering lifestyle characteristics, data reflecting levels of psychological disturbance such as neurotic or psychopathic behaviour may add to the findings. Also data referring to the specific behaviour of offenders who commit crimes whilst under the influence of alcohol or drugs and data referring to the offenders' social relationships with other individuals would be useful. The proposed model could also be used to consider other types of crimes, not just the property crimes of robbery and burglary considered here.

The analysis of rape and murder could benefit from the application of the model. For example, actions referring to the methods of killing and disposal of the bodies may be related to distinguishable lifestyle characteristics of those who kill. Also the characteristics of the murderers' victims such as their age, their social status, etc, may be related to the offender's desires and to his lifestyle. Similarly the rapists' sexual preferences or actions such as the level of intimacy displayed during the attack can be examined in relation to their lifestyle characteristics and may show distinguishable patterns of behaviour. Thus, the proposed model should not be limited in its use to the classification and examination of those who commit property crimes but also applied to the investigation of other types of crimes.

20.5 - The Main Contributions to Knowledge

The main contributions that this study makes to knowledge will be presented next.

20.5.1 - Understanding the Lifestyles and Patterns of Criminal Actions of Brazilian Robbers and Burglars

One of the main contributions of the present research was to understand the different lifestyle characteristics and patterns of criminal action of Brazilian robbers and burglars. For example it was shown that behaviours/characteristics tend to form coherent behavioural patterns. Thus a given lifestyle will not be formed randomly but in relation to a recognisable thematic of life. The same can be said of criminal actions that will be arranged in an organised way expressing a given coherent pattern of activities.

From this perspective, behavioural characteristics referring to a particular thematic tend to co-occur reinforcing its existence. Thus, a lifestyle of violence for example may be formed by violent actions not just performed by the individual but by those who are part of his life and so those who contribute to the construction of his behavioural pattern. The same seems to be true with criminal actions, for example a given pattern of actions related to the planning of the offences will be reinforced by behaviours that are coherent with the thematic planning not just to the simple action of planning.

Thus, when searching for a thematic of violence it is not just an action of violence that will reflect this thematic but what is behind the action of violence. For example, what previous experience of violence the individual had? Do those who are part of his life perform violent actions? From where did the individual learn that violence could be a normal feature of the relationship between people?

The same seems to be true with the criminal actions, for example the action of planning may be accidental if it is not part of a group of actions expressing the thematic of planning. Thus, when searching for a thematic it is necessary to examine what is behind it. For example, is the capacity to plan linked to cognitions? Is planning related to the ability to think and so reinforced by having a better level of education?

Thus, by examining the coherence of the grouping of behaviours/characteristics it was possible in this present study to identify different patterns referring to lifestyles and criminal actions, namely *Family/Violence*, *Casual/Drugs*, *Family/Criminality* and *Financial/Property*. There will be fundamental differences in the processes referring to these patterns.

For example, in relation to *Family/Violence* it seems to be a lifestyle of experience with violence that damages the thinking ability of the individual so promoting impulsive criminal actions. In relation to *Casual/Drugs* it may be a lifestyle of addiction that damages the ability to think promoting spontaneous criminal actions. In relation to *Family/Criminality* what seems to be fundamental is a lifestyle that lacks experience with violence and addiction so that the development of thinking processes promoting planned criminal actions occurs. In relation to *Financial/Property* it could be that the lack of experience with violence and addiction is what promotes the profitable criminal actions.

In terms of contributing to the police investigation, it could be that a robbery or burglary crime scene marked by unnecessary impulsive and/or violent criminal actions, such as hurting the victim during the action of stealing, infers that the crime was committed by an offender with a lifestyle of experience with violence. Where a crime scene is marked by spontaneous criminal actions, such as the lack of a search for more valuable items, this suggests an impulsive lifestyle related to addiction to drugs and so on.

Thus, the present research suggests that different patterns of criminal behaviour are not just related to the criminal actions at the crime scenes but also to a lifestyle pattern outside the crime situation.

20.5.2 - Interpersonal and Instrumental: Fundamental Processes of Criminality

The present research also contributes to knowledge by suggesting that the examination of the interpersonal and instrumental contexts will help to define the different process to criminality. Thus an interpersonal as opposed to an instrumental approach at the heart of the crime suggests a different aetiology to the criminality of the offender. These different contexts may thus motivate criminality and drive behaviour in a specific way.

Thus, criminal actions related to contact with the victims would infer an interpersonal context is driving the actions performed during the crime. For example the offender may hit the victim during the crime or may appear to extend the time spent with the victim unnecessarily, both actions being driven by the interpersonal context.

Similarly criminal actions related to craft ability will infer an instrumental context is driving the actions during the crimes. For example to gain the maximum profit from the crime the offender may both plan the crime and select the target carefully, behaviour driven by the instrumental context.

In fact it is also suggested here that these interpersonal and instrumental contexts will reflect lifestyles characteristics. Thus, to identify these two fundamentally different processes to criminality, namely the instrumental and interpersonal, is to also identify the offenders' lifestyles and this may help in identifying these offenders.

20.5.3 - The Power of the SSA Analysis for Revealing the Structures in Criminal Data

The present study showed the usefulness of the SSA analysis in identifying patterns of behaviour by considering the co-occurrence of variables comprising these behavioural patterns. Thus, the SSA analysis can help to reveal structures that make it possible to organise the data more concisely.

Other statistical procedures based on the presence of significant correlations between variables did not make it possible to identify different patterns of behaviour because they just considered those variables or combinations of variables with significant correlation coefficients.

In contrast the SSA analysis rank ordered the interrelationships between all the variables and did not just consider those with significant correlations. In fact, SSA analysis had the power of revealing the structure of the data under analysis by considering the association between every variable with all the other variables. In accordance, in this present study the structure of the facet elements identified by the SSA analysis served as the basis with which to examine the associations between the variables using other statistical analyses.

20.5.4 - Using POSA Analysis to Demonstrate Classifications of Criminals

POSA analysis was used in the present study to demonstrate subtle classifications of criminals in relation to the distinct behavioural patterns associated with the various facet elements identified by the SSA analysis.

The POSA analyses carried out on specific variables representing each of the facet elements showed that the co-occurrence of these variables could be examined at the level of the individual to show subtle classifications of criminals. This use of POSA aided the interpretation of the SSA data by reinforcing the strength of some of the SSA results and was a novel use of this technique.

20.5.5 - Ways of Using MDS in Police Investigations

The use of non-metric multi-dimensional scaling procedure (MDS) in the present study demonstrated the power of such procedures in the analysis of criminal behaviour.

In essence these procedures consist of calculating the correlations between a set of variables and then representing these correlations as distances in a notional space promoting the visualization of the co-occurrence of the variables. It allowed the simplification of the hypotheses under examination by organizing the data in a rank order of the associations between the variables rather than by their absolute values thus making it possible to identify the dominant themes amongst the variables.

This distinction between one set of actions/characteristics and another is the important aspect of these procedures since it greatly facilitates the interpretation of data that is not very clear. Thus the use of these procedures to organize the data can contribute to the police investigation by facilitating the examination of data related to criminal behaviour that are often not very clear.

20.5.6 - The Usefulness of Interviews and Questionnaires to Study Criminal Behaviour

As another contribution to knowledge the present study showed the usefulness of interviews and questionnaires to study criminal behaviour. Indeed the present study demonstrated various issues related to the construction and applicability of the instrument of data collection that will be helpful to other researchers.

For instance it highlighted issues such as the importance of considering the sample opinion when constructing the instrument of data collection, in this particular case the importance of piloting the questionnaire so that appropriate revisions can be made prior to the major data collection phase of the work. This ensures that the

correct information is being collected in the appropriate format for subsequent analysis.

It also demonstrated that it was better to enlist the assistance of the criminals in applying the instrument of data collection rather than to use prison staff. In this way confidentiality was established between the researcher and the subjects.

However perhaps the most fundamental contribution to knowledge in this aspect was to show the importance of the self-report data collection process. Despite prisons being promoted as extremely dangerous places, it was shown that by respecting the criminals' presence and what they have to say, more effective data could be collected. Indeed, the offenders provided much more information about their crimes and their personal lives than appeared in the police reports and official records. Thus with courage and determination the use of interviews and questionnaires to study criminal behaviour is possible even in the context of "dangerous criminals and impenetrable prisons".

Thus, in summary this research makes the following contributions:

- It provides a more detailed understanding of the lifestyles and patterns of criminal actions of Brazilian robbers and burglars.
- The proposal that there are two fundamentally different processes, namely the *Instrumental* and *Interpersonal* at the heart of their crimes that suggest a different aetiology to their criminality.
- Further demonstration of the power of SSA for revealing the structures in criminal data.
- The (novel) use of POSA to demonstrate subtle classifications of criminals.
- Suggestions of ways forward from MDS modelling that could possibly be of use in police investigations.
- A demonstration that with courage and determination, the use of interviews and questionnaires is possible even in the context of Brazilian criminals and prisons.

REFERENCES

- Ainsworth, P. B. (2001). *Offender Profiling and Crime Analysis*. Willan Publishing, UK.
- Ainsworth, M.P.S.; Blehar, M.C.; Walters, E.; and Wall, S. (1978). *Patterns of Attachment*. Hillsdale, NJ: Lawrence Erlbaum.
- Allen, N. H. (1980). *Homicide: Perspectives on Prevention*. New York. Human Science Press.
- Alison, L.; Rockett, W.; Deprez, S. & Watts, S. (2000). Bandits, Cowboys and Robin's Men: The Facets of Armed Robbery. In D. Canter and L. Alison (eds), *Offender Profiling Series: IV - Profiling Property Crimes* (pp 75-106). Ashgate Publishing, UK.
- Bandura, A. (1973). *Aggression*. New York: Prentice Hall.
- Barclay, G. C. and Tavares, C. (2000). *International Comparisons of Criminal Justice Statistics 1998*. London: Home Office (Home Office Statistical Bulletin 04/00).
- Barker, M. (2000). The Criminal Ranger of Small-town Burglars. In D. Canter and L. Alison (eds), *Offender Profiling Series: IV - Profiling Property Crimes* (pp 57-73). Ashgate Publishing, UK.
- Bean, P. T. and Wilkinson, C. K. (1988). Drug Taking, Crime and the Illicit Supply System. *British Journal of Addiction*, 83 (5), 533-539.
- Bean, P. (2002). *Drugs and Crime*. Willan Publishing, UK.
- Beck, A. and Willis, A. (1991). *Burglary in Currys and Comet; A Comparison Analysis*. Centre for the Study of Public Order, University of Leicester, UK.

- Bennett, T. and Sibbitt, R. (2000). *Drug Use Among Arrestees*. Home Office Research Findings 119. London: Home Office.
- Bennett, T. and Durie, L. (1999). *Preventing Residential Burglary in Cambridge: From Crime Audits to Targeted Strategies*. London: Home Office (Police Research Series, Paper no. 108).
- Bennett, T. and Wright, R. (1984). *Burglars on Burglary*. Aldershot, Hants, England: Gower.
- Blackburn, R. (1993). *The Psychology of Criminal Conduct. Theory, Research and Practice*. John Willey & Sons Ltd Press, Chichester, England.
- Block, R. (1977). *Violent Crime: Environment, Interaction and Death*. Lexington: Lexington Books.
- Borg, I. And Lingoes, J. (1987). *Multidimensional Similarity Analysis*. New York: Springer-Verlag.
- Brantingham, P. and Brantingham, P. (1981). Notes on the Geometry of Crime. In P. Brantingham and P. Brantingham (eds). *Environmental Criminology*. Beverly Hill, CA: Sage.
- Brennan, P.; Mednick, S.; and Hodgins, S. (2000). Major Mental Disorders and Criminal Violence in a Danish Birth Cohort. *Archives of General Psychiatry*, 57, 494-500.
- Brown, B. B. and Harris, P. B. (1989). Residential Burglary Victimization: Reactions to the Invasion of a Primary Territory. *Journal of Environmental Psychology*, 9, 119-132.

- Budd, T. (1999). *Burglary of Domestic Dwellings: Findings from British Crime Survey*. London: Home Office (Home Office Statistical Bulletin, issue 4/99).
- Bunt, P. and Mawby, R. I. (1994). Quality of Policing. *Public Policy Review*, 2.3, 58-60.
- Butler, W. M.; Leitenberg, H. and Fuselier, D. G. (1993). The Use of Mental Health Professionals Consultants to Police Hostage Negotiation Teams. *Behavioural Sciences and Law*, 11, 213-221.
- Canter, D.V. (1989). 'Offender Profiling'. *The Psychologist*, 2, 12-16.
- Canter, D. V. and Heritage, R. (1990). A Multivariate Model of Sexual Offence Behaviour: Developments in "Offender Profiling", in *the Journal of Forensic Psychiatry*, 1(2), 185-212.
- Canter, D.V. (1994). *Criminal Shadows: Inside the Mind of the Serial Killer*. London: Harper Collins.
- Canter, D. (2000). Profiling Property Crimes. . In D. Canter and L. Alison (eds), *Offender Profiling Series: IV - Profiling Property Crimes* (pp 1-30). Ashgate Publishing, UK.
- Canter, D. and Alison, L (2000). *Profiling Property Crimes*. Offender Profiling Series: IV - Profiling Property Crimes. Ashgate Publishing, UK.
- Chaiken, J. M. and Chaiken, M. R. (1990). Drugs and Predatory Crime. In M. Tonry and J. Q. Wilson (eds). *Drugs and Crime*. Chicago: University of Chicago Press.
- Charles, N. (1998). Public Perceptions of Drugs related Crime. *Research Findings*, 67. London: Research and Statistics Directorate, Home Office.

- Codigo Penal Brasileiro (1999), 14 Edição. Editora Saraiva, Sao Paulo, Brasil.
- Conklin, J. (1972). *Robbery and The Criminal Justice System*. New York: Lippincot.
- Cook, D. (1989). *Rich Law, Poor Law*. Buckingham: Open University Press.
- Cook, P. (1982). The Role of Firearms in Violent Crime – An Interpretative Review of the Literature. In M. Wolfgang and N. Weiner (eds) *Criminal Violence* . London: Sage.
- Cook, P. (1976). A Strategic Choice Analysis of Robbery. In W. Skogan (ed.) *Sample Surveys of the Victims of Crime*. Cambridge, MA: Ballinger.
- Croall, H. (1998). *Crime and Society in Britain*. London: Longman.
- Cromwell, P. F.; Olson, J. N.; and Avary, D' A. W. (1991). *Breaking and Entering*. Newbury Park, CA: Sage.
- Dancer, L. S. (1990). Suicide Prediction and the Partial Order Scalogram Analysis of Psychological Adjustment. *Applied Psychology: An International Review*, 39(4), 479-497.
- Delieu, J. (1994). *The Consistent Criminal? Specialisation and Escalation in Criminal Career: Do they Exist?* Msc Dossertation, University of Surrey.
- Dobinson, I. (1986). Drug Related Burglary in New South Wales. In S. K. Mukherjee and L. Jorgensen (eds). *Burglary: A Social Reality*. Australian Institute of Criminology, conference proceedings.
- Donald, I. And Wilson, A. (2000). Ram Raiding: Criminals Working in Groups. In D. Canter and L. Alison (eds), *Offender Profiling Series: III – The Social Psychology of Crime: Groups, Teams and Networks*, (pp 191-246). Ashgate Publishing, UK.

- Donald, I. (1985). 'The Cylindrex of Place Evaluation', in D.V. Canter (ed.), *Facet Theory: Approaches to Social Research*, New York: Springer-Verlag.
- Dugan, L. (1999). The Effect of Criminal Victimization on Household's Moving Decision. *Journal of Criminology*, 37.4, 903-928.
- Eysenck, H. J. (1964). *Crime and Personality*. London: Routledge & Kegan Paul.
- Eysenck, H. J. (1977). *Crime and Personality Reconsidered*. Bulletin of the British Psychological Society, 27, 23-24.
- Farrington, D. P. and Lambert, S. (2000). Statistical Approaches to Offender Profiling. In D. Canter and L. Alison (eds), *Offender Profiling Series: IV - Profiling Property Crimes* (pp 75-106). Ashgate Publishing, UK.
- Farrington, D. P. and Lambert, S. (1997). 'Predicting Offender Profiles from Offence and Victim Profiles'. In P-O. H. Wikstrom; L. W. Sherman and W. G. Skogan (eds), *Problem-Solving Policing as Crime Prevention*. Boulder, Colorado: Westview Press.
- Farrington, D.P. (1986). Age and Crime. In M. Tonry, and N. Morris (Eds), *Crime and Justice: An Annual Review of Research*, Vol. 7, pp. 189-250. Chicago: University of Chicago Press.
- Farrington, D.P. (1992). Criminal Career Research in the United Kingdom. *British Journal of Criminology*, 32 (4), 521-535.
- Feeney, F. (1986). Robbers as Decision-Makers. In D. B. Cornish and R. A. Clarke (eds). *The Reasoning Criminal: Rational Choice Perspective on Offending*, pp. 53-71, New York: Springer Verlag.

- Feeney, F. and Weir, A. (1986). Robbers as Decision Makers. In D. Cornish and R. Clarke (eds). *The Reasoning Criminal*. New York: Springer-Verlag.
- Feldman, P. (1993). *The Psychology of Crime*. Cambridge University Press, UK.
- Fergusson, D. and Horwood, L. (2000). Alcohol Abuse and Crime: A Fixed-Effects Regression Analysis. *Addiction*, 95, 1525-1536.
- Feshback, S. (1964). *The Function of Aggression and The Regulation of Aggressive Drive*. *Psychological Review*, 71 (4), 257-272.
- Gabor, T.; Baril, M.; Cusson, M.; Elie, D.; LeBlanc, M. and Normandeau, A. (1987). *Armed Robbery: Cops, Robbers and Victims*. Springfield: Charles C. Thomas.
- Grasmick, H.; Tittle, C.; Bursik, R.; and Arenklev, B. (1993). Testing the Core Empirical Implications of Gottfredson and Hirschi's General Theory of Crime. *Journal of Research in Crime and Delinquency*, 30, 5-29.
- Gibbens, T. (1981). Shoplifting. *British Journal of Psychiatry*, 138, 346-347.
- Gill, M. (2000). *Commercial Robbery*. London: Blackstone Press, UK.
- Goldstein (1985). The Drugs/Violence Nexus: A Tripartite Conceptual Framework. *Journal of Drug Issues*, 15, 493-506.
- Gottfredson, M.; and Hirschi, T. (1990). *A General Theory of Crime*. Stanford, CA: Stanford University Press.
- Greenberg, D. (1981). *Crime and Capitalism*. Palo Alto, CA: Mayfield.
- Guttman, L.(1954). A New Approach to Factor Analysis: The Radex. In Lazarsfield, P. F. (eds). *Mathematical Thinking in the Social Sciences*. New York: Free Press.

- Guttridge, P.; Gabrielle, W.F.; Mednick, S.A. & Van Dusen, K.T. (1983). Criminal Violence in a Birth Cohort. In K. T. Van Dusen and S. A. Mednick (eds). *Prospective Studies of Crime and Delinquency*, 211-224.
- Haran, J. F. & Martin, J. M. (1984). *The Armed Urban Robber: A Profil.* Federal Probation, p 48-73.
- Hodge, S (1998). *Spatial Patterns in Serial Murder: A Conceptual Model of Disposal Site Choice.* Liverpool University: Thesis PhD.
- Holmes, R. M. and Holmes, S. T. (2002). *Current Perspective on Sex Crimes.* Sage Publications, UK.
- Home Office (1998). *Tackling Drugs in Prison: The Prison Service Strategy.* London: Home Office.
- Hochstetler, A. (2001). Opportunities and Decisions: Interactional Dynamics in Robbery and Burglary Groups. *Criminology*, Volume 39, Number 3, August 2001.
- Jacques, C. (1994). 'Ram-raiding: the History, Incident and Scope for Prevention', pp. 42-55 in Gill (ed.) *op cit.*
- Johnson, B; Goldstein, P.; Preble, E.; et al (1985). *Taking Care of Business: The Economics of Crime by Heroin Abusers.* Lexington, MA: Lexington Books.
- Johnston, L. (1994). 'Riot by Appointment: An Examination of the Nature and Structure of 7 'Hard Core' Football Hooligan Groups'. Unpublished Masters dissertation: University of Surrey.
- Jones, S. (2001). *Criminology.* The Cromwell Press, Trowbridge, Wiltshire, UK.

- Kapardis, A. (1989). One Hundred Convicted Armed Robbers in Melbourne: Myths and Reality. In D. Challinger (ed). *Armed Robbery: Proceedings of a Seminar*. Canberra: Australian Institute of Criminology.
- Katz, J. (1988). *Seductions of Crime*. New York: Basic Books.
- Kershaw, C.; Budd, T.; Kinshott, G.; Mattinson, J.; Mayhem, P.; and Myhill, A. (2000). *The 2000 British Crime Survey*. Home Office Statistical Bulletin 18/00. London: Home Office.
- Kinnear, R. P. and Gray, C. D. (1997). *SPSS for Windows Made Simple*. Psychology, Press, East Sussex, UK.
- Kock, E.; Kemp, T. and Rix, B. (1996). *Disrupting the Distribution of Stolen Electrical Goods*. Crime Detection and Prevention Series paper 69, London: Home Office Police Research Group.
- Koppen, P and Jansen, R. (1998). The Road to Robbery: Travel Patterns in Commercial Robberies. *British Journal of Criminology*, 38 (2): 230-246.
- Labor Party (1996). *Breaking the Vicious Circle*. (October). London: Labour Party.
- Laycock, G. (1985). *Reducing Burglary: a Study of Chemists' Shops*. London: Home Office (Crime Prevention Unit, paper No 1).
- Lawson, W. K. (1984). Depression and Crime: A Discursive Approach. In Craft, M. and Craft, A. 9eds). *Mentally Abnormal Offenders*. London: Baillière Tindall.
- Lingoes, J. (1973). *The Guttman-Lingoes Non Metric Program Series*. MA Thesis: University of Michigan.

- Lobato, A. (2000). Criminal Weapon Use in Brazil: A Psychological Analysis. In D. Canter and L. Alison (eds), *Offender Profiling Series: IV - Profiling Property Crimes* (pp 107-145). Ashgate Publishing, UK.
- MacDonald, J. M. (1975). *Armed Robbery: Offenders and Their Victims*. Springfield: Charles C. Thomas Publishers.
- Maguire, M. (1980). 'Impact of Burglary Upon Victims'. *British Journal of Criminology*, 20.3, 261-275.
- Maguire, M. (1982). *Burglary in a Dwelling*. London: Heinemann.
- Maguire, M. and Kynch, J. (2000). *Public Perception and Victims' Experiences of Victim Support: Findings from the 1998 British Crime Survey*. London: Home Office.
- Maguire, M. and Bennett, T. (1982). *Burglary in A Dwelling: the offence, the offender and the victim*. London: Heineman.
- McAdams, D. P. (1988). *Power, Intimacy and the Life Story: Personological Inquiries into Identity*. New York: Springer.
- McGuire, J. and Priestly, P. (1985). *Offending Behaviour: Skills and Stratagems for Going Straight*. London: Batsford Academic and Educational.
- Merry, S. and Harsent, L. (2000). Intruders, Pilferers, Raiders and Invaders: The Interpersonal Dimension of Burglary. In D. Canter and L. Alison (eds), *Offender Profiling Series: IV - Profiling Property Crimes* (pp 31-56). Ashgate Publishing, UK.
- Matsaers, P. (1996). *Woninginbraak (Residential Burglary: Summary in English)*. Den Haag: CIP-gegevens Koninklijke Bibliotheek.

Matthews, R. (2002). *Armed Robbery*. Willan Publishing, UK.

Mawby, R. I. And Simmonds, L. (2000). *Addressing Victims' Needs: Evaluation of Victim Support*. Paper to British Criminology Conference, Leicester, July.

Mawby, R. I. (2001). *Burglary*. Willan Publishing, UK.

Michael, R. and Zumpe, D. (1983). Sexual Violence in the United States and the Role of Season. *American Journal of Psychiatry*, 140, 883-886.

Mirrlees-Black, C. and Ross, A. (1995). *Crime Against Retail and Manufacturing Premises: Findings from the 1994 Commercial Victimization Survey*. London: Home Office (Home Office Research Study No. 146).

Moore, M.H. (1983). Controlling Criminogenic Commodities: Drugs, Guns and Alcohol. In J. Q. Wilson (ed). *Crime and Public Policy*, pp. 125-144. San Francisco: ICS Press.

Morgan, P. (1975). *Child Care: Sense and Fable*. London: Temple-Smith.

MORI (1994). *Public Attitudes Towards Crime*. London: MORI (for Reader's Digest Magazine).

Muncie, J. (1999). *Youth and Crime: A Critical Introduction*. Sage Publications, UK.

Naylor, R. T. (1995). 'Loose Cannons: Covert Commerce and Underground Finance in the Modern Arms Black Market'. *Crime, Law and Social Change*, 22, 1-57.

Nee, C. and Taylor, M. (1988). Residential Burglary in the Republic of Ireland: A Situational Perspective. *Howard Journal*, 27.2, 105-116.

Parker, H. and Newcombe, R. (1987). Heroin Use and Acquisitive Crime in an English Community. *British Journal of Sociology*, Vol. 38, No 3, pp. 331-348.

- Penn, H. S. and Hegner, Q. J. (1973). *Criminal Histories of Burglary and Drug Offenders in Selected California Countries, 1971*. Rockville, MD: National Institute of Justice.
- Perrone, S. (2000). Crimes Against Small Business in Australia: A Preliminary Analysis. *Australian Institute of Criminology, Trends and Issues No 184*, (www.aic.gov.au).
- Petersilia, J. (1980). 'Criminal Career Research; A Review of Recent Evidence'. In N. Morris and M. Tonry (eds), *Crime and Justice: An Annual Review of Research*, 2, Chicago: University of Chicago Press.
- Petersilia, J.; Greenwood, P. W. and Lavin, M. (1977). *Criminal Careers of Habitual Felons*. Santa Monica, CA.: Rand.
- Porter, L. E. and Alison, L. J. (2001). A Partial Ordered Scale of Influence in Violent Group Behavior: An example From Gang Rape. *Small Group Research*, Vol. 32, No. 4, August 2001, 475-497.
- Pratt, M. (1980). *Mugging as a Social Problem*. Routledge and Kegan Paul, London.
- Redshaw, J. and Mawby, R. I. (1996). Commercial Burglary: Victims' View of the Crime and the Police Response. *International Journal of Risk, Security and Crime Prevention*, 1, 185-193.
- Rengert, G. F. and Wasilchick, J. (1985). *Suburban Burglary*. Springfield, IL: Thomas.
- Rengert, G. F. and Wasilchick, J. (2000). *Suburban Burglary: A Tale of Two Suburbs*. Springfield, IL: Charles C. Thomas.
- Repetto, T. (1974). *Residential Crime*. Cambridge, MA: Ballinger, UK.

- Rhodes, W. M. and Conly, C. (1981). Crime and Mobility: An Empirical Study. In Brantingham, Paul J. and Brantingham Patricia (Eds.), *Environmental Criminology* (pp. 167-188). Beverly Hills: Sage.
- Rossow, I. (2001). *Alcohol and Homicide: A Cross-Cultural Comparison of the Relationship in 14 European Countries*. *Addiction*, 96, 77-92.
- Rushton, J.; Fulker, D.; Neale, M.; Nias, D.; and Eysenck, H. (1986). Altruism and Aggression: The Heritability of Individual Differences. *Journal of Personality and Social Psychology*, 50, 1192-1198.
- Salfati, C. G. (2000). The Nature of Expressiveness and Instrumentality in Homicide. *Homicide Studies*, Vol. 4, No 3, 265-293, August 2000. Sage Publications, Inc.
- Scarr, H. (1973). *P atterns of Burglary*. Washington, DC: Government Printing Office.
- Shye, S.; Elizur, D. & Hoffman, M. (1994). *Introduction to Facet Theory: Content Design and Intrinsic Data Analysis in Behavioural Research*. Newbury Park, CA: Sage.
- Shye, S. (1978). *Theory Construction and Data Analysis in the Behavioural Sciences*. San Francisco: Jossey Bass.
- Shover, N. (1973). *The Social Organization of Burglary*. *Social Problems*, 20, 499-514.
- Shover, N. (1991). Burglary. In M. Tonry (eds). *Crime and Justice: A review of Research* (pp 73-113). Chicago: University of Chicago Press.
- Shover, N. (1996). *Great Pretenders: Pursuits and Careers of Persistent Thieves*. Boulder, Colo.: Westview.

- Skogan, W. G. (1977). 'Dimensions of the Dark Figures of Unreported Crime'. *Crime and Delinquency*, 23, 41-50.
- Straus, M. (1983). Ordinary Violence, Child Abuse, and Wife-Beating: What do They Have in Common? In D. Finkelhor, R. Gelles, G. Hotaling, and M. Straus (eds). *The Dark Side of Families: Current Family Violence Research*. Beverly Hills, CA: Sage.
- Straus, M. (1991). Discipline and Deviance: Physical Punishment of Children and Violence and Other Crime in Adulthood. *Social Problems*, 38, 133-154.
- Tarling, R. and Davison, T. (2000). *Victims of Domestic Burglary: A Review of the Literature*. London: Victim Support.
- Taylor, B. and Bennett, T. (1999). *Comparing Drug Use Rates of Detained Arrestees in the United States and England*. Washington, DC: US Department of Justice.
- Tarling, R. and Davison, T. (2000). *Victims of Domestic Burglary: A Review of the Literature*. London: Victim Support.
- Theft Act (1968). *An Act of Parliament*, HMSO: London.
- Tilley, N. and Hopkins, M (1998). *Business as Usual: An Evaluation of the Small Business and Crime Initiative*. London: Home Office (Police Research Series, Paper no 95).
- Tilley, N. (1993). *The Prevention of Crime Against Small Business: The Safer Cities Experience*. Home Office (Crime Prevention Unit Paper No. 45), London.
- Veja (1996). *Vale a Pena Andar Armado? A Utilidade e os Riscos de ter um Revolver*. Edição 1, Ano 29, No 39, pp 30-36, Setembro 1996.
- Veja (2002). *Lula Vai a César*. Edição 1781, Ano 35, No 49, pp 81, Dezembro 2002.

- Waller, I. And Okihiro, N. (1978). *Burglary: The Victim and the Public*. Toronto: University of Toronto Press.
- Walsh, D. P. (1980). *Break-ins: Burglary From Private Houses*. London: Constable.
- Walsh, D. (1986). *Heavy Business: Commercial Burglary and Robbery*. London: Routledge & Kegan Paul.
- Wiersma, E. (1996). Commercial Burglars in the Netherlands: Reasoning Decision-Makers? *International Journal of Risk, Security and Crime Prevention*, 1.3, 217-225.
- Wright, R. and Decker, S. H. (1994). *Burglars on the Job*. Boston: Northeastern University Press.
- Zilman, D. (1979). *Hostility and Aggression*. Hillsdale, NJ. Erlbaum.
- Zvekic, U. (1998). *Criminal Victimization in Countries in Transition*. Rome: UNICRI.

APPENDIX I

Questionnaire in English and in Portuguese

a) Questionnaire Used to Collect the Data, Translated Into English.

This questionnaire is confidential and you should not write your name or sign it. The completed questionnaires will form the basis of a research project in Investigative Psychology, a field linked to Criminal Psychology, leading to a PhD degree at the University of Liverpool, in England. The information contained here will be treated confidentially. Nobody will have access to these questionnaires after they have been completed except the psychologist Aline Lobato Costa, who is responsible for the application and destiny of the findings of the research. For this reason, please, answer the questions honestly without apprehension and do not leave any questions blank, since this may damage the usefulness of the questionnaire. I believe that you are going to help me in my research work and I thank you very much for your collaboration.

Section 1: This part of the questionnaire relates to general information about you.

1) How old are you? (Please write in the box below)

2) What is your marital status? (Please tick a box)

Single

Married

Divorced

Cohabiting

3) How many times have you been married or cohabited with someone?

Never

Once

Twice

Three times or more

4) What is your level of education? (Please tick all those that apply)

Primary School

University

Secondary School

Other _____

5) Which other qualifications, training or special skills do you have? (Please write down)

6) What is your profession? (Please write down)

7) How old were you when you were first found guilty of a crime? (Write in the box)

8) How many times have you been convicted of a crime? (Please, write in the box below)

9) What are your convictions for? (Please write down)

10) To which places were you sent for committing a crime? (Tick those that apply)

Young Offenders Prison

Municipal Prison

State Prison

Maximum Security Prison

11) Where did you live as a child? (Please tick those that apply)

With my mother and father

With just one of my parents

With my mother and step-father

With my father and step-mother

With other relatives

With adopted parents

In a Community home

Others (specify) _____

12) Did any brothers or sisters (or stepbrothers or sisters) live with you?

Yes

No

If yes, how many lived with you? (Please write in the following box)

13) Do any of your brothers or sisters have any criminal convictions?

Yes

No

If yes, what for? _____

14) Do either of your parents (or stepparents) have any criminal convictions?

Yes

No

If yes, what for? Mother: _____ Father: _____

15) If you know, tell me what job your parents (or stepparents) do? (Please write down)

	Father / Step-father	Mother / Step-mother
What is the job called?		
What do they do?		
Full time or part time?		
Are they unemployed now?		

16) Who was the dominant figure in you family? (Please tick one box)

Father Mother

17) Are your parents separated or divorced?

Yes No

18) How was your relationship with your mother? (Please tick those that apply)

Cold and distant Warm and close
 Aggressive and hostile Understanding and peaceful

19) Were your parents ever violent towards you?

Yes No

20) Have you ever witness violence in your family? (e.g. father hits mother/brother, etc)

Yes No

21) Have you been abused by your parents?

Yes No

If yes, which of these abuses did you suffer (Please tick those that apply):

Psychological (your parents verbally insulted you, treated you with indifference)
 Physical (your parents hit you, they were physically violent towards you)

22) Did or do either of your parents have any problems with alcohol abuse?

Yes No

23) Did or do you have a problem with alcohol abuse?

Yes

No

24) Have you ever been addicted to gambling?

Yes

No

25) Have you ever sniffed glue or other solvents?

Yes

No

26) Have you used any of these drugs? (Please tick those that apply)

Marijuana

Cocaine

Heroin

Ecstasy

Crack

27) Have you ever taken barbiturates or speed without a prescription?

Yes

No

28) Do you have a history of psychiatric treatment?

Yes

No

29) Have you ever returned extra change that a cashier gave you by mistake?

Yes

No

30) Have you stolen money or any other items from someone at home?

Yes

No

31) Have you stolen a wallet/purse in the street from someone who was passing?

Yes

No

32) Have you stolen cheques to pay for things or to get cash?

Yes

No

Section 2: This part of the questionnaire, from question 1 to 13 of section 2, contains questions referring to theft and robbery. Please read the questions, think carefully if at any time of your life you did any of these actions and answer honestly the questions.

1) Have you stolen things or money with a value of: (Tick those that apply)

- Less than £5
- Between £10 and £100
- More than £100

2) Which of these things have you stolen? (Please tick all those that apply)

- General objects of low value (e.g. clothes, CDs, bicycles, etc)
- Valuable items (e.g. jewellery, videos, TVs, etc)
- Food
- Credit cards
- Cash
- Car Parts (e.g. hubcaps, tyres, battery, cassette player, etc)
- Car

3) Do you usually commit theft in public places (e.g. in a park, in a street, on a bus, etc)?

- Yes No

4) Do you commit theft as part of a group?

- Yes No

5) Do you sell the things you steal immediately?

- Yes No

6) Do you exchange the things you steal for drugs?

Yes

No

7) Do you only accept money as payment for the things you steal?

Yes

No

8) Do you make a plan before committing theft?

Yes

No

9) Do you usually use a weapon when you commit a theft?

Yes

No

10) Do you use a disguise when committing a theft, such as a balaclava, etc?

Yes

No

11) Do you select carefully the victim to steal from?

Yes

No

12) Do you run away immediately after committing a theft?

Yes

No

13) During the commitment of the theft do you? (Please tick all those that apply)

Threaten the victim (threaten to kill the victim, to cut victim's throat)

Insult the victim verbally (using swear words, demeaning words)

Assault the victim physically (hit the victim)

Make the victim feel fear (saying that you know where she/he lives, etc)

Humiliate the victim (e.g. take the victim's clothes leaving the victim naked)

Section 3: This part of the questionnaire, from question 1 to 9 of section 3, contains questions referring to burglary. Please read the questions, think carefully if at any time of your life you did any of these actions and answer honestly the questions.

1) Have you ever broken into a building, a house, a shop, a school, etc and taken money or something else you've wanted?

Yes No

2) Have you burgled a: (Please tick all those that apply)

House Restaurant Shop (small) Flat
 Office Factory Club / Pub
 School Petrol Station Garage

3) Do you plan your burglaries?

Yes No

4) Do you plan an escape route?

Yes No

5) Have you ever leaved the tools used to break-in at the scene of the crime?

Yes No

6) Have you broken into premises and stolen goods/money worth more than £10,000?

Yes No

7) Do you select the target premises carefully?

Yes No

8) Do you cause unnecessary mess to the property (e.g. leave drawers pulled out, etc)?

Yes No

9) Do you usually commit burglary as part of a group?

Yes No

b) Questionnaire in Portuguese as Used to Collect the Data.

Esse questionário é confidencial e você não deve escrever o seu nome ou assiná-lo. Os questionários completados irão formar a base de um projeto de pesquisa em Psicologia da Investigação, uma área ligada à Psicologia Criminal, conduzindo a um doutorado na Universidade de Liverpool, na Inglaterra. As informações contidas aqui serão tratadas confidencialmente. Ninguém terá acesso aos questionários depois de preenchidos a não ser a psicóloga Aline Lobato Costa, que é a responsável pela aplicação e destino dos resultados da pesquisa. Por esta razão, por favor, responda honestamente as questões sem preocupação e não deixe nenhuma questão em branco, pois isso prejudica a utilidade do questionário. Acredito que você vai ajudar no meu trabalho de pesquisa e agradeço muito a sua colaboração.

Seção 1: Essa parte do questionário esta relacionada à informações gerais sobre você.

1) Quantos anos você tem? (Por favor, escreva no quadrinho abaixo)

2) Qual é o seu status civil? (Por favor, marque um dos quadrinhos abaixo)

Solteiro

Casado

Divorciado

Vive com alguém

3) Quantas vezes você foi casado ou viveu maritalmente com alguém?

Nunca

Uma vez

Duas Vezes

Três vezes ou mais

4) Qual é o seu nível de educação? (Marque nos quadrinhos)

Primário (1 à 4 série)

Secundário (1 ao 3 ano do Segundo grau)

Ginásio (5 à 8 série)

Universitário

5) Quais outras qualificações, treinamentos ou cursos você fez? (Por favor, escreva abaixo)

6) Qual é a sua profissão? (Por favor, escreva abaixo)

7) Quantos anos você tinha na primeira vez que foi culpado de um crime? (Escreva abaixo)

8) Quantas vezes você foi culpado por cometer crimes? (Escreva no quadrinho abaixo)

9) Por qual crimes você foi culpado e sentenciado? (Por favor, escreva abaixo)

10) Em qual desses lugares você já foi preso por cometer crimes? (marque nos quadrinhos)

Instituto de Detenção de Menores

Presídio Estadual

Presídio Municipal

Presídio de Segurança Máxima

11) Quando você era criança com quem você morou? (Marque nos quadrinhos)

Com meu pai e minha mãe

Com somente um dos meus pais

Com minha mãe e padrasto

Com meu pai e madrasta

Com outras pessoas

Com pais adotivos

Em um orfanato

Outros lugares _____

12) Algum irmão ou irmã (ou enteados) moravam com você?

Sim

Não

Se você respondeu "Sim", quantos irmãos eram ao todo?

13) Seus irmãos têm alguma sentença por crime?

Sim

Não

Se "Sim", por qual crime seus irmãos têm sentença? _____

14) Seus pais (ou padrasto, madrasta) já foram sentenciados por algum crime?

Sim

Não

Se "Sim", por qual crime? Mãe: _____ Pai: _____

15) Se você sabe, diga qual é o trabalho que seus pais fazem? (Escreva nos espaços abaixo)

	Pai / Padrasto	Mãe / Madrasta
Como é o nome do trabalho?		
O que eles fazem nesse trabalho?		
Tempo parcial ou integral?		
Eles estão desempregados?		

16) Quem era a figura dominante na sua família? (Por favor, marque um quadrinho)

Pai Mãe

17) Seus pais são separados ou divorciados?

Sim Não

18) Como era a relação com sua mãe? (Pode marcar mais do que um quadrinho)

Fria e Distante Carinhosa e Próxima
 Agressiva e Hostil Compreensiva e Pacífica

19) Seus pais foram alguma vez violentos com você?

Sim Não

20) Você já assistiu alguma violência na sua família? (olhou pai batendo na mãe/irmãos)

Sim Não

21) Você já foi abusado pelos seus pais?

Sim Não

Se "Sim", qual desses abusos você sofreu (Pode marcar mais de um quadrinho):

Psicológico (pais verbalmente insultaram você ou trataram você com indiferença)
 Físico (seus pais bateram em você, eles eram fisicamente violentos com você)

22) Algum de seus pais tem problema com abuso de álcool?

Sim Não

23) Você teve ou tem algum problema com abuso de álcool?

Sim

Não

24) Você já foi alguma vez na sua vida viciado em jogo?

Sim

Não

25) Você alguma vez na sua vida já cherou cola ou solventes?

Sim

Não

26) Qual dessas drogas você já usou? (Pode marcar mais de um quadrinho)

Maconha

Cocaina

Heroína

Ecstasy

Crack

27) Você já tomou barbitúricos (calmantes) ou excitantes sem uma prescrição médica?

Sim

Não

28) Você tem história de tratamento psiquiátrico?

Sim

Não

29) Você geralmente não devolver um troco extra que um caixa lhe deu por engano?

Sim

Não

30) Você já roubou dinheiro ou alguma coisa de alguém de casa?

Sim

Não

31) Você já roubou alguma carteira ou bolsa na rua de alguém que estava passando?

Sim

Não

32) Você já roubou cheques para pagar alguma coisa ou para sacar dinheiro?

Sim

Não

Seção 2: Essa parte do questionário, da questão 1 à 13 da seção 2, contém questões referentes à furtos e assaltos em geral. Por favor, leia as questões, pense bem se você alguma vez na sua vida já fez algum desses atos e responda honestamente as questões.

1) Você já roubou objetos ou dinheiro no valor de: (pode marcar mais de um quadrinho)

- Menos de 5 Reais
 Entre 10 e 100 Reais
 Mais de 100 Reais

2) Qual dessas coisas você já roubou? (Pode marcar mais de um quadrinho)

- Objetos em geral sem muito valor (roupas, CDs, bicicletas, etc)
 Objetos de maior valor (joias, vídeo, TVs, etc)
 Comida
 Cartões de Crédito
 Dinheiro
 Partes de um carro (calotas, pneus, bateria, tocador de fitas, etc)
 Carro

3) Você geralmente cometi seus roubos em espaços públicos (no parque, na rua, etc)?

- Sim Não

4) Você cometi seus roubos com um grupo?

- Sim Não

5) Você vende imediatamente as coisas que você rouba?

- Sim Não

6) Você troca por drogas as coisas que você rouba?

- Sim Não

7) Você somente aceita dinheiro quando esta passando as coisas que você rouba?

Sim Não

8) Você faz um plano antes de você cometer um roubo?

Sim Não

9) Você geralmente usa uma arma quando você cometi um roubo?

Sim Não

10) Você usa um disfarce quando você cometi um roubo, como um capuz?

Sim Não

11) Você escolhe cuidadosamente a vítima que você vai roubar?

Sim Não

12) Você foge imediatamente depois de cometer um roubo?

Sim Não

13) Durante o cometimento do roubo você geralmente? (Pode marcar mais de um quadro)

- Ameaça a vítima (ameaça matar, cortar a garganta, etc)
- Insulta a vítima verbalmente (chama "palavrões" com a vítima, etc)
- Insulta a vítima fisicamente (bate na vítima)
- Tenta amedrontar a vítima (diz que sabe onde a vítima mora, etc)
- Humilha a vítima (pega as roupas da vítima e sai deixando a vítima nua)

Seção 3: Essa parte do questionário, da questão 1 à 9 da seção 3, contém questões referentes à arrombamentos. Por favor, leia as questões, pense bem se você alguma vez na sua vida já fez algum desses atos e responda honestamente as questões.

1) Você já arrombou um prédio, uma casa, uma loja, uma escola, etc e pegou dinheiro ou alguma coisa que você queria?

Sim Não

2) Qual desses lugares você já arrombou: (Pode marcar mais de um quadrinho)

Casas Restaurantes Lojas pequenas Apartamentos
 Escritórios Fábricas Clubes/Bares
 Escolas Postos de Gasolina Oficinas

3) Você planeja os arrombamento?

Sim Não

4) Você prepara uma rota de escape?

Sim Não

5) Você já abandonou o instrumento usado para arrombar lá no local do crime?

Sim Não

6) Já arrombou uma propriedade e roubou bens/dinheiro no valor de mais de 10.000 Reais?

Sim Não

7) Você seleciona cuidadosamente a propriedade que vai arrombar?

Sim Não

8) Você causa bagunça desnecessária na propriedade, deixa gavetas jogadas no chão, etc?

Sim Não

9) Você faz seus crimes de arrombamento em grupo?

Sim Não

APPENDIX II

The Variables Used in the Analysis of the Crime of Robbery

Variables' Label	Description of Variables
1. £5	Stolen items or money with a value equal to or less than R\$5 (R\$ = Brazilian Real ; R\$1= £1 in equivalent purchasing power)
2. £10-100	Stolen items or money with a value between R\$10 and R\$100
3. £100	Stolen items or money with the value of more than R\$100
4. ObjectLow	Stolen objects of low value (e.g. clothes, CDs, bicycles)
5. ObjectHigh	Stolen objects of higher value (e.g. videos, TVs, jewellery)
6. Food	Stolen food
7. CreditCard	Stolen credit cards
8. Money	Stolen cash
9. CarParts	Stolen car parts (e.g. hubcaps, tyres, battery, cassette players)
10. Car	Stolen cars
11. PubPlace	Theft usually in public places (e.g. park, street, on a bus)
12. Group	Theft committed as part of a group
13. PassOn	Passing on (selling) immediately the stolen items
14. ChangeDrugs	Exchange of the stolen items for drugs
15. TakeMoney	Only accept money as payment for the stolen items
16. Plan	Make a plan before committing theft
17. Weapon	Use of a weapon when committing a theft
18. Disguise	Use of a disguise when committing theft (e.g. a balaclava or some thing to cover the face, etc)
19. SelectVictim	Preoccupation with choosing carefully the victim to steal from.
20. RunAway	Running away immediately from the crime scene after the theft
21. Threat	Threatening the victim (e.g. threatening to kill, threatening to come back and attack the victim a second time, etc)
22. Verbal	Insulting the victim verbally (using swearwords, demeaning)
23. Physical	Assaulting the victim physically (e.g. confronting the victim with physical actions, hitting the victim)
24. Scare	Making the victim feel fear (scaring them stiff)
25. Humiliate	Humiliating the victim, making the victim feel shame (e.g. taking the victim's clothes and leaving the victim naked)
26. Married	Offender married or cohabiting with someone
27. MarriedPlus	Offender having been married or cohabiting more than twice
28. EducElem	Offender has elementary education
29. Unskilled	Offender does not have specific professional skills
30. Conv-20	First conviction for a crime when 20 years old or less
31. Conv+3	Possess three or more convictions for crimes
32. CrimePerson	Committed crimes against the person (e.g. bodily harm, rape, murder, etc)
33. Young	Have been imprisoned in young offenders prisons

34. Security	Have been imprisoned in maximum security prisons
35. Mum-Dad	Offender as a child lived with their mother and father
36. Brothers	Offender as a child had brothers or sisters living with them
37. CriminalFamily	Offenders' parents, brothers or sisters with criminal convictions
38. UnskilledFather	Offender's father has no specific professional skills
39. Mum-Dom	Offender's mother is the dominant figure in the family rather than the father
40. DivorcedParents	Divorce between mother and father
41. Mum-Bad	Offender had and/or have a bad relationship with their mother
42. ViolentParents	Offender has violent parents
43. ViolenceFamily	Offender witnessed violence in the family (e.g. witnessed father hitting the mother or bothers, brothers hitting each other, etc)
44. Abused	Offender had been abused verbally or physically by the parents
45. AlcoholParents	Parents addicted to alcohol
46. AlcoholYou	Offender addicted to alcohol
47. Gambling	Offender had been or is addicted to gambling
48. Glue	Offender sniffed or sniffs solvents and/or glue
49. Drugs	Offender was or is addicted to drugs (e.g. marijuana, cocaine, etc)
50. Barbiturate	Offender took/takes barbiturates without medical prescription
51. Psychiatric	Offender has a history of psychiatric treatment
52. Change	Offender usually does not return excess change given him by mistake
53. MoneyHome	Stealing money from someone at home
54. Wallet	Stealing of purses in the street
55. Cheque	Stealing of cheque books

APPENDIX III

The Variables Used in the Analysis of the Crime of Burglary

Variables' Label	Description of Variables
1. House	Offender usually breaks into houses
2. Office	Offender usually breaks into offices
3. School	Offender usually breaks into schools
4. Flat	Offender usually breaks into flats
5. Restaurant	Offender usually breaks into restaurants
6. Factory	Offender usually breaks into factories
7. PetrolStation	Offender usually breaks into petrol stations
8. Shop	Offender usually breaks into small shops
9. Club	Offender usually breaks into clubs
10. Garage	Offender usually breaks into garages (car work shops)
11. Plan	Plans carefully the burglaries
12. Weapon	Uses a weapon when committing burglaries
13. Disguise	Uses a disguise (e.g. balaclava or something to cover the face)
14. EscapeRoute	Prepares an escape route previous to the crime
15. LeaveTool	Leaves tools used to break-in at the crime scene
16. £10,000	Broke into premises and stole items/money worth more than £10,000
17. SelectPremise	Selects carefully the target premises
18. Mess	Makes a mess of the premises (e.g. leaves drawers pulled out, etc)
19. Group	Usually commits burglary as part of a group
20. Married	Offender married or cohabiting with someone
21. MarriedPlus	Offender having been married or cohabiting more than twice
22. EducElem	Offender has elementary education
23. Unskilled	Offender does not have specific professional skills
24. Conv-20	First conviction for a crime when 20 years old or less
25. Conv+3	Possess three or more convictions for crimes
26. CrimePerson	Committed crimes against the person (e.g. bodily harm, rape, murder, etc)
27. Young	Have been imprisoned in young offenders prisons
28. Security	Have been imprisoned in maximum security prisons
29. Mum-Dad	Offender as a child lived with their mother and father
30. Brothers	Offender as a child had brothers or sisters living with them
31. CriminalFamily	Offenders' parents, brothers or sisters with criminal convictions
32. UnskilledFather	Offender's father has no specific professional skills
33. Mum-Dom	Offender's mother is the dominant figure in the family rather than the father
34. DivorcedParents	Divorce between mother and father
35. Mum-Bad	Offender had and/or have a bad relationship with their mother
36. ViolentParents	Offender has violent parents

37. ViolenceFamily	Offender witnessed violence in the family (e.g. witnessed father hitting the mother or bothers, brothers hitting each other, etc)
38. Abused	Offender had been abused verbally or physically by the parents
39. AlcoholParents	Parents addicted to alcohol
40. AlcoholYou	Offender addicted to alcohol
41. Gambling	Offender had been or is addicted to gambling
42. Glue	Offender sniffed or sniffs solvents and/or glue
43. Drugs	Offender was or is addicted to drugs (e.g. marijuana, cocaine)
44. Barbiturate	Offender took/takes barbiturates without medical prescription
45. Psychiatric	Offender has a history of psychiatric treatment
46. Threat	Threatening the victim (e.g. threatening to kill, threatening to came back and attack the victim a second time, etc)
47. Verbal	Insulting the victim verbally (e.g. using swearwords, demeaning)
48. Physical	Assaulting the victim physically (e.g. confronting the victim with physical actions, hitting the victim)
49. Scare	Making the victim feel fear (scaring them stiff)
50. Humiliate	Humiliating the victim, making the victim feel shame (e.g. taking the victim's clothes and leaving the victim naked)

APPENDIX IV

Data Matrix for the SSA Analysis of the Crime of Robbery

0111101100011101111100010111100001110110011001111000011
0100101100011101111100010111110000110110010000011001110
0010100001100011101100000101111100110011000000101000001
0100100110111010100100110011100001110100010010001001010
000111111101110000110000001111001011010101111111101110
0001111110000000100011111101100100010100000011101100000
0010100100000011111100000101100010010100011001101000101
000010010001001111010001010111010111111000000001000000
00010001000000000000100000101100100110100010100000001000
0000000100111010100100010101100000000100010100001100000
000000001111011001100000101101101110000100000000010000
00000001000100010001000001111101001101001000000011000100
00000001100011101010101010000110001011110000001101111001
0101111111100101101111010001111000111100100000011101011
1000100011000010000100000111100000111000010111101001101
00000101001000000000000000001110110111010000010011000000
0001010100000000101000000001111001000100000000001000000
00000000010100100011000101010000001101000000000001000001
1111111110001000001111111100110100111100000000100000000
00001001010100111011000100111100010010001000000001000000
00101000001111111111000101011100000010110000000001011111
0101000000111011000100000001110100100001000001001000010
0100000101101011011100010101100100110100001000101000000
001001111011100010110001000111110001101000000000111001111
10000100000000000001100010101110000010101000010101000000
1000100110110100101100000101101101010110010111101100010
0011111101000011011100000011110000000100011110001001111
0000010100110010001100010001110000110101000110000010000
0001111100011101111100000011100000111110011111111111111
0101100000101110111100010001100100110010000000011001111
0011000000100011101100000101110110110011111100111101111
0000000101001000111000010101101000110101001001001001101
0000100100010000000100000011111100110111000000000000011
1001000000001010001101010001110000110100000000000000000
0101001101101101111100010011110010110111010111111011110
0000000001111001110100010000010000110000001000001001001
1101101101110011110100100000010101110000001011101001001
0100000101111011111100000000010000110000001011001001001
01001000000100111111000101000000000001111000010111001010
000011001111101111110000000111100111110101111111110110
0000100100111011101000000001111000000001100000111000000
00001000000010010101000100000100001101010111010000001000
0010101110101110111111000001110000010100010010011100011
000000010001001100110000011101000001000000000011001000

00000000100101010010000010110010011001100000000000000
010100000000000000000000000000110000100110101010000001010100
001000010111000110011000011110000111100011000011101011
100101010000000000000000000000100000100110101011000100000000
0100001111110001101110010010000101110000001011011101111
0010101100000010100100000101101100110110011011100001001
001000011101000110100000000110110011010000000001101111
0100010111010011000100001101100100110100001000001001001
0010000100110011111100000001100000110100000000000000000
000100010001101010110000010110000011010001000000000000000
00100000011100110001000000011101001101000000000000110111
001000010001001110110000000111001011010100000001000000
0010000100011011111110000101100100110100000000101010110
0000000100000010001100000001101100110100000000100000100
000010000000000000000001000001110001100100011111100010000
01010001101111111001101000010001000100010111110111111111
0000000100001000001100000101010010110100011011011001011
0000000100000100001100000101101000110100011111001000000
1001100110010010101100001111110110010000000000011100010
0000000001111010100100000111100100110100000011000000000
1101000010110010001101001001111110110100011011011000110
0000000100000001111100010100000000111000000000000000000
0100100000110101111110000001111100000100011110011001111
0100000100101011001000000001001001110100000000001000001
0000010100101010000101000101100000110100000011001101000
0010111101011110111110000001111110111011011010000011000010
1111111101111111111100001011110110111101011111001000011
0010000101000111111100010001111110110101111100000110000
0000000001100011100100000101100100100110000000011101000
10010000000000010000100000101110100110010000011111101001
0100101011101111000100000001110110100100000000111111111
00000001000100100001000011011100100111100000000101100011
0101111100100011111000000101000000110101011000001111111
0101010110011100001110010001100100110100000000011101110
0000010100010010101100000101101000110100000000001100100
0010100101111011111110010001011001000001111100001100011
0011001110101010000100000101101100100100000000001001111
0110111111111010101000011011110111000101000000111111111
0001100111001101101100000100001100110000010000111000111
0010110010101101001100000111110100010100011100111111011
0000000001000000000100000101110100110101001000000000000
0000000100000001101100001101110100010100011111101001001
0110100100100111000000000111101011110000011000001100011
00101101100000111011000100011011011110100001000001111111
0000000101111011011100010101100011010100000000000000000
0010100000001000001100010001111001110101001000001111111
1111100011011011000100000001100101110100001010100100000
010000010000000000000000000001100001010100000000001000111
0000000100010000100100010001000001111000011011111100000

0000100100010100101110011101110101111100001010001010000
0010000101110011010100000011100001110100001011001000000
011010111011010010101001000111000111010000000011111111
0110100100000001111100011011000101110000000011011101011
0010101100101011001100000111110100110000011000001001011
000000010101000110010001010110000101111000000001000011
111111111101101111111010001110001110001011100111101111
0000000101100011110100000101100100100110000011000000011
0101111100111101100111011001011101110101000011111100111
0011000101111000101110000001100101110001000001101100001
0001000100000000000000010101100001110010000000111100000
10011011011110111111000001100011011100000000000111101111
0011000001011011101110000001110101000100000000001001000
0000000100011010111100000111100111100100000000101000011
0000100101000000100100000111100101100100001001011101101
0001101000001000100110000101110101110100001010011011110
0000100101011011111110010101111101110100001010001010000
0101010110101100000000010101101101010110000000011101111
1101110110001011100100010111111110010100000000111111111
0001000000000000000000000101000001110000000000001001100
0000000101010011101100000101101001110100000000000000011
0100000111010011111100010111100101100100000010011001111
00000111000000000000000000010110010001011000000000000000
00010100000000010010000001011000001010000000000000000011
0100010001001111000110110001101100110100011101111010000
0000000100100001000100100111110100110101011011110011011
1001000000100100000100000001100100110000000000011111111
0010100100001001001100000001100000110100000000011101011
0000100100111101111110010101110010000001000001010111011
000011000000000000000000000101100000100100000000001010011
0110100100011110101101011111110110010100001011011100111
1111111110011011110100001101100000011001011111011111111
0000000001101010100100100101110100100110000011001000011
1111010100101110100100010101110100111100011011011111111
0000000001000000000000000101011110100110110000100001111011
0000000100111100111100010001100010100000000100101000111
00101000000000000100100000101100000110110011000100000110
10000100000000000110100000001100100100001000000000000000
1101101110000111111100000101100001111110011011011000011
1000010110011010011110010101110001110010010001011000111
11011000000000000001110000101100000110001000000011100011
00001101000000000101110000001100100110100000011000010000
0010101000111001111100000100011101110100001110001111110
0010000100010000001100000101110010110101000000111101110
010001000000000000000001010111100000100101011000000001110
1000010000001011101100000101100001110101000000001000011
0000000111011011101100000000000101110001011010000111110
0000101101111010101100010001111101110000000000000000111
1000010000000001001100000101100000110101000011001000010

111111111000010000010010101111000000010000000111111111
0000001101011011000100000001100001110010000011111111111
1000000101110001101110010100000000110100000000101011100
0000100111111001100100000101010000100100000000001110111
0000000110000010101100000001110100110100011001011111110
0000000100000000000000000000111010011010000000000000110
0010000100011111111100010001110101100100000010000000111
010001000000010100110000011110001000010000000000001000
10010001000000000000000000001100100100101000000000000110
0100000111110011101100010000010001110001000000001001010
1001000000001100000100000011100001100100000000000000111
100101011000000000010000000000110110000000000000100101
0001000100101100000100010101110100110110000000011000111
0101000010001000001100000111001101110001000101011100011
0000100001011101111100010101000100111110000000011101000
10000001000000000000000000001111111111111000101011100000
00000100000000000000000000001110000110100011000001110000
0100000101100010001100000101100000110010000000111101111
0100001101110011100100000101000000110000000000001001011
0010100100100000001111011001011001100000000000011111111
0000101111000011101100010001111101010111000000001101011
0010001101001001111110010111110110110001011010100000011
11101011011000111011010101000110111011010000000011111111
10010001100000000000000010101100100110111000001001101100
0010110110001011111100000101110001100110000010110001011
00100001000000000000000000111000001100000000010001101111

APPENDIX V

Data Matrix for the SSA Analysis of the Crime of Burglary

1 1 0 1 0 1 1 0 1 0 1 1 1 1 0 1 1 0 1 0 0 1 1 1 1 1 0 1 1 1 0 1 1 0 1 1 0 1 1 1 0 0 1 1 1 1 0 0 1 0 0 0 1
1 1 1 1 1 0 1 0 1 1 1 1 1 1 0 1 1 1 0 1 0 1 1 1 1 1 0 0 1 1 0 1 1 0 1 1 1 0 0 0 0 0 1 1 0 0 1 0 0 0 1
1 0 0 0 1 0 0 1 1 0 1 1 0 1 0 0 1 1 0 1 1 1 1 1 0 1 0 0 1 1 0 0 1 1 0 0 0 0 0 1 0 1 0 0 1 0 0 0 0
1 0 0 1 0 1 1 0 0 0 0 1 0 1 1 1 1 1 1 0 0 1 1 0 1 1 0 1 1 1 0 1 0 0 0 1 0 1 1 0 0 0 1 0 0 1 0 0 1 1
1 0 0 0 0 1 0 0 0 1 1 0 0 0 0 0 0 0 1 0 1 1 0 1 1 1 0 1 1 0 1 0 1 0 1 1 1 1 1 1 1 1 1 1 0 1 0 0 0 0
0 0 0 0 1 0 0 1 0 0 1 1 0 0 0 0 0 0 0 0 1 1 1 0 1 0 0 0 1 0 1 0 0 0 0 0 1 1 1 1 1 0 1 1 0 1 1 1 1 1
0 0 0 1 0 0 0 0 0 1 1 1 1 0 0 1 0 1 1 0 1 1 1 0 0 1 0 0 1 0 1 0 0 0 1 1 0 0 1 1 0 1 0 0 1 0 0 0 0
0 0 0 0 0 1 1 1 0 1 1 1 1 1 0 1 1 0 0 1 0 1 1 1 0 0 0 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 1 0 0 1 0 0 0 1
1 0 0 0 0 0 0 1 0 0 0 0 0 0 1 0 1 0 0 0 0 1 1 0 0 0 0 0 1 1 0 1 0 0 1 1 0 1 0 0 0 0 0 0 1 0 0 0 0
0 0 0 0 0 1 0 0 0 0 0 1 0 0 0 0 0 1 0 0 0 1 1 1 0 0 0 0 0 0 1 0 0 1 1 0 1 0 0 0 0 1 1 0 0 0 0 0 1
1 0 0 0 0 0 0 1 0 0 0 0 0 0 1 0 0 0 1 0 1 1 1 1 0 0 0 1 1 0 1 0 0 0 0 0 0 0 0 0 1 1 0 0 1 0 0 0 0
0 0 0 0 1 0 0 0 0 1 1 0 0 1 0 0 0 0 0 1 1 0 1 0 1 0 1 1 1 1 0 0 0 0 0 0 1 1 0 1 1 1 1 0 1 0 1 0
1 0 1 1 0 1 1 0 1 0 1 1 0 1 0 1 1 1 1 1 1 1 0 0 1 0 0 1 1 1 1 0 0 1 0 0 0 0 0 0 1 1 1 0 1 1 1 0 1
1 0 0 0 0 0 0 0 1 1 0 0 1 0 0 1 1 1 0 0 1 1 1 1 0 0 0 1 1 1 0 0 0 0 1 0 1 1 1 1 0 1 0 0 0 0 0 0
1 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 1 1 1 1 0 0 0 0 1 1 0 0 1 0 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0
0 0 0 0 1 0 0 1 1 0 0 0 0 0 0 0 0 0 1 0 1 1 0 0 0 0 0 1 1 1 1 0 0 0 0 0 0 0 0 1 0 0 0 0 1 1 1 1
0 0 0 0 0 1 0 0 0 0 1 1 0 1 0 1 1 1 1 0 0 1 1 0 0 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 0 0 1 0 0 0 1
1 0 0 1 0 0 1 0 1 0 1 1 1 1 1 1 0 0 0 0 1 1 0 0 0 0 0 0 1 0 1 1 0 0 0 0 1 0 0 0 0 1 0 1 0 0 0 0 1
0 0 0 0 0 1 0 1 0 0 0 0 1 1 1 1 1 1 0 0 0 1 1 0 0 0 0 0 1 1 0 1 0 0 0 0 1 1 0 0 1 0 1 0 0 1 0 0 0 1
1 0 1 1 1 1 1 0 1 0 1 1 0 1 0 1 1 0 0 1 1 1 1 0 0 1 0 0 1 1 0 1 0 0 0 0 0 0 0 1 1 1 0 0 0 0 0 0 1
1 0 0 0 1 0 0 0 0 0 0 0 0 1 0 0 0 0 1 0 1 1 1 0 0 0 0 0 1 0 1 0 1 0 0 0 1 1 0 1 0 1 0 0 1 0 0 0 1
0 0 0 1 0 0 0 1 0 0 1 1 0 1 1 1 1 1 0 0 1 1 1 1 0 0 0 1 0 1 0 1 1 0 0 1 0 1 1 1 1 0 1 1 0 0 0 0 0
1 1 0 1 1 0 0 0 0 0 1 0 1 1 0 0 1 1 1 1 0 1 1 0 1 1 0 0 0 0 0 1 0 0 0 1 1 1 1 0 0 0 1 0 0 1 0 0 0 0
1 1 1 0 1 1 0 0 1 1 0 0 0 0 0 1 0 0 0 1 0 1 1 0 0 1 0 0 1 1 0 1 0 1 0 0 0 1 1 0 0 0 0 0 1 1 0 0 0 1
1 1 0 1 0 0 0 0 1 1 0 1 1 1 0 0 1 1 0 0 0 1 1 0 1 0 0 0 1 1 1 1 1 0 0 1 1 1 1 1 1 1 1 1 1 1 0 0 0 0
1 0 0 0 0 0 0 1 0 0 0 1 1 0 0 0 0 0 0 0 0 1 1 0 0 0 0 0 1 1 0 0 1 0 0 0 0 0 0 0 0 1 1 0 0 1 0 0 0 1
1 0 0 0 1 0 0 1 1 1 1 1 0 1 1 0 1 0 1 0 0 1 0 1 1 1 0 1 1 0 0 1 1 1 1 1 1 0 0 1 1 1 1 0 1 0 0 0 0
1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 0 1 0 0 0 1 1 0 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1 1 1 1 0 0 0 0 0 0 1 0 0 1 1 1 1 0 1 1 0 1 1 0 0 0 0 0 1 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 1
1 1 1 1 1 1 1 0 0 0 1 1 1 1 1 0 1 1 0 1 0 1 1 0 1 0 1 1 0 1 1 1 1 0 1 0 1 1 1 1 1 1 1 1 1 1 0 1 0 0 0 1
0 0 0 0 0 0 1 0 0 0 1 1 1 1 0 0 0 1 0 1 0 0 0 0 0 0 0 0 1 1 0 0 0 0 0 0 1 0 0 0 0 0 0 1 0 0 1 0 0 0 1
1 0 0 0 0 0 1 1 0 0 1 1 1 1 0 1 1 0 1 1 0 0 0 0 0 1 0 1 1 1 0 0 0 0 0 0 1 1 1 1 1 0 1 0 0 1 0 0 1 0
0 0 0 0 0 0 0 0 0 0 1 1 1 0 0 1 0 1 1 0 0 0 0 0 0 0 0 1 1 0 0 0 0 0 0 1 1 1 1 0 0 1 0 0 1 0 0 0 0
0 0 0 0 0 0 0 0 0 1 1 1 1 0 0 1 1 1 0 0 0 0 1 0 0 0 0 0 0 1 1 1 1 0 0 0 0 1 0 1 1 1 0 0 0 0 0 0 1
1 0 0 0 0 0 0 0 0 0 1 1 1 1 0 0 1 1 1 0 0 0 0 1 0 0 0 0 0 0 1 1 1 1 0 0 0 0 1 0 1 1 1 0 0 0 0 0 0 1
0 0 0 0 0 1 0 1 0 0 0 1 0 1 0 1 1 0 0 0 1 0 0 1 0 0 0 1 0 1 0 1 0 1 0 1 1 0 0 0 1 1 0 0 1 0 0 0 0 0
1 0 1 0 1 0 0 0 0 0 1 1 1 1 0 0 1 1 1 1 1 1 1 0 0 0 0 1 1 1 1 1 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1 0 0 0 0
1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 1 0 0 1 1 1 1 1 0 0 1 0 0 0 0 0 0 0 1 1 0 0 0 0 0 1 1 1 0 0 1 0 0 0 0
1 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 1 1 0 1 0 1 0 0 1 0 1 0 0 0 0 0 0 1 0 0 0 1
1 1 1 1 1 1 1 0 0 1 1 1 1 1 1 0 1 0 0 1 0 1 1 0 0 1 0 0 0 1 0 1 0 0 0 0 0 0 1 0 0 1 1 1 0 1 1 1 0 0
0 0 0 0 1 0 0 0 0 0 1 0 0 1 0 1 1 0 1 1 0 1 0 0 1 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 0 0 1 0 0 0 0
0 0 1 0 0 0 0 1 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 1 1 0 0 0 1 1 0 1 0 1 0 1 0 0 0 0 0 0 1 0 1 0 0 0 0 0
0 1 0 0 0 1 0 0 0 0 1 1 0 1 0 1 1 1 1 0 0 1 1 1 1 0 0 0 1 1 1 1 0 0 0 1 1 0 0 0 0 0 1 1 1 0 1 1 0 0 0
1 1 0 0 0 0 0 1 0 0 1 1 0 1 0 1 1 0 1 0 0 0 0 0 1 0 0 1 1 1 0 0 0 0 0 0 1 0 1 1 0 1 1 1 0 1 1 0 0 1

00000011100101111000111000001101100111111000010000
00010101001101111000111001001101000000000011010000
000000000000000010000011100001101010010000000010000
0000000010000000001001110001110111011110000000000
11011101111001001000011100001101000010000010010000
01000000000111010010011000001101000000000000010000
10000001001001000011011000001101000000000001100000
00000000001101001011011000101101010000000010010000
10000001001111010110011000001101000000001010101000
0000010000000100001011000011001000111111000100100
10000001001101000000010000000100010111110111101010
11110100110100001111011110100100000000000111010000
10010001001001100101111001101101000111110110010100
000001000011110000000001000011100000000000000000010
11010110001111001111111001000001000111100110001000
100100000010011010101100000111010000000000010010000
1000000000000000000000011100001101000000110011000100
111100010011111111111110011011101101010000110011000
11101111011111111101011011101111010111110010000000
110100110011111111011110011011010111111000001100010
11111111110100000010011101001001100000000111000000
10000001000000000011011100001100100000111111010000
101001010110000000010110011010010000000001111100000
10010001000001101000011001001111000000001011000000
11001000111111101000010101001101010110000011110000
000010101001100000001111000011010000000000011010000
11011110011111011001110001010000011111000011001001
10000001001001000010111100001001001000000010000000
10011111011101011111011011110001010000001111110001
10000001001101001110100100001100000100001110000000
000100011010010110100111110101010000111001111100000
00000001000100001001011101000101000111111010010000
10010000001001011101111111111100000110000011000000
11101011101101011100111000011101000010000011100001
0001000000101101101001110011010100000000000000010001
100000000000000000001111000011101010011000011100001
10101011011000010010011000011101000010101001000000
00000010000100000000010001011110000111111111010001
00000011000100000111011100011111000010100010111001
00000000001010000000011010011101000010110010010000
100000000011011111111011000011101000000000111101001
10011001001111011110010011011100000000110111000001
10001011001000011001011111001100000111000010010000
01000010011100011010011100010111110000000010010001
01000110011111011101011001011100010111001111011101
00000001000111100010011100001001100000110000010000
10000001001100000011110000011101010000111111011101
00001001000100000010011000011100010000011011001000
000000000100000010000011100011100100000001111010001

01000101001111100000100110011100000000001111010000
0000001000101011001011000010001000000000010011000
00001011000110011010011110111001000000001010000000
10110001101100000101011000011101000010100110111000
11111101000111011001111101011101000010100010111001
10000001011000011100111100010101100000000111000001
10010001000100001101111110100101000000001111100001
1000000000000000000000001110000101000000000000000000
11100001011001111010111001001101000111011110111011
10000001001000001011011110001101010111111100100010
00000000001001100000011001001101000000000111010000
10101000000111000001011101100000010000010101101001
10000000000001100010011101001001000000000010100000
11001001010100110011011101100101000010110111000101
10011110011110101110011101000110010111110111100000
00001001010101100101011100001001100001110010000010
100000110001000100010011101001101000111110111100001
00000001001001100001011101001101100000000011100001
00000000101111001110011001101000000001001010010001
10010000000100000000011100001101100111001000000000
0000100100011000000001100000100001000000000000010000
10001100111111001110011101011111100111110110010000
10000000000011100101011100011100100100010110011001
10001010000000010110011000001100010001000111011000
10000001000100010000011000001101000000110000111000
01000000001001010000000110001101000000001000000000
11011111001111011111100100011101000011100011110000
10000010000000100001011101101101010000001111000000
00000000001101100100011100011101010000000010010000
00000011000101001101000001011100010110100001110000
000100110011010110111110000111000000000000000010001
10000000001001000000011101001101010000110010000000
10010000000000010001111100000000100000001111111001
00010100001001011000011000011100100000111111110000
1100010000110101110100001000011010000000001010111001
100000100011010010110101000010010000000000011110000
10010001000100000001011001001101000111010111110000
100000010000000000001011000001101000000000000000000
10000001000111101001011000011001000000100000000001
000000000010000010000111111000010000000000000000000
0001000100000000000000011000001001010000000000000000
010000100011010110110000010111000100000000000000001
1000000100000000000000000000101100000000000001010000
00000001000001010000110111011100010001010111010000
10000001001111001110010000001111100000000111000001
1000000100000000000001111000111111110001010111010000
00000000001001010000011100001100100000001111010000
00000000001101000000010100001100000000000010000000
1111111101100000000011100010110000000000000111111101

01001101001101011011111000010101110000000011010001
01010101001111011001011010101100010110101000001001
1111111111101100110111001101101000001000111110101
000000010000000000000011100001101110000011011000001
0100000000111101101101110101100110000010110000000
1100000100100100100001110001110100000100011000000
01000000000000000000000000010011000000000100011000000