Crime Risk Evaluation within Information Sharing between the Police and Community Partners

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Abstract

The aim of this paper is to provide profiles for crimes which can be used to model the context for information sharing between the police and community partner organisations. This context can then be integrated with information-sharing syntax used by Single Point of Contact (SPoC) agents to process information sharing requests [1]. The questionnaires attempt to classify crimes into categories, with identify profiles of crime-types, according to the level of information sharing they necessitate between community partner organisations. Crimes are separated into classifications, which are based on the *perceived* level of necessary information-exchange among police and community partners. The aim of the questionnaire is to gather academic responses to identify the level of risk in order that it can be defined as risk assessment level, which is key to enhancing the public's reassurance in the police.

Introduction

The classifications were based on the perceived impact of crimes. It is expected that crimes which impact life (such as murder) and physical well-being (such as assault and torture) will be considered to be of the highest importance and require the greatest amount of information sharing. Typically, these are acts which contravene rights considered to be universal and codified in human rights legislation, for example the UK Human Rights Act 1998 and the European Convention on Human Rights which include rights to life, freedom from torture and slavery among others. Similarly, acts such as littering or drinking in public, which, while socially unacceptable, do not affect basic human rights, are expected to be rated as of low importance and, hence, only requiring very minimal, if any, information sharing.

Policy Syntax for Role-based Information Sharing

The current research with the Scottish Police aims to create an information sharing syntax and has been created in a way that is inspired network firewall rules [1]. A rule that defines a role-based information exchange permission is stated as:

> [permit | deny] [Requester] [C | R | U | D] [Attribute] of [Object] with [Risk Level] from [Owner] for [N] records in [Time Window] using [Compliance]

A similar syntax is also applied to the request messages:

> [Requester] [C | R | U | D] [Attribute] of [Object] with [Risk Level] from [Owner] within [Start] to [End].

This policy syntax is based on the English language's sentence structure, which allows easier rule creation and reduces the possibility for misunderstandings. Elements of this syntax are

defined as:

- [permit | deny] This is part of the rule syntax which indicates the action of the rule. This defines whether a request meeting the rule criteria will be permitted or denied access.

- [Requester] This identifies a request sender's role, e.g. GP, or pseudonym, e.g. 10420, or a combination of the two, e.g. GP10420.

- [C | R | U | D] This defines detailed permissions for a requester to create, read, update and delete certain information.

- [Attribute] This is a unit of information describing an object. An attribute may be a primitive data type, e.g. the pseudonym of an object as a string, or a complex data type, e.g. a person's ECG record for 45 seconds.

- [Object] This is part of the information sharing infrastructure and relates to the data sharing object.

- [Risk Level] This identifies the reason why the information is being shared. The context governs the level of access and permissions associated with information exchange, and hence acts the priority accorded to information requests.

- [Owner] This species a role with sufficient privileges to manage all aspects of an information source. The owner has the authority to allow or deny access to an information element, as required by legislation and defined responsibilities.

- [N] records in [Time Window] This defines the number of records permitted over a period of time, where N can be any positive integer, and Time Window uses the ISO 8601 coordinated universal time format \PYYYY-MM-DDThh:mm:ss".

- [Compliance] This refers to legislative requirements that affect the exchange of information, such as the Data Protection Act, the Human Rights Act, the Freedom of Information Act and so on.

- [Start] and [End] These identify the start and end of the date/time period over which information sharing is requested. Also, ISO 8601 standard is used.

Literature Review

Definition of Crime

There is considerable variation in the interpretation and definition of what constitutes a crime and, consequently, how crime severity is measured. Often, the term 'crime' can have social, legal and moral implications. A definition commonly used in criminology, quoted from lawyer-sociologist Paul Tappan [2] is that a crime is an *"intentional act in violation of the criminal law (statutory and case law), committed without defense or excuse, and penalized by the state as a felony or misdemeanour"*. Using this interpretation, crimes must be interpreted in terms of historical traditions and wider public attitudes towards social behaviour. This definition, that a crime is an act that is in violation of a defined law, suffices for the purposes of this paper. However, this still does not provide a suitable method for distinguishing between crimes in terms of seriousness. As Sharpe mentions in [3], although certain acts such as murder, rape and burglary, are usually considered serious crimes, driving a car at 75 miles per hour on a British motorway, while also illegal, is certainly not as serious. Francis et al. [4] further illustrate the lack of consistency in describing 'serious' crimes, even between closely related jurisdictions. They consider section 2(5) of the 1997 Crime (Sentences) Act, which lists serious offences for the constituent jurisdictions of the United Kingdom. Of note here is that

while many offences are common to all jurisdictions, there are definitional differences between Scotland and Northern Ireland, England and Wales. Thus, they draw attention to the lack of agreement between neighbouring jurisdictions of the United Kingdom on what constitutes serious crime, even within the same piece of legislation. Hence, they determine that the level of 'seriousness' attributed to certain offences tends to be derived from notions of commonsense, rather than formal measurement.

Crime Severity Evaluation Methods

One approach attempting to evaluate crimes is by measuring the annual number of criminal cases compared to population. This method is used by the Federal Bureau of Investigation (FBI) of the United States (US) to compile the annual Uniform Crime Reports (UCR) and has proven useful for statistical analysis. However, it has not been widely accepted as a good measure of severity. As noted by Anderson and Newman [5] and Wilkins [6], a key drawback of a purely statistical approach such as this is that it accords the same weighting to murder as it does to theft or burglary.

Sellin and Wolfgang suggested an alternative approach in their seminal work of 1964, *The Measurement of Delinquency* [7]. Their approach was to categorise crimes into classes based on ratings of seriousness. These ratings were themselves derived from interviews and questionnaires involving random samples of the general population. Akman and Normandeau [8] carried out a replication study in 1968 based on the work of Sellin and Wolfgang. The results of their study, based in Canada, found relative consensus with the ratings derived by the Sellin and Wolfgang.

General Consensus on Crime Severity Levels

Later work, including studies by Rossi et al. [9] in 1974, Rossi and Henry [10] in 1980 and McCleary et al. [11] in 1981, all found agreement with [7] that there exists a general social consensus on the severity of crimes. Further, Hansel [12] identified that crimes can be described based on a number of dimensions including the level of violence involved, the harm done to victims, the relatedness to sex, and so on. Interestingly, Hansel found that although different social groups accord different ratings to crimes based on these dimensions, there is, nevertheless, widespread consensus in how the overall seriousness of one crime is rated against the overall seriousness of another. This consensus, identified by Kwan et al. in [13] and Felson et al. in [14], indicates a general perception that crime against the person is considered more serious than property crime, which in turn is more serious than 'victimless' crimes against social norms, such as prostitution and drug-taking.

Parton et al. [15] identified a number of issues, such as questionnaire structure and complex instructions, which are intrinsic in the questionnaire method of gauging public perceptions and which may distort results. These issues may impede a uniform understanding amongst respondents as to what is being asked of them and, hence, may result in differences in interpretation among respondents.

Thurstone Paired Comparison Method

A possible solution to the complexity associated with questionnaires is offered by the paired comparison method pioneered by Thurstone and Chave [16]. The paired comparison method offers respondents a choice from randomly coupled options. The respondents choose an option, based on their preferences and guided by predefined criteria. This method has been used by Hunt et al. [17] to evaluate perceptions of health status and by Bowling [18] for measurements related to quality of life. Francis et al. [4] specifically identify the paired comparison method as particularly useful in evaluations of public perceptions of crime seriousness. In their

study of crime seriousness perceptions among Hong Kong residents, Kwan et al. [19] also rely on the Thurstone paired comparison method.

Although the paired comparison method does not require extensive training of respondents and has been shown to offer reliable results, it is computationally intensive. For n items required for comparison, the respondents need to be presented with **n(n-1)/2** pairs. This would mean that for a comparison of 15 crimes, respondents would need to be shown 105 pairs. Thurstone used a list of 19 crimes in his original study which led to 171 paired comparisons. It is apparent that the number of comparisons can quickly become too cumbersome for a respondent to answer in a single questionnaire.

Modification and Simplification of Thurstone Method

Ip et al. [20] propose two possible modifications, ranking and hierarchical design, to the basic paired comparison method in order to alleviate this problem. They suggest that instead of requiring a respondent to make a choice of a single item from a pair, the respondent can be required to rank the items instead. In this way, a respondent can differentiate into ranks a number of items in a single question instead of having to make successive paired comparisons. Further, ranking also avoids the problem of inconsistencies that can arise when using paired comparisons. For example, if three items A, B and C need to be evaluated in terms of seriousness, the respondent may select A as more serious than B and B as more serious than C. However, it is possible for the respondent to now select C as more serious than A, although this choice is in logical contradiction of the previous judgements. By introducing ranking, the respondent can arrange the three options according to severity in a single question, minimising inconsistency. There is, however, a drawback to introducing ranking instead of paired comparisons. Where a large number of options are given, the ranking method can become too complicated, as the list of items to be ranked would be too large for the respondent.

Ip et al. suggest the use of a hierarchical design in order to avoid ranking very large lists of items. Kwan et al. make use of the paired comparison method with the hierarchical modification in [21]. Their initial computation requires comparison of 15 different items. If the traditional, unmodified, Thurstone method is used, this would require 105 separate comparisons. This means a respondent must compare 105 separate pairs in order for a complete paired comparison. They then divide the 15 items into a three-level hierarchy. The top level consists of three broad categories; the middle level of two categories; the bottom level consists of two and three items. Using this modified method, three levels of paired comparisons are made with three comparisons at the top level, three more at the middle level and 12 at the bottom level. This leads to a total number of 18 paired comparisons, reduced from the initial number of 105.

In [20], Ip et al. conducted a questionnaire to evaluate the perceived seriousness of 15 crimes. They computed their results first using the original Thurstone method and then using the ranking and hierarchical modifications. Figure 1 illustrates the comparison of results computed through the original and modified methods. As illustrated, there is a strong correlation between the seriousness scores computed through the original method and the modified method. This correlation confirms that the modified method produces similar results as the original method, with much reduced computational complexity.
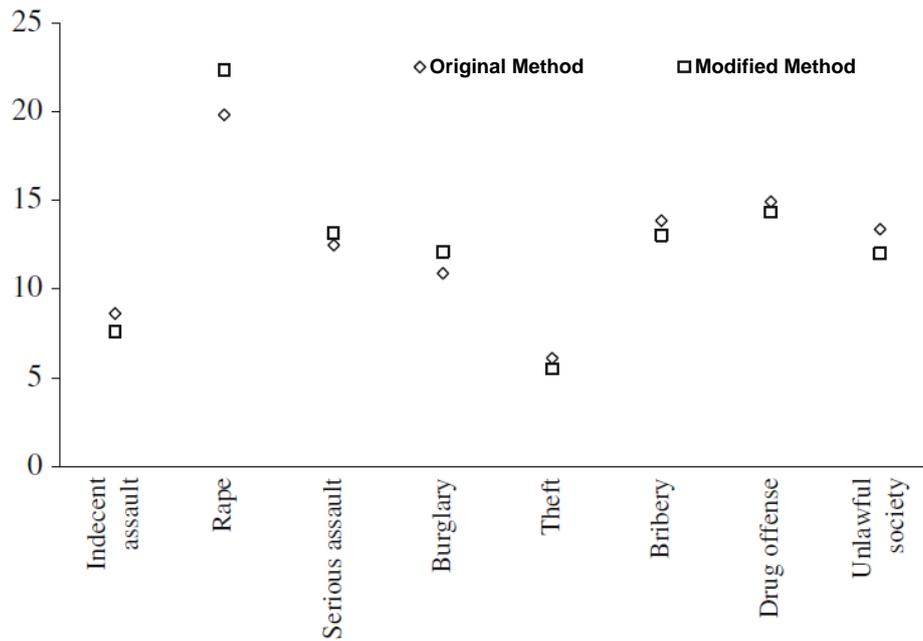
Figure 1 ([20]): Comparison of results of the original and modified Thurstone methods

SIPR Questionnaire

The Thurstone method with ranking and hierarchical modifications was used for the Scottish Institute of Policing Research (SIPR) questionnaire. The main reason for this is that the profile and ranking systems require respondents to assess a very long list, possibly affecting their ability to provide objective responses. The modified Thurstone method allows the use of a reliable analysis tool which is not computationally intensive.

Hierarchy

A hierarchy based on the methodology defined by Kwan et al. [21] was used to separate questionnaire items in three levels. At the top level, crimes are differentiated into the three broad categories of:

- Crimes against the person.
- Crimes relating to property.
- Crimes against social norms (society).

The deeper hierarchies of crimes against the person and crimes against property are illustrated in **Figure 2(a)** and **Figure 2(b)**, respectively. The second level of the hierarchy of social crimes is illustrated in **Figure 3(a)**. The bottom level of the hierarchy of social crimes are illustrated as drug related, **Figure 3(b)**, sex related, **Figure 4(a)**, traffic related, **Figure 4(b)**, public order related, **Figure 5(a)** and social corruption related, **Figure 5(b)**, respectively.

The SIPR questionnaire is constructed as shown in Appendix 1 based on the hierarchy illustrated in the figures above.
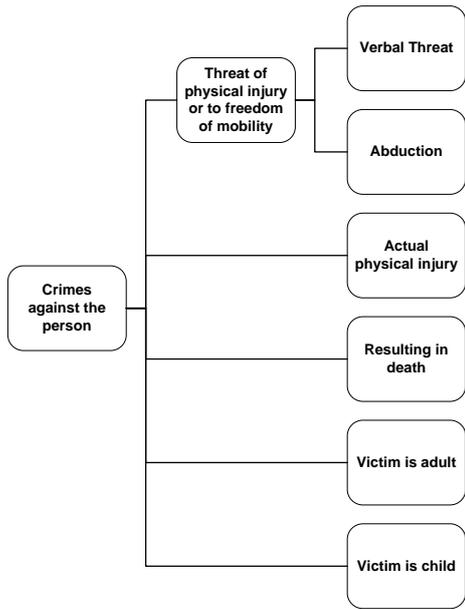
Figure 2: (a) Crimes against the person hierarchy
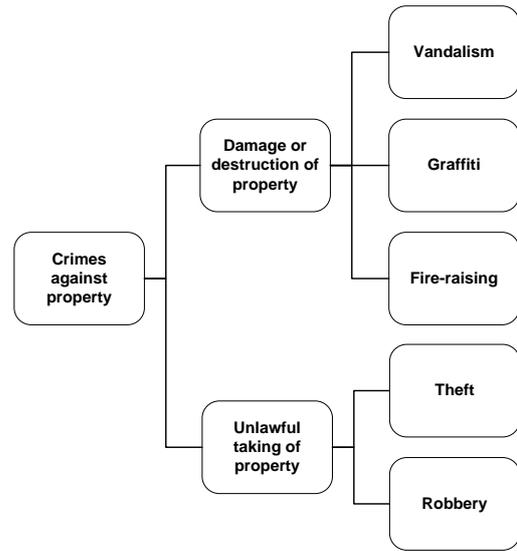
**(b) Crimes against property hierarchy**
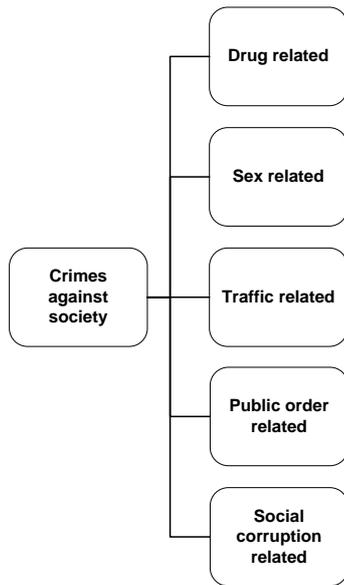
**Figure 3: (a) Second level of social crimes**
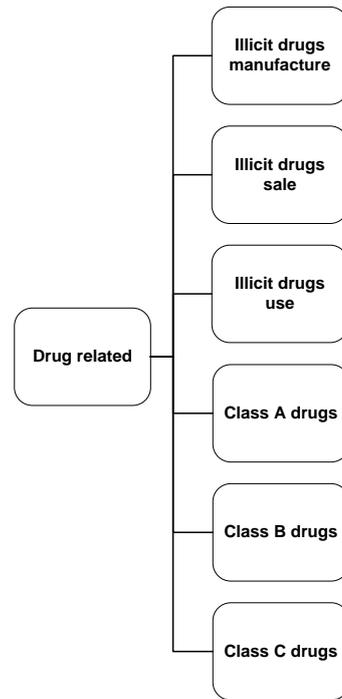

(b) Drug related social crimes
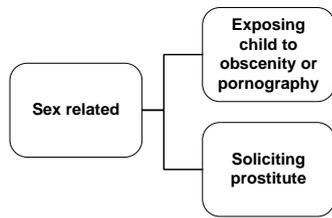
Figure 4: (a) Sex related social crimes　　　**(b) Traffic related social crimes**
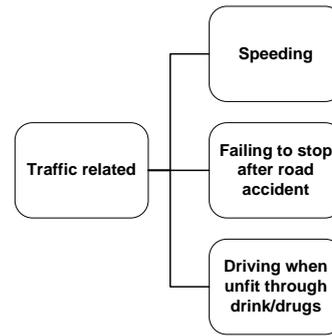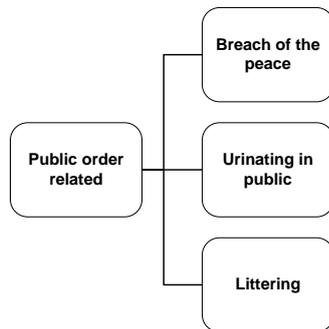
Figure 5: (a) Public order social crimes　　　**(b) Social corruption social crimes**
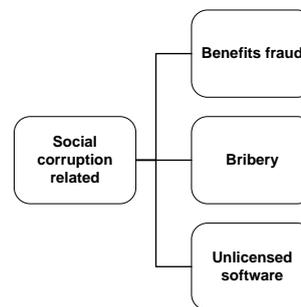
Results/Evaluation

This initial questionnaire is based on the Scottish legal perspective and set within a Scottish policing context, which allows the classification process to minimise differences based on cultural variations. The results from the questionnaire sent out to the SIPR contact database (which includes academic, police and associated contacts), while subjective in nature, nevertheless confirm a broad consensus on the seriousness of crimes. It was carried out in June 2010 and the results from 73 respondents compiled in August 2010. The following defines the details of the answer to specific questions. Table 1 and Figure 6 lists the percentage responses for Question 14. These figures are in-line with the Scottish Strategic Assessment for 2010 [22] which sets the operational police priorities for Scotland based on analysis of numerous source documents. The only slight difference in priority setting is that this paper does not identify anti-social behaviour as one of the Top 5 priorities. This is probably due to the survey being focused on law enforcement professionals and academics. Crime rankings derived from the results listed in Table 1 are illustrated in Figure 6.

Table 1: Percent Responses for Question 14

	Sex Offences	Bogus Caller	Counter Terrorism	ASB	Road Safety	Violence	Hate Crime	Acquisitive Crime	Wildlife Crime	Serious Organised Crime
Sex Offences	0	93.06	54.17	93.06	100	40.28	93.06	93.06	98.61	54.17
Bogus Caller	6.94	0	19.44	51.39	73.61	8.33	40.28	36.11	91.67	8.33
Counter Terrorism	45.83	80.56	0	80.56	91.67	47.22	79.17	86.11	95.83	44.44
ASB	6.94	48.61	19.44	0	84.72	2.78	47.22	37.50	93.06	6.94
Road Safety	0	26.39	8.33	15.28	0	1.39	15.28	18.06	68.06	5.56
Violence	59.72	91.67	52.78	97.22	98.61	0	91.67	98.61	100	51.39
Hate Crime	6.94	59.72	20.83	52.78	84.72	8.33	0	51.39	94.44	11.11
Acquisitive Crime	6.94	63.89	13.89	62.50	81.94	1.39	48.61	0	93.06	5.56
Wildlife Crime	1.39	8.33	4.17	6.94	31.94	0	5.56	6.94	0	0
Serious Organised Crime	45.83	91.67	55.56	93.06	94.44	48.61	88.89	94.44	100	0

Crime Category Rankings

Question 14 - Rankings of Crime Categories by Perceived Severity
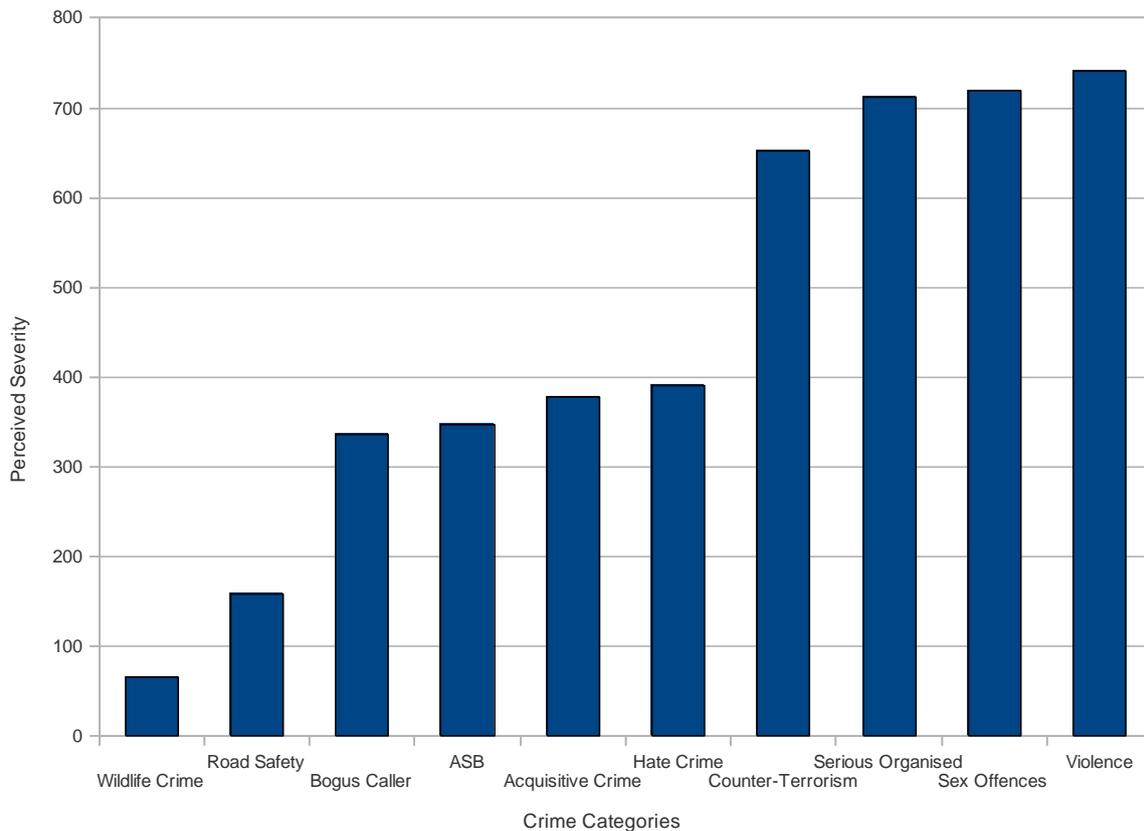
Figure 6: Crime Categories for Question 14

Person, Society and Property

Table 2 lists the percentage responses for Question 1.

Ranking: Person > Society > Property

Property vs. Society: The table shows that crimes against property have been ranked higher than crimes against society by 25% of respondents, while 75% rank crimes against society higher than crimes against property. This demonstrates a dominant trend that crimes against society are perceived as being more serious than crimes against property. It is interesting to note that this result is contrary to trends identified in related work where crimes against property are ranked higher than crimes against society. In fact, this result contradicts the trend identified using the ranking method for the same questionnaire (illustrated in **Figure 8**). One reason for this discrepancy may be that respondents have different interpretations of what is defined by crimes against society and property.

Property vs. Person: Crimes against property are ranked higher than crimes against the person by only 2.78 percent of respondents, while the dominant trend, 97.22 percent, rank crimes against the person higher. This trend is in agreement with the results illustrated with the ranking method.

Society vs Person: Crimes against society are ranked higher than crimes against the person by only 9.72 percent of respondents, while the dominant trend, 90.28 percent, rank crimes against the person higher. This trend is in agreement with the results illustrated with the ranking method.

Table 2: Percent Responses for Question 1

	Property	Society	Person
Property	0	25.00	2.78
Society	75.00	0	9.72
Person	97.22	90.28	0

Adult v Child

Table 3 lists the percentage responses for Question 2.

Ranking: Child > Adult

Adult vs. Child: These results illustrate an overwhelming perception among respondents, 97.22 percent, that crimes affecting a child are more serious than crimes affecting an adult. These results reinforce the perception that a child warrants more legal protection than an adult, perhaps because of a child's diminished capacity to protect their own rights compared to an adult. If so, this would also justify the provisions made in legislation that apply to the disabled, the elderly and others who may have diminished capacities to protect themselves from crime and, so, require more protection from the law than the average adult. Hence, the vulnerability of the victim of a crime, in terms of their ability to defend themselves against it, has an obvious impact on the perceived severity accorded to that crime. This has been taken into account in the calculation used for the ranking method (**Figure 8**), which show crimes affecting children to always rank higher than corresponding crimes affecting adults.

Table 3: Percent Responses for Question 2

	Adult	Child
Adult	0	2.78
Child	97.22	0

Death, Abduction, Physical Injury and Verbal Threat

Table 4 lists the percentage responses for Question 3.

Ranking: Death > Abduction > Physical Injury > Verbal Threat

Death vs. Physical Injury, Verbal Threat, Abduction: There is unanimous agreement that crimes causing death are perceived as more serious than crimes causing physical injury, abduction or involving verbal threats. This is also illustrated by the results from the ranking method which illustrate that crimes intentionally causing death are ranked higher than any other form of crime.

Physical Injury vs Verbal Threat: The majority trend, 84.72 percent, illustrated in Table 3 shows that crimes causing physical injury are perceived as more serious than crimes involving verbal threats, with a minority, 15.28 percent view to the contrary. This trend is also illustrated by the ranking method (**Figure 8**).

Physical Injury vs Abduction: The majority trend among respondents, 54.17 percent, shows crimes causing physical injury as being perceived as lower severity than crimes involving abduction, with 45.83 percent responses indicating the contrary. It is worth noting that there is only a difference of 8.34 percent in these results. Results shown by the ranking method also illustrate this trend.

Verbal Threat vs Abduction: The results indicate a clear majority perception, 77.78 percent, that crimes involving abduction are ranked higher than crimes involving Verbal Threats, with a minority, 22.22 percent, perception to the contrary. This trend is reinforced by the ranking method.

Table 4: Percent Responses for Question 3

	Death	Physical Injury	Verbal threat	Abduction
Death	0	100	100	100
Physical Injury	0	0	84.72	45.83
Verbal threat	0	15.28	0	22.22
Abduction	0	54.17	77.78	0

Property Taken and Property Destroyed

Table 5 lists the percentage responses for Question 4.

Ranking: Property Taken > Property Destroyed

Property Destroyed vs. Property Taken: Table 4 illustrates the majority trend, 63.89 percent, that crimes where property is taken are perceived as more serious than where it is destroyed.

Table 5: Percent Responses for Question 4

	Property Destroyed	Property Taken
Property Destroyed	0	36.11
Property Taken	63.89	0

Fire-raising, Vandalism and Graffiti

Table 6 lists the percentage responses for Question 5.

Ranking: Fire-Raising > Vandalism > Graffiti

Vandalism vs. Graffiti: The results in Table 5 illustrate a dominant trend, 81.94 percent, that vandalism is perceived more serious than graffiti. This trend is reflected in the results of the ranking method (**Figure 8**).

Vandalism vs. Fire-Raising: The results indicate a very clear majority perception, 98.61 percent, among respondents that fire-raising is more severe than vandalism. This trend is also reflected in the results illustrated by the ranking method (**Figure 8**).

Graffiti vs Fire-Raising: The results indicate a clear majority perception among respondents, 95.83 percent, that fire-raising is more severe than vandalism. This trend is also reflected in the results illustrated by the ranking method (**Figure 8**).

Table 6: Percent Responses for Question 5

	Vandalism	Graffiti	Fire-raising
Vandalism	0	81.94	1.39
Graffiti	18.06	0	4.17
Fire-raising	98.61	95.83	0

Robbery and Theft

Table 7 lists the percentage responses for Question 6.

Ranking: Robbery > Theft

Theft vs. Robbery: There is unanimous agreement, 100 percent, among respondents that robbery is more serious than theft. This is also reflected in the results illustrated by the ranking method (**Figure 8**). The crime of robbery is classified here as a crime against property due to the aim of a robbery being the acquisition of some property. However, it carries with it the element of force being used, often with threatened or actual violence, in the course of the robbery. This is in contrast with theft, which, while also aimed at the acquisition of some property, does not have the element of force involved. Due to this added element of force involved in robberies, this crime is closer to the crimes against the person category than the crime of theft. This may explain why robbery is unanimously ranked higher than theft.

Table 7: Percent Responses for Question 6

	Theft	Robbery
Theft	0	0
Robbery	100	0

Sex, Drug, Social Corruption, Traffic and Public Order

Table 8 lists the percentage responses for Question 7.

Ranking: Sex > Drug > Social Corruption > Traffic > Public Order

Sex vs Drug, Traffic, Social Corruption, Public Order: Sex-related crimes are ranked higher than any other category of crime included in this question. This trend is also reflected in the ranked results illustrated in **Figure 8**.

Drug vs Traffic: The majority trend, 70.83 percent, among respondents indicates a perception that

drug-related offences are of greater seriousness than traffic-related offences, a trend reflected in the ranked results (**Figure 8**).

Drug vs Social Corruption: The majority trend, 62.5 percent, among respondents indicates a perception that drug-related offences are of greater seriousness than social corruption-related offences. This trend is also reflected in the ranked results illustrated in **Figure 8**

Traffic vs Social Corruption: The majority trend, 55.56 percent, among respondents indicates a perception that traffic-related offences are of lower seriousness than social corruption-related offences, a trend reflected in the ranked results (**Figure 8**).

Public-Order vs Sex, Drug, Social Corruption, Traffic: Public-order offences are ranked lower than any other category of crime included in this question. This trend is also reflected in the ranked results illustrated in **Figure 8**.

Table 8: Percent Responses for Question 7

	Drug	Sex	Traffic	Public Order	Social Corruption
Drug	0	12.50	70.83	75.00	62.50
Sex	87.50	0	90.28	97.22	90.28
Traffic	29.17	9.72	0	66.67	44.44
Public Order	25.00	2.78	33.33	0	27.78
Social Corruption	37.50	9.72	55.56	72.22	0

Drug Manufacture, Sale and Use

Table 9 lists the percentage responses for Question 8.

Ranking: Manufacture > Sale > Use

Manufacture vs. Sale, Use: Crimes related to the manufacture of drugs are ranked higher than those relating to the sale or use of drugs. This trend is also reflected in the ranked results illustrated in **Figure 8**.

Use vs Manufacture, Sale: Crimes related to the use of drugs are ranked lower than those relating to the manufacture or use of drugs. This trend is also reflected in the ranked results illustrated in **Figure 8**.

Table 9: Percent Responses for Question 8

	Drug Manufacture	Drug Sale	Drug Use
Drug Manufacture	0	73.61	95.83
Drug Sale	26.39	0	98.61
Drug Use	4.17	1.39	0

Drugs (A, B and C)

Table 10 lists the percentage responses for Question 9.

Ranking: A > B > C > Legal

A vs B, C. Legal: Crimes involving Class A drugs are ranked higher than those relating to any other category listed for this question. This trend is also reflected in the ranked results illustrated in **Figure 8**.

B vs. C: Crimes involving Class B drugs are ranked higher than those involving Class C drugs. This trend is also reflected in the ranked results illustrated in **Figure 8**

Legal vs. A, B, C: Crimes involving legal drugs are ranked lower than those relating to any other category listed for this question. This trend is also reflected in the ranked results illustrated in **Figure 8**.

Table 10: Percent Responses for Question 9

	A	B	C	Legal
A	0	97.22	97.22	95.83
B	2.78	0	83.33	81.94
C	2.78	16.67	0	65.28
Legal	4.17	18.06	34.72	0

Selling pornography to minors and Soliciting prostitute

Table 11 lists the percentage responses for Question 10.

Ranking: Selling pornography to minors > Soliciting prostitute

Selling Pornography to Minors vs Soliciting Prostitute: The results to question 10, listed in Table 10, demonstrate a majority trend that selling pornographic material to minors is perceived as a more serious crime than soliciting a prostitute. This trend is also reflected in the ranking results, where selling pornographic material to minors is ranked as the highest social crime. One possible explanation for this is that this crime involves minors. It has been shown in the listings for crimes against the person (**Table 3**) that crimes which involve children are perceived as more serious than crimes which involve adults. Hence, although selling pornography to minors and soliciting a prostitute are both classified here as social crimes, as they are dependent upon local norms, the additional factor that one crime involves children raises its perceived seriousness amongst respondents.

Table 11: Percent Responses for Question 10

	Selling Pornography to minors	Soliciting prostitute
Selling Pornography to minors	0	86.11
Soliciting prostitute	13.89	0

Drinking and Driving, Failing to stop after accident, Using mobile while driving and Speeding

Table 12 lists the percentage responses for Question 11.

Ranking: Drinking and Driving > Failing to stop after accident > Using mobile while driving > Speeding

Speeding vs Failing to Stop after Accident, Drinking and driving, Using mobile while driving: **Table 12** illustrates that speeding is perceived as being of lower seriousness than the other three categories of crime. This trend is reflected in the results shown by the ranking method. All crimes in this category have an element of recklessness and a disregard for safety. It would seem that the element of recklessness, the absence of due care, present in speeding is perceived as being less serious than in using a mobile while driving and driving while drunk.

Failing to stop after accident vs Drinking and driving: The majority trend, 79.17 percent, illustrated in **Table 12** is that drinking and driving is perceived as being more serious than failing to stop after an accident. It is interesting to note that the crime of failing to stop after an accident has the element of an accident having already occurred while that of drinking and driving only has the increased potential for an accident occurring due to recklessness. Yet drinking and driving is perceived as being of higher seriousness. This trend is also reflected in the results obtained from the ranking method (**Figure 8**).

Failing to stop after accident vs. Using mobile while driving: **Table 12** illustrates the dominant trend that failing to stop after an accident is perceived as being more serious than using a mobile while driving. The results from the ranking method reflect this trend.

Drinking and driving vs. Using mobile while driving: Drinking and driving is perceived as being of higher seriousness than using a mobile while driving. In fact drinking and driving ranks higher in terms of seriousness than any of the other crime categories in this question. This trend is also reflected in the results of the ranking method.

Table 12: Percent Responses for Question 11

	Speeding	Failing to stop after accident	Drink driving	Using mobile while driving
Speeding	0	34.72	5.56	47.22
Failing to stop after accident	65.28	0	20.83	63.89
Drink driving	94.44	79.17	0	87.50
Using mobile while driving	52.78	36.11	12.50	0

Football Hooliganism, Breach of Peace, Urinating in Public and Littering

Table 13 lists the percentage responses for Question 12.

Ranking: Football Hooliganism > Breach of Peace > Urinating in Public > Littering

Football Hooliganism vs Breach of Peace, Urinating in Public, Littering: Football hooliganism is ranked higher in terms of perceived seriousness than any other category in this question, a trend which is also reflected in the results obtained with the ranking method.

Breach of Peace vs Urinating in Public: The dominant trend illustrated in **Table 13** indicates that breach of the peace is perceived as being of a higher seriousness than urinating in public. The results from the ranking method reflect this trend.

Littering vs Breach of Peace, Urinating in Public, Football Hooliganism: The crime of littering is ranked lower than any other category in this question, a trend which is also reflected in the results

obtained with the ranking method.

Table 13: Percent Responses for Question 12

	Breach of Peace	Urinating in Public	Littering	Football Hooliganism
Breach of Peace	0	76.39	91.67	18.06
Urinating in Public	23.61	0	87.50	4.17
Littering	8.33	12.50	0	2.78
Football Hooliganism	81.94	95.83	97.22	0

Bribery, Benefits Fraud and Pirated Software

Table 14 lists the percentage responses for Question 13.

Ranking: Bribery > Benefits Fraud > Pirated Software

Bribery vs Benefits Fraud, Pirated Software: The dominant trend among respondents is that bribery is of greater seriousness than benefits fraud or pirated software, a trend also reflected by the ranking method.

Benefits Fraud vs Pirated Software: A clear majority trend, 98.61 percent, among respondents, is that benefits fraud is of higher seriousness than pirated software. In fact, pirated software ranks lower than any other crime category for this question.

Table 14: Percent Responses for Question 13

|	Benefits fraud	Bribery	Pirated software
Benefits fraud	0	31.94	98.61
Bribery	68.06	0	93.06
Pirated software	1.39	6.94	0
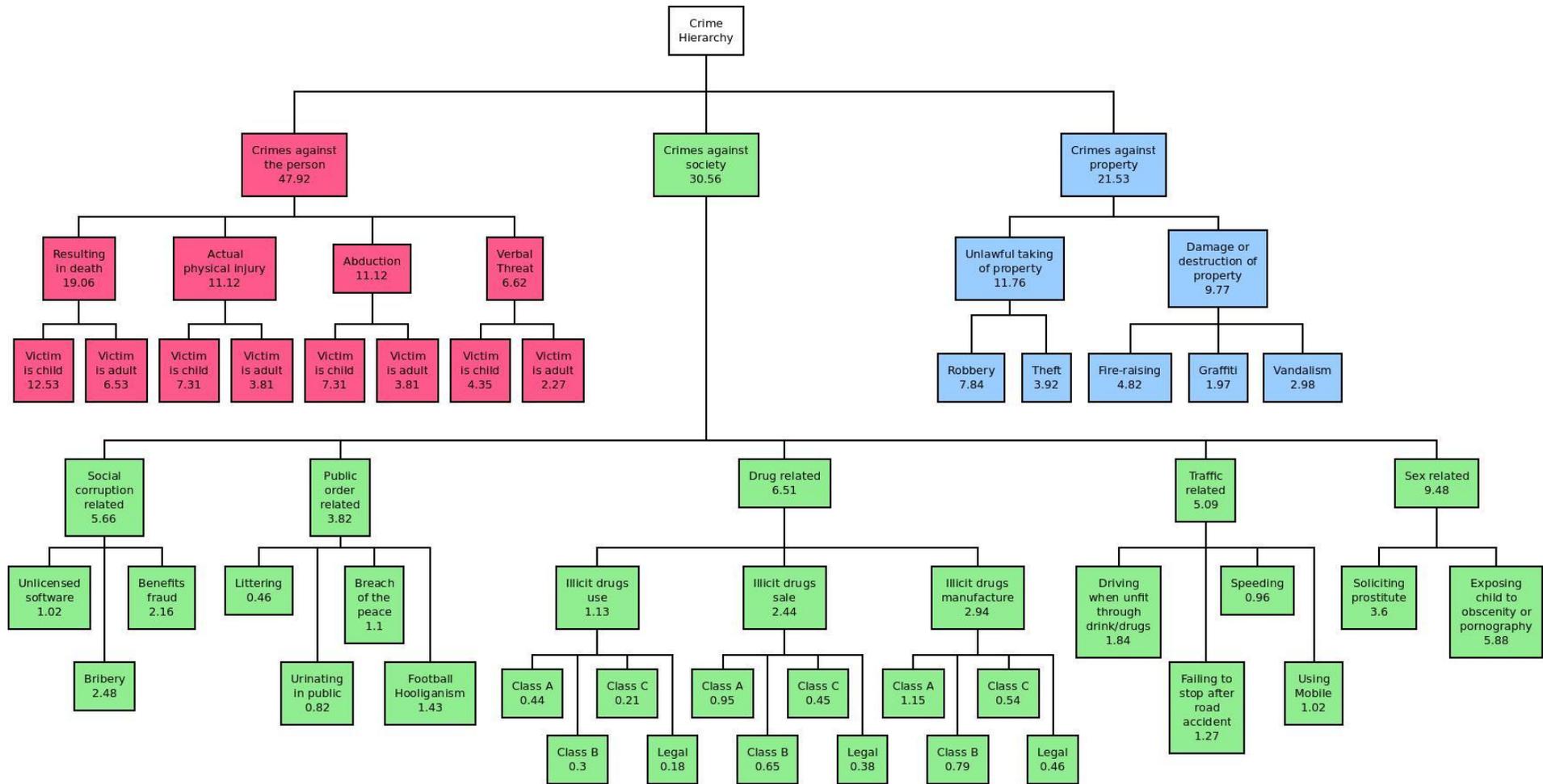
Figure 7: Crime Hierarchy with Percentages

Critical Analysis

The results from the questionnaire, while subjective in nature, nevertheless confirm a broad consensus on the seriousness of crimes. This consensus can be related to a quantification of the 'harm' caused by the crime. For example, crimes against persons are regarded as being most serious while crimes against property are regarded as less serious. Social crimes such as speeding or littering are commonly regarded as being least serious. Relating the seriousness of these classifications of crimes to levels of harm, the following correlations can be made:

Level of Harm	Type of Crime
Highest	Crimes against Persons
Medium	Crimes involving Property
Lowest	Social Crimes

Further classifications within the above categories can also be made. In crimes against persons, there is a clear relationship between perceived seriousness of a crime and the level of harm caused to the victim. Crimes involving minor injuries would, hence, be classed lower than crimes where the victim suffers serious injury, with crimes causing death associated with the highest level of harm. For crimes involving property, the level of damage to the property can be linked to the level of harm caused. This, for example, can be related to the monetary value of the damage caused. Finally, although social crimes are perceived to cause the lowest level of harm, it is difficult to identify a trend that determines the relative seriousness of crimes within this category. A reason for this is that there is greater variance in the perceived seriousness with regards to social crimes than with the other two categories and a broad consensus does not exist.

A criticism of the survey is that the results it provides are heavily dependent on the particular viewpoint of the respondent. However, assessment of severity is inherently subjective in nature and related research evaluating crime severity has historically sought to rely upon opinion surveys. Although these necessarily rely upon individual, subjective views, repeated assessments have shown there to be a normative consensus which suggests that social crimes are generally perceived to be less severe than crimes against property. Crimes against property are, in turn, perceived to be less severe than crimes against the person. The results from the questionnaire reinforce this trend. However, as pointed out previously, there is no sharp boundary between the different classifications of crime but the distribution (**Figure 8**) is such that social crimes are concentrated near the LOW end of the severity scale while crimes against the person are concentrated near the HIGH end of the severity scale. Crimes against property are found to be concentrated in the middle of the scale.

A second criticism is that it forces respondents to discriminate between their responses. It is not possible, for example, to choose more than one crime as being 'most severe' for any one question. Hence, there may be instances where respondents feel that more than one crime falls within a specific category ('most severe') for a particular question but are unable to reflect this in their answer. This is due to the restriction that only one crime can be selected for any given category. The reason for this restriction is that the survey aims to highlight variations in the

perceived severity of different categories of crime (i.e. society, property and person), as illustrated in Figure 7. In order to identify these differences, a respondent must evaluate one crime against another to arrive at judgements about which is more severe. This cannot be achieved if more than one crime is allotted to a single category, hence the decision to require respondents to rank responses.
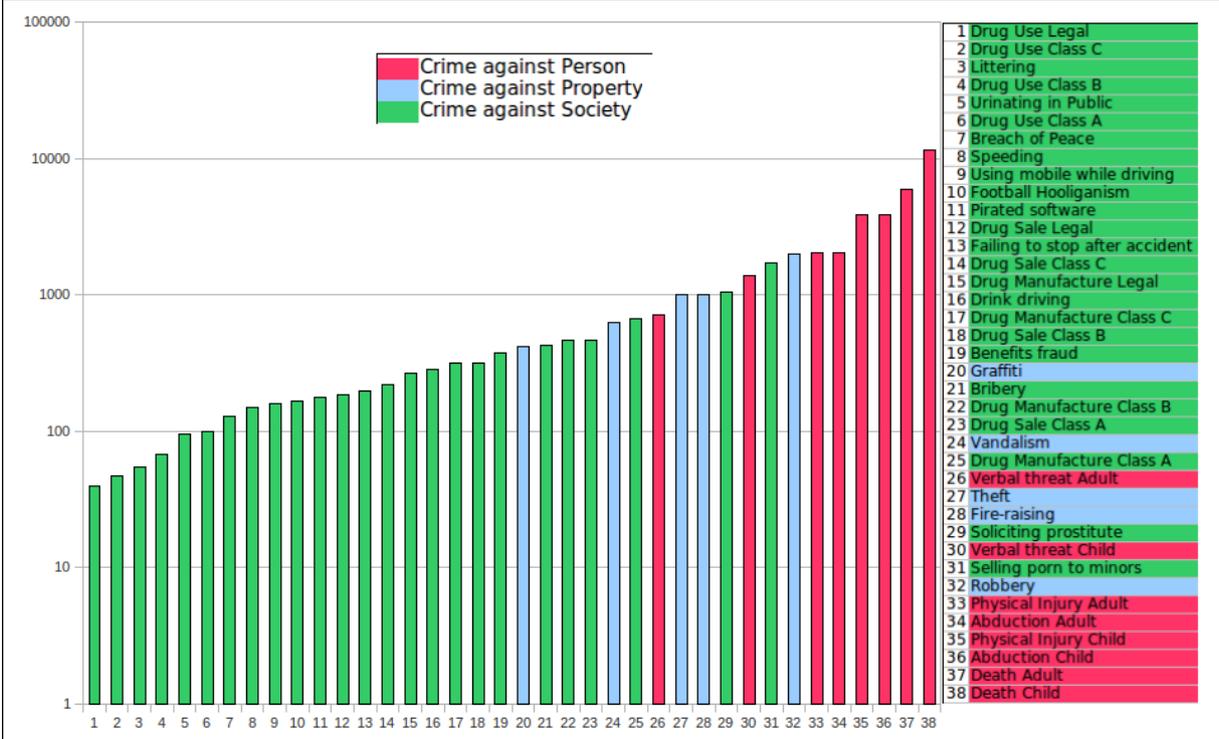
Figure 8: Distribution of Crimes by Perceived Severity

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Police and Community Partner Information Sharing

This survey aims to rank areas of inter-agency collaboration in policing according to seriousness. It forms part of research into inter-agency information-sharing mechanisms which facilitate collaborative working among police and community partner organisations, including health care, social work, regional/state administration and other agencies. The results of this survey will be used to assist in building an information sharing model in which the rights to access information are based on the role and rights of a practitioner. The role of the practitioner and his/her organisation determine the level of access to information from other partner domains, and this is carefully controlled by an information sharing policy. A key part of this is the definition of Criminal Risk, which can be generally defined in a number of Risk Levels. In order to assess Criminal Risk, different viewpoints of this risk need to be classified, including from Law Enforcement Professionals and others. This survey also identifies the variability of this perception of risk between practitioners from various backgrounds, and how these different viewpoints rank risk in terms of a risk level. Question 14 has been included at the request of the police in order to complement their work with impact measures for the Scottish Strategic Assessment (SSA) and aims to get a current viewpoint on the perceived levels of risk to the public. Please assess these questions from the viewpoint of your rank/role and the area of operation of your organisation.

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Please click **here** for a brief introduction.

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Organisation

Please enter the name of your organisation or its main area of operation (eg: Policing, Healthcare, Social Care)

Rank / Position

Please enter your rank or job title within your organisation

1. Rate the following generalised categories of crime in terms of seriousness (1 is least serious, 3 is most serious)

	1 - Least Serious	2	3 - Most Serious
Crimes against person	○	○	○
Crimes against society	○	○	○
Crimes against property	○	○	○

2. In crimes against the person, please indicate if it is more serious that the victim is an adult or if the victim is a child (1 is least serious, 2 is most serious)

	1 - Least Serious	2 - Most Serious
Adult	○	○
Child	○	○

3. In the following crimes against the person, rate in terms of seriousness (1 is least serious, 4 is most serious)

	1 - Least Serious	2	3	4 - Most Serious
Andy intentionally drives Bob away in a car, against Bob's will.	○	○	○	○
Andy punches Bob causing an injury after the two have an argument.	○	○	○	○
Andy phones Bob and verbally threatens him with violence.	○	○	○	○
Andy intentionally stabs Bob, which results in Bob's death.	○	○	○	○

4. In the following crimes against property, rate in terms of seriousness (1 is least serious, 2 is most serious)

	1 - Least Serious	2 - Most Serious
Crimes where property is damaged or destroyed.	○	○
Crimes where property is taken away.	○	○

5. In the following crimes against property, rank in terms of seriousness (1 is least serious, 3 is most serious)

	1 - Least Serious	2	3 - Most Serious
Andy scribbles and spray-paints on bus-shelters.	○	○	○
Andy has a grudge against Bob and intentionally sets fire to Bob's car.	○	○	○
Andy has a grudge against Bob and intentionally damages Bob's car with a brick.	○	○	○

6. In the following crimes against property, rank in terms of seriousness (1 is least serious, 2 is most serious)

	1 - Least Serious	2 - Most Serious
Andy sees Bob's bicycle left outside a convenience store and rides away with it.	○	○
Andy takes money away from Bob while threatening him with violence using a knife.	○	○

7. In the following crimes against society, rank in terms of seriousness (1 is least serious, 5 is most serious).

	1 - Least Serious	2	3	4	5 - Most Serious
Sex-related (e.g. exposing a minor to pornography, soliciting a prostitute).	○	○	○	○	○
Traffic-related (e.g. speeding, driving without insurance).	○	○	○	○	○
Drug related (e.g. consuming illegal substances).	○	○	○	○	○
Social corruption related (e.g. benefits fraud, use of pirated software).	○	○	○	○	○
Public Order related (e.g. urinating in public, littering).	○	○	○	○	○

8. In the following drug-related crimes, rank in terms of seriousness (1 is least serious, 3 is most serious)

	1 - Least Serious	2	3 - Most Serious
Illicit drugs manufacture	○	○	○
Illicit drugs sale	○	○	○
Illicit drugs use	○	○	○

9. Rank in terms of seriousness (1 is least serious, 4 is most serious) crimes involving

	1 - Least Serious	2	3	4 - Most Serious
Legal drugs that mimic the effects of illegal drugs (e.g. methylone, butylone, MPDV).	○	○	○	○
Class B drugs (eg: Amphetamines, Cannabis, Ritalin).	○	○	○	○
Class C drugs (eg: Tranquilisers, some painkillers, Ketamine).	○	○	○	○
Class A drugs (eg: Ecstasy, heroin, cocaine).	○	○	○	○

10. In the following sex-related crimes, rank in terms of seriousness (1 is least serious, 2 is most serious)

	1 - Least Serious	2 - Most Serious
Andy, who is over the age of 16 years, sells pornographic material to minors.	○	○
Andy is found to be loitering in a public place for the purposes of soliciting a prostitute.	○	○

11. In the following traffic-related crimes, rank in terms of seriousness (1 is least serious, 4 is most serious)

	1 - Least Serious	2	3	4 - Most Serious
After being administered a breath test, Andy is found to have been driving a car whilst having blood alcohol limit significantly higher than the legal limit.	○	○	○	○
Andy is using a mobile phone whilst driving, resulting in an accident.	○	○	○	○
Andy is driving his car when it is involved in an accident with another vehicle, but Andy fails to stop and drives away from the scene of the accident.	○	○	○	○
Andy is found to be driving a car exceeding 51 mph on a road where the prescribed speed limit is 30 mph.	○	○	○	○

12. In the following public-order-related crimes, rank in terms of seriousness (1 is least serious, 4 is most serious)

	1 - Least Serious	2	3	4 - Most Serious
Andy and Bob argue noisily in a residential area at 1 am in the morning, causing local residents to become alarmed.	○	○	○	○
Andy is found leaving litter on a public street.	○	○	○	○
Andy and Bob are involved in violence at a football match.	○	○	○	○
Andy is found to be urinating on a public street.	○	○	○	○

13. In the following social corruption-related crimes, rank in terms of seriousness (1 is least serious, 3 is most serious)

	1 - Least Serious	2	3 - Most Serious
Andy knowingly claims for benefits for which he is not legally entitled.	○	○	○
Andy knowingly uses unlicensed, pirated software on his personal computer.	○	○	○
Andy offers a bribe to a police constable in order to avoid a traffic penalty.	○	○	○

Police and Community Partner Information Sharing

14. Police resources are actively employed in a wide range of actions against crime. Please rank the following 10 actions against crime in terms of seriousness (1 is least serious, 10 is most serious).

	1 - Least Serious	2	3	4	5	6	7	8	9	10 - Most Serious
Action against serious and organised crime (eg drug dealing, people smuggling).	○	○	○	○	○	○	○	○	○	○
Action promoting road safety.	○	○	○	○	○	○	○	○	○	○
Public Protection action (eg against sex offences, domestic abuse and paedophiles.	○	○	○	○	○	○	○	○	○	○
Action targetting violence (eg murder, assault).	○	○	○	○	○	○	○	○	○	○
Wildlife Crime (eg illegal trapping of animals, collecting of wild birds' eggs).	○	○	○	○	○	○	○	○	○	○
Action against anti social behaviour (eg youth disorder, youth gangs, vandalism).	○	○	○	○	○	○	○	○	○	○
Action against hate crime.	○	○	○	○	○	○	○	○	○	○
Counter terrorism action.	○	○	○	○	○	○	○	○	○	○
Action against acquisitive crime (eg housebreaking, vehicle breakins, shoplifting, street robbery).	○	○	○	○	○	○	○	○	○	○
Action against Bogus Caller Crime (eg impersonating Gas, Electricity workers to gain entry to property).	○	○	○	○	○	○	○	○	○	○

Comments

Please enter any comments or views you may have regarding this questionnaire or its subject matter

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