An Exploratory Analysis of Armed Robbery in Australia

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Disclaimer

This research report does not necessarily reflect the policy position of the Australian Government.

Executive Summary

An increase in the incidence of armed robbery overall has been noted both internationally and in Australia. However the increase has not been uniform across all types of armed robbery, with researchers observing proportionally fewer firearm robberies and increases in the use of "other weapons" such as knives. To date there has been insufficient research to articulate what factors may be driving these changes.

In early 2002 the Australian Institute of Criminology (AIC) convened a Roundtable between representatives of Australian State and Territory police services. Discussions focussed on the establishment of an AIC-administered *National Armed Robbery Monitoring Program.* Three key goals of the Program were identified:

1. to monitor trends in armed robbery, specifically in weapon use;
2. to identify changes in trends; and
3. to provide insight into the factors underpinning these trends.

To assess whether these goals could be achieved, state and territory police representatives agreed to provide more complete data on armed robbery for a sample period. They sent:

unit record data in ABS format for all armed robbery offences for the three-month period 1 October to 31 December 2001; and

incident narratives relating to all or a subset of the armed robberies committed during the same period (piloted jurisdictions only).

A total of 2,339 armed robbery incidents and 1,435 narratives were provided for the research.

Unit level information was analysed to address some key unanswered questions concerning patterns of weapon use in armed robbery. To assess more complex broad trends that could be seen as characteristic of armed robbery, a sample of the incident narratives were examined qualitatively. Furthermore, NSW provided additional variables to those supplied by other jurisdictions (i.e., offender information, type of property stolen and specific location information). Additional analyses were performed on the NSW armed robbery incidents to illustrate the type of analyses that could be undertaken if additional data were supplied to the National Armed Robbery Monitoring Program.

Some of the main findings of the national analyses include:

knives were the most commonly employed weapons in armed robberies;

the pattern of weapon usage (that is proportion of knives, to firearms, to syringes, and to "other weapons") varied as a function of the location of the offence—a

higher proportion of armed robberies of organisations involved the use of a firearm;

patterns of weapon usage did not vary according to the type of victim (persons or organisations);

weapons employed by offenders did not vary widely as a function of victim gender;

persons aged between 18 to 24 years had the highest risk of armed robbery; and

on the basis of the descriptive information contained in armed robbery incident narratives, at least three possible armed robbery scenarios emerged—opportunistic street muggings, amateur retail armed robbery, and professional armed robbery.

The additional analyses of the NSW armed robbery incidents showed:

most armed robberies involved only one victim, and were committed between the hours of 6pm and just before midnight;

there were differences in weapon use within locations subsumed by the ABS "retail category"; for instance, victims in licensed premises (pubs and clubs) were most often victimised with firearms, whereas victims in small corner stores, milkbars and takeaways were mostly robbed with a knife;

victims in service stations and licensed premises were most likely to be robbed during the evening or early hours of the morning (6pm to 5.59am), whereas chemists were most likely to be robbed in the afternoon;

a higher proportion of firearm robberies compared to all other weapon robberies were completed: 96% for firearms versus 88% for syringe robberies;

the majority of armed robberies were committed by offenders acting alone, although weapon use varied with the number of offenders: firearm robberies were more likely to be committed by two offenders;

overall, males greatly outnumbered females as armed robbery offenders;

most offenders had numerous prior charges as recorded by police (11+ priors), but firearm robbery offenders did not follow this pattern: they had been charged with between 2 and 5 prior offences; and

cash and mobile phones were most frequently stolen during the armed robberies, with an average of 2.3 item types stolen per incident.

This examination of more complete sample data on armed robbery suggests that:

it would be worthwhile mounting a full scale NARMP;

this should be in the form of unit records so that all available details of each single robbery incident can be examined in different ways; and

the data that police provide should include variables additional to those supplied to the ABS, including offender age, offender gender, offence day and time, value and type of property taken, whether disguises were worn, whether the victim offered resistance, and whether the victim was injured.

Introduction

In recent years there has been a burgeoning interest in armed robbery in Australia (e.g., Mouzos 1999; Ogilvie 2000; Mayhew 2000; Mouzos & Carcach 2001; Taylor 2002). This has mostly been driven by (a) the fact that its incidence has more than doubled between 1993 and 2001, and continues to increase (between 2000 and 2001 there was a 17% recorded increase in armed robbery: see ABS 2002), and (b) the realisation that we know very little about its circumstances and patterns, despite being a crime of particular concern (Mouzos and Carcach 2001, p. 36).

Some of the most dramatic changes in trends in recent years have been in the type of weapons used in armed robbery. Between 1993 and 2001, firearm robberies decreased by 15 per cent. In contrast, the use of other weapons (such as knives) increased by 169 per cent over the same period – essentially driving the overall increase.

This change is not unique to Australia: a decline in the use of firearms robberies has also been observed in England and Wales (11.7% in 1991 down to 4.4% in 1998). Such changes have been attributed to:

> *the demise of the professional "armed" robbery and of armed robbery as a criminal career. In its place are emerging new modes of taking money by using threats or force. The profile of those engaged in armed robbery is changing, as are the methods by which robberies are carried out (Matthews 2002, 145).*

The increased attention in Australia and elsewhere directed at understanding armed robbery has provided some insight. Previous Australian research by Mouzos and Carcach (2001) provided a snapshot of armed robbery between 1996 and 1998. It examined the type of weapon used in armed robbery and its relation to situational characteristics, such as the location of the incident, as well as the socio-demographics of the offender (such as gender and age). Victim characteristics were not supplied by jurisdictions, and could not be included in the analyses. Weapon type varied according to whether the victim was a person or organisation, the location of the offence, as well as the age and gender of offenders. For example, although knives were the most common type of weapon used in armed robbery, firearms were more commonly used when the target was a bank, credit union or building society. Also, offenders aged less than 14 years and between 35 and 44 years were less likely to use a firearm, but the latter group were more likely to use a syringe. These findings emphasise the point that offenders of armed robbery, similar to almost all other offenders, are not a "homogeneous" group.

Examinations of armed robbery can better inform policy decisions and the allocation of police resources to assist in the implementation of effective crime prevention strategies targeting persons, locations and organisations most at risk. The Mouzos and Carcach (2002) study was one of the first examinations of armed robbery at the national level.

However, the set of variables analysed was limited and because it was only a snapshot, it could not be used to examine shifts in patterns and trends in armed robbery, a role more suitable for a monitoring program.

Given that there are still many gaps in our knowledge, a complete picture of the offence of armed robbery cannot be provided. Outstanding questions include:

- Has the profile of armed robbers (from the 'professional' to the more 'spontaneous/opportunistic' offender) changed in Australia?
- Is there a "typical" profile of armed robbery in Australia?
- What are the most common objects (money, mobile phones, etc) targeted during an armed robbery? Does this vary by weapon type?
- Are victims more likely to be injured if they offer resistance to the offender(s) and does this vary according to type of weapon?
- Does the type of weapon used in armed robbery vary according to the demographics of victims (gender and age), as well as the location of the offence?
- Is the investigation status of an armed robbery linked to the type of weapon used?
- Are firearms robberies associated with specific situational and demographic variables of victims and offenders?

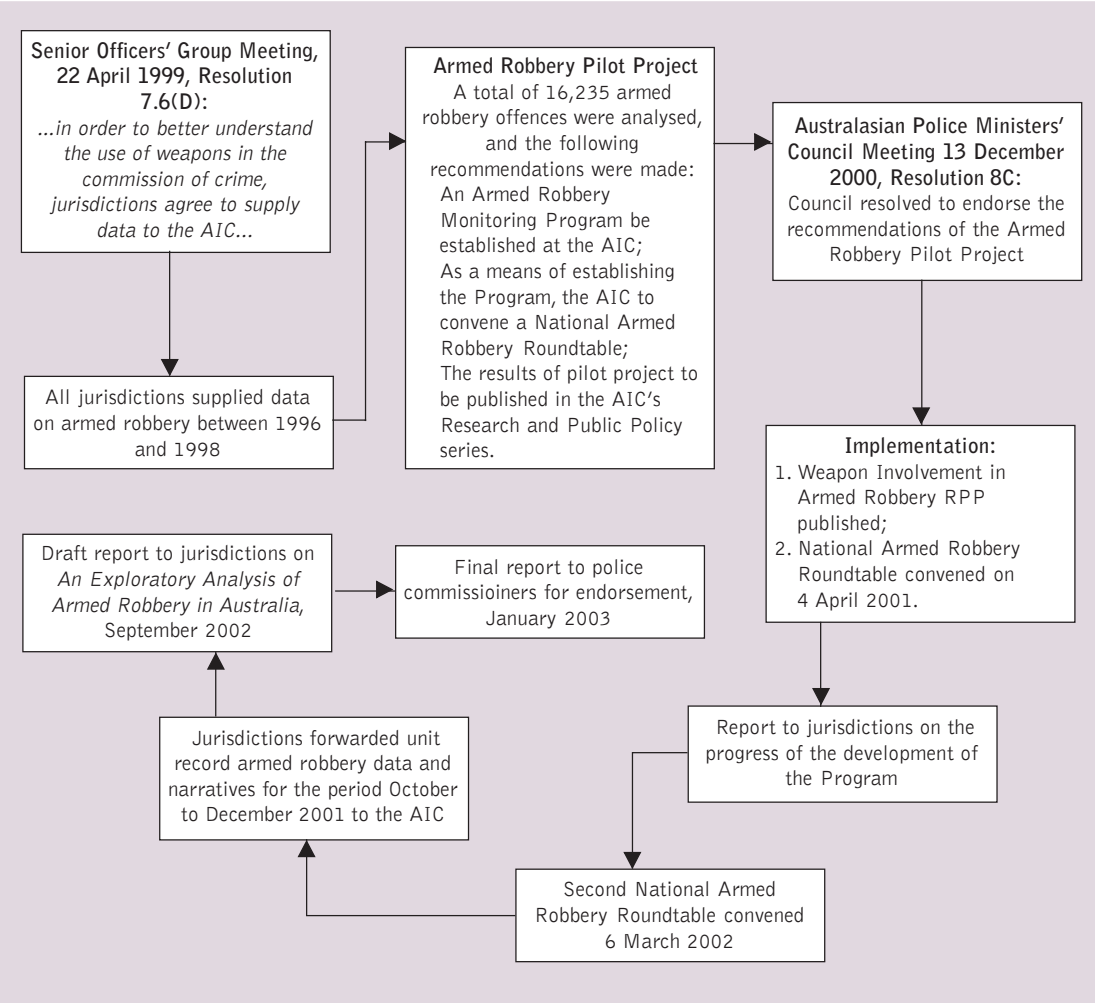
The National Armed Robbery Monitoring Program (NARMP)

There is a strong commitment by the Australian Police Ministers' Council (APMC), state and territory police services and the Australian Institute of Criminology (AIC) to examine armed robbery, mainly "…to better understand the use of weapons in the commission of crime" (SOG Resolution 7.6(D) 1999). To further this, significant steps have been achieved (see Figure 1), the first of which was the Armed Robbery Pilot Project and ensuing report "Weapon Involvement in Armed Robbery" (Mouzos and Carcach 2001). To reiterate, this provided a 'snapshot' of armed robbery in Australia between 1996 and 1998, including short-term trends and patterns in weapon use. However this report did not examine whether the types of weapons used in armed robbery varied according to the gender and age of the victim or the location of the offence because such data, as noted, was not made available by jurisdictions. Similarly, as it was a snapshot over a three-year period, it could not be used to monitor longer-term trends.

It was clear that further research was needed, and there was also a need for the ongoing monitoring of trends and patterns in armed robbery.

Following this report, the Australian Institute of Criminology convened the second National Armed Robbery Roundtable on Wednesday 6th March 2002, to discuss an agenda for the joint implementation of the National Armed Robbery Monitoring Program by state and territory police services in conjunction with the AIC (see Appendix 1 for a summary of proceedings of the roundtable).

Figure 1: Flow chart of the development of the National Armed Robbery Monitoring Program



Goals of the NARMP

Three key goals for the Program were identified:

1. to monitor trends in armed robbery, specifically, trends in weapon use;
2. to identify changes in trends; and
3. to provide insight into the factors underpinning these trends.

To assess whether these goals could be achieved, state and territory police representatives agreed to provide more complete data on armed robbery for a sample period. They sent:

unit record data in ABS format for all armed robbery offences for the three-month period 1 October to 31 December 2001; and

incident narratives relating to all or a subset of all the armed robberies committed during the same (piloted jurisdictions only).

A total of 2,339 armed robbery incidents and 1,435 narratives were provided for the research.

Purpose of the Report

This report presents the results of an exploratory analysis of armed robbery in Australia. It aims to address some of the key questions in relation to armed robbery by value adding to unit record data formatted according to the ABS categories used in the Recorded Crime Australia collection, and incident narratives. It also assesses whether the data that police provide to the ABS would be sufficient for the purposes of monitoring trends and patterns of armed robbery in Australia. Such data includes categorical information relating to the location, age and gender of victims, types of weapons used and the status of investigation. However, no details are provided on the characteristics of offenders.

Methodology

Definition of Armed Robbery

Robbery is defined as "the unlawful taking of property, without consent, under confrontational circumstances from the immediate possession, control, custody or care of a person, accompanied by force or threat of force or violence and/or by placing the victim in fear" (ABS 1999, p. 126). Although this definition refers to "a person", this does not exclude instances where an organisation is the victim. This definition also implies that property must be taken, however, data include both completed and attempted offences.

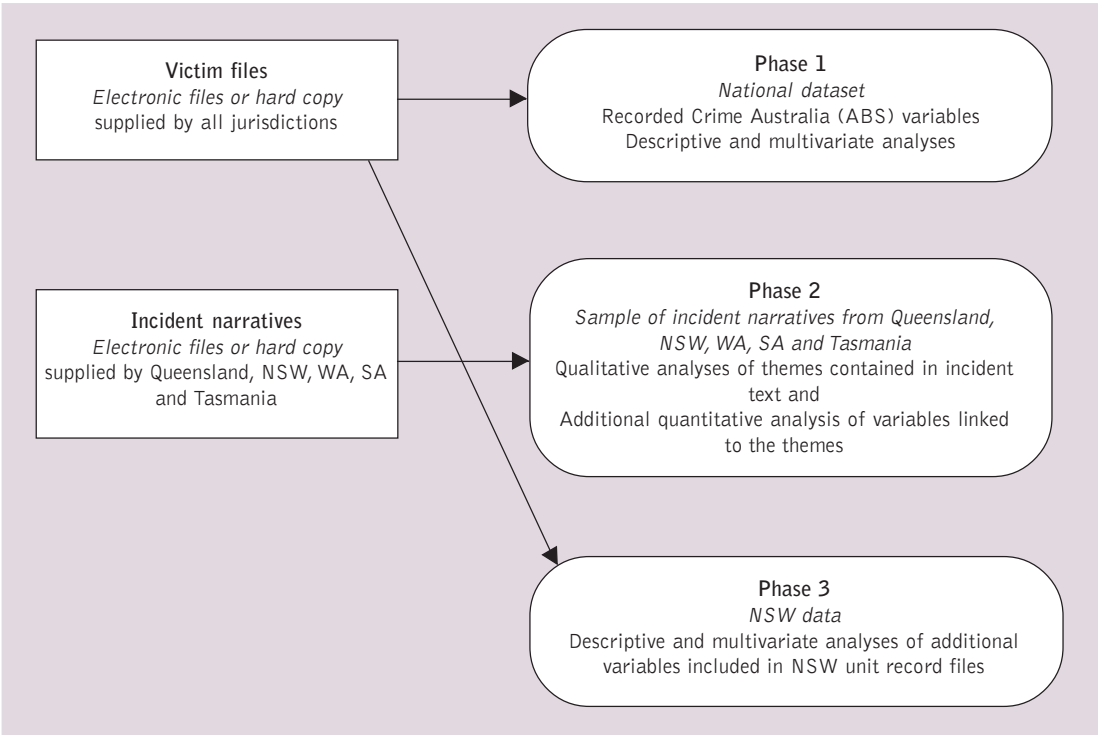
There are two categories of robbery:

armed robbery - defined as "robbery conducted with the use of a weapon" (ABS 1999, p. 126); and

unarmed robbery – defined as "robbery conducted without the use of a weapon (ABS 1999, p. 126).

This report focuses solely on armed robbery as defined by the ABS, and data has been supplied to the AIC in accordance with the ABS definition to ensure consistency and comparability between the jurisdictions.

Figure 2: Summary of the data analysis process



Overview of Analyses

Three phases of analyses were conducted for this report (see Figure 2). The first phase analysed unit record data in ABS format supplied by Australian states and territories. This examined the characteristics of the armed robbery situation and victim. The second phase involved both a qualitative (thematic) and quantitative analysis of armed robbery narratives. The third phase involved a quantitative analysis of the additional variables (including offender information) supplied by NSW.

Recorded Crime Australia Data

Fulfilling the commitments made at the Roundtable discussions, each State and Territory Police Service forwarded information detailing armed robberies reported in their jurisdiction during the period 1 October 2001 to 31 December 2001 (inclusive). The last of this information was received on 20 May 2002.

To minimise data extraction requirements upon jurisdictions this information was requested in the Recorded Crime Australia format. Typically police services forward this information to the ABS in a standardised frequency coded format (summary counts), which summarises the number of victims falling within each of the pre-defined categories of the Recorded Crime Australia data items. Victim information is supplied in relation to a single variable at a time, for instance, age of victims of armed robbery. Because of this, one cannot examine how armed robberies might differ as a function of differing aspects of individual events. For example, one cannot establish if firearm robberies are committed in different locations or against differently aged victims compared with syringe robberies. In short, it is difficult to conduct a detailed analysis of the armed robbery *situation*. The data file provided to the ABS by ACT Policing is a summary file that can be cross-classified by all variables in the file.

In contrast, *unit record* information was requested for the current purposes. This means that for every individual victim, an individual value for every Recorded Crime Australia data item was also recorded. This enables a more detailed analysis of armed robbery because events can be grouped according to specific individual characteristics.

Unfortunately, differences in the databases and extraction protocols used by the jurisdictions meant that the Recorded Crime Australia format could not be uniformly applied to the unit record information recorded by each state and territory. Consequently some unit record data received was already coded in a form consistent with ABS data item categories, whereas other cases had to be substantially manipulated and recoded to conform to the ABS standard. In the instance of the latter (that is, victim files were not in ABS format), some additional unit record information was received. This has been employed in subsidiary analyses, to illustrate how detailed unit record information can add to our knowledge of armed robbery.

Database differences among the jurisdictions also meant that certain data items could not be supplied by some jurisdictions. If victim files did not contain values on the data items examined in a particular analysis, they were excluded. Whilst this reduction in the

number of cases examined in certain analyses is problematic,[1] almost all studies containing numerous variables encounter the problem of missing data.

A total of 2,339 cases (nationwide) were employed in the final quantitative analyses. Details of the number of victim files forwarded by each jurisdiction can be found in Table 1.

Table 1: Armed robbery information forwarded by Australian police services

Jurisdiction	Number of victim files	Number of narratives [a]
New South Wales	1339	1083
Victoria [b]	415	-
Queensland	239	54
South Australia [c]	140	71
Western Australia	167	215
Tasmania [b]	12	12
Northern Territory	4	-
Australian Capital Territory	23	-
Australia	**2339**	**1435**

a Discrepancies between the number of victim files and number of narratives presumably relate to differing extraction procedures for each type of file.

b Excludes instances of non-aggravated robbery (i.e. where no weapons were used).

c Narratives relating to incidents occurring outside the period Oct to Dec 2001 were excluded.

Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October to 31 December 2001 [computer file]

Recorded Crime Australia Items Employed in the Analyses

Table 2 summarises the variables employed in the analyses of national data and incorporates the percentage of cases falling within each of the variable categories examined in these analyses. Full details of all variables received and the recoding to collapse ABS categories can be found in Table A2.1 of the Technical Appendix (Appendix 2).

Armed Robbery Incident Narratives

New South Wales, Queensland, Western Australia, South Australia, and Tasmania supplied incident narratives. The last of this information was received on 24 June 2002. These narratives related to either all or a subset of armed robbery incidents occurring in the jurisdictions between October and December.

The police narrative reports are rich and complex, but vary in the level of detail supplied (the actual narratives ranged in length from one paragraph to several pages). Similarly, the capacity to extract and forward narrative information electronically was not uniform across the states and territories (a number of jurisdictions provided narrative reports in paper form).

These factors, in addition to time constraints, meant that analysis was only undertaken on a subset of the electronic NSW files and the paper-based Queensland, SA, WA and Tasmania armed robbery crime reports (narratives). These narratives were analysed using

1 For example, decreased power to detect significant effects, or the possibility of bias, where some unknown yet systematic reason had resulted in missing data.

both quantitative and qualitative methods (see the Technical Appendix, Appendix 2, for a description of the qualitative methodology).

Table 2: Variables, variable categories and percentage of valid cases[a] employed in quantitative analyses

Variable	Categories	% [b]
Jurisdiction	NSW	57
n = 2339 cases	VIC	18
	QLD	10
	SA	6
	WA	7
	TAS	1
	NT	0
	ACT	1
Month of offence	October	37
n = 2339 cases	November	34
	December	29
Location of offence	Residential	8
n = 2297	Community	3
	Transport & related	5
	Outdoors	30
	Retail & related	41
	Bank	2
	Chemist	2
	Service station	9
	Unspecified	1
Weapon used	Firearm	21
n = 2295	Knife	48
	Syringe	7
	Other weapon	19
	Unknown	3
Victim age	0 to 17 years	13
n = 2180	18 to 24 years	29
	25 to 34 years	20
	35 to 54 years	24
	55 years or more	6
	Not applicable (organisation)	5
	Not specified	4
Victim gender	Male	65
n = 2199	Female	25
	Not applicable (organisation)	5
	Inadequately described	4
Relationship of offender to victim[c]	Known, not further defined	–
n = 958	Family, not further defined	–
	Partner	0
	Parent	0
	Child	–
	Sibling	–
	Other related family	0
	Non-family, not further defined	1
	Ex-partner	0
	Other non-family	3
	Unknown to victim	57
	Not applicable (organisation)	14
	No offender identified	14
	Inadequately described	10
State of investigation	Cleared	22
n = 2193	No further investigation	44
	Ongoing	34

a Total number of victim files in which information was supplied for this variable.

b Percentages may not total 100 due to rounding.

c This variable was not submitted to any further analysis because of the relatively small number of cases & because the majority of the cases received indicated no prior relationship between offender & victim.

Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October to 31 December 2001 [computer file]

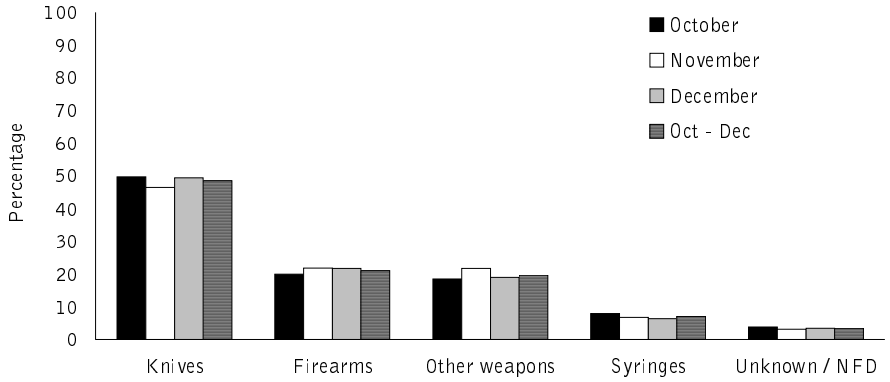
Results

Phase 1: National Data Analysis

Monthly Variation in Weapon Use

Figure 3 shows that that the use of weapons in armed robbery exhibited little variation over the period October through to December 2001.

Figure 3: Monthly trends in weapon use in armed robbery

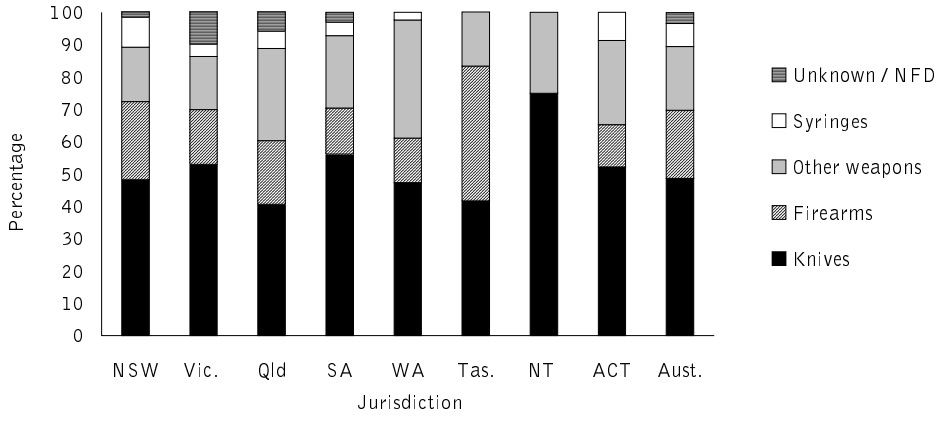


Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [Computer File]

Jurisdictional Patterns in Weapon Use

Figure 4 highlights that nearly half (49%) of all the armed robberies committed in Australia during the period 1 October to 31 December 2001 involved knives, and the dominance of knives held across all jurisdictions. Firearms were used in approximately one-fifth (21%) of armed robberies, a figure similar to that for incidents involving "other weapons" (20%), which includes blunt instruments, baseball bats, etc. Only 7% of armed robberies were committed using a syringe (Figure 4).

Figure 4: Weapon use in armed robbery by jurisdiction



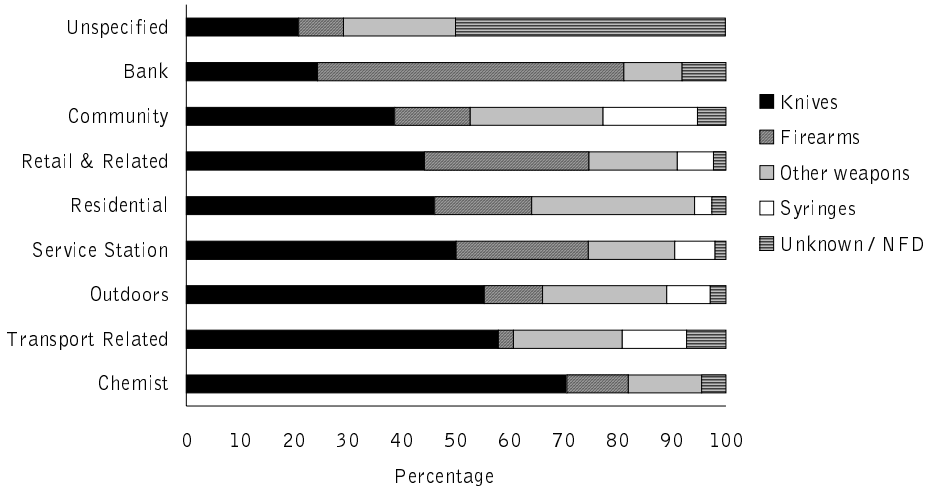
Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

There was jurisdictional variation in firearm versus "other weapon" use. The second most common weapon used in armed robbery in NSW, Victoria and Tasmania was a firearm, whereas in the remaining jurisdictions, it was "other weapons". Information on offenders may assist in the identification of factors that explain these differences.

Situational Patterns in Weapon Use

Knives were found to be the most commonly used weapon in all locations, with the exception of banks, where firearms were most common (Figure 5). There was also variation in the frequency in the use of "other weapons" by location. Overall, 41% of all armed robberies during the three-month period occurred in the location category of "retail and related" (see Table 2). This broad location category encompasses virtually all commercial premises except banks, chemists and service stations. Thirty-one percent of all reported armed robberies at the locations classified as "retail and related" involved victimisation with a firearm whereas only 16% involved some "other weapon".

Figure 5: Weapon use in armed robbery by location



Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Unfortunately details about the specific nature of most retailers' businesses are not recorded. It would be valuable to determine whether patterns of weapon use are consistent across all types of retailers (e.g., milkbars as opposed to licensed premises). Current ABS classification categories for "location" would need to be narrowed to capture detailed location information before this could be examined. Additional analyses for NSW presented later in this report highlight the importance of location information.

Contrast the above patterns in retail locations with "outdoor" locations - essentially street robberies – where knives (55%) followed by "other weapons" were most commonly used (23%), and firearm usage (11%) did not vary much from that of syringes (8%).

Chemists (pharmacies) displayed a different pattern again: around 70% of armed robberies involved knives and roughly 10% involved firearms and 10% involved "other weapons". These are retail premises with high cash flows and a stock of drugs that may

be highly attractive to some offenders. It would be expected that weapon use might resemble that of service stations, banks or other retailers and warehouses (that is, a relatively higher proportion of firearms). However, the fact that chemists stock a valuable commodity not found in the other locations (i.e., drugs) might account for this disparity.

Additional information on jurisdictional variations in weapon use by location can be found in Appendix 3 (Tables A3.1 to A3.4).

Risks of Armed Robbery

Ideally, risks of armed robbery would be calculated for each location type, which involves taking into account the existing number of each type of location. Unfortunately, only details as to the number of service stations and banks were available.[2] Table 3 highlights the risks of armed robbery per 1,000 service stations and banks. For every 1,000 service stations, there were approximately 13 knife robberies, and 6 firearm robberies. The descriptive analysis indicated that firearms were more commonly used in bank robberies. However, the risk of a firearm robbery is higher for service stations than for banks (for every 1,000 banks approximately 1 firearm robbery was recorded).

Table 3: Armed robbery rates per 1,000 banks and service stations

Type of weapon	Banks	Service stations
Knife	0.5	12.5
Firearm	1.2	6.1
Other Weapon	0.2	4.0
Syringe	0.0	1.9
Unknown / NFD	0.2	0.5
Total	2.2	25.0

Source: Number of banks, building societies, credit unions and ATMs obtained from ABS Year Book 2001, p. 905. Number of service stations obtained from unpublished data provided by the ABS; Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Victim Demographics and Weapon Use

For the offence of armed robbery (and robbery) the victim can be either an individual person or an organisation. For example, if a bank with several customers present is robbed, then the organisation is the victim. However, if personal property is also taken from three customers, then those customers are victims as well. Demographic details, such as age and gender can therefore only be recorded for victims who are individual persons (i.e., the customers in the above example).

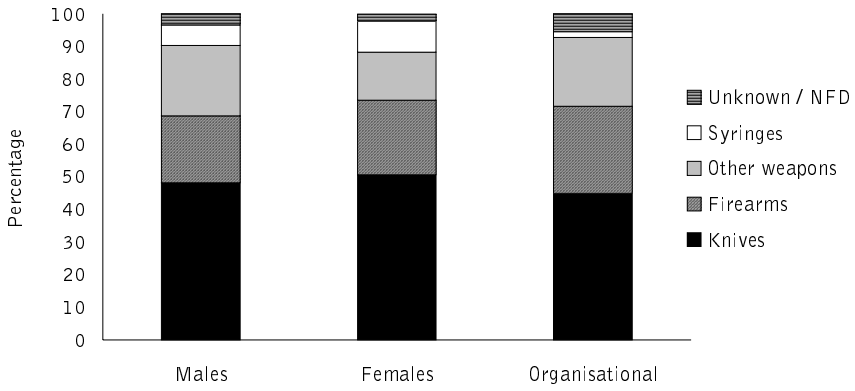
Males constituted around two-thirds of the victims of armed robbery (rate of 15 per 100,000 males) and females were victimised in one-quarter (rate of 6 per 100,000 females). Organisational victims comprised 5% of incidents in Australia, but varied by type of location. For example, 11% of armed robberies in banks, 16% in service stations and 18% in chemists were perpetrated against organisational victims. In contrast, only

2 The ABS business definition for pharmacies includes cosmetic and perfume retailing, and hence data are not available for pharmacies and chemists only.

0.1% of armed robberies occurring in an outdoor location involved an organisational victim. This is important because it suggests that in some armed robberies, namely robberies of commercial premises, victim demographics are not as relevant. In these cases it appears that some offenders are targeting the organisation as opposed to individuals. Therefore, in the absence of offender information, location seems to be the most important factor dictating patterns of victimisation.

The dominance of knives held for all types of victims: males, females and organisations (see Figure 6). For males and females around 20% of all armed robberies involved a firearm, but the proportion was higher for organisations (27%). Syringe use also varied on the basis of victim type: the relative percentage of total incidents involving syringes for women was almost twice that for men (10% and 6% respectively), and less than 2% for organisations. Correspondingly, males had a higher percentage of victimisations with "other weapons" than women (similar percentage to males for organisations).

Figure 6: Weapon use in armed robbery by type and gender of victims[a]



a Excludes missing data.

Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

The distribution of male and female victims by type of weapon was similar for most locations (Table 4), however, there were a number of notable differences:

- women are more often subject to firearm robberies than men (Figure 6);
- higher female rate of firearm victimisation in retail settings (71% for women, versus 56% for men, Table 4);
- higher proportion of syringe use against women overall compared to men; and
- more males than females were victimised with firearms (and with each of the remaining weapon types) in service stations.

Although actual figures are unavailable, it seems reasonable to assume that women are more likely to be employed in retail settings than men, and are therefore more often subject to armed robberies, and in particular armed robberies with firearms. Differential victimisation by syringes may also be the result of the same overrepresentation of women in retail settings and therefore in retail armed robberies. Similarly, gender differences in victimisations in service stations may reflect the (presumably) higher proportion of males employed in this setting.

Table 4: Weapon use in armed robbery by type of location and gender of victims[a]

Location of armed robbery	Knife armed robbery (column %)		Firearm armed robbery (column %)		Other weapon armed robbery (column %)		Syringe armed robbery (column %)	
	Male victims	*Female victims*	*Male victims*	*Female victims*	*Male victims*	*Female victims*	*Male victims*	*Female victims*
Residential	8	9	7	9	13	13	3	6
Community locations	2	2	2	1	3	4	5	7
Transport related	7	5	1	0	6	5	10	6
Outdoors	39	30	21	8	41	25	45	30
Retail locations	33	45	56	71	29	47	26	47
Chemist	2	5	1	0	1	4	0	0
Service station	8	3	11	6	7	1	11	6
Bank	1	1	2	6	1	1	0	0
Total N	700	283	293	127	309	83	92	55

a Excludes organisations as victims.

Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Males consistently experienced a higher rate of armed robbery victimisation (Figure 7), and persons aged between 18 to 24 years had the highest rate of armed robbery victimisation (rate of 50 per 100,000 males and 19 for females), followed by persons aged between 25 to 34 years (rate of 22 for males and 8 for females). Contrary to some media representations, persons aged 55 years and older had the lowest rate of victimisation.

Figure 7: Rate of armed robbery victimisation per 100,000 population

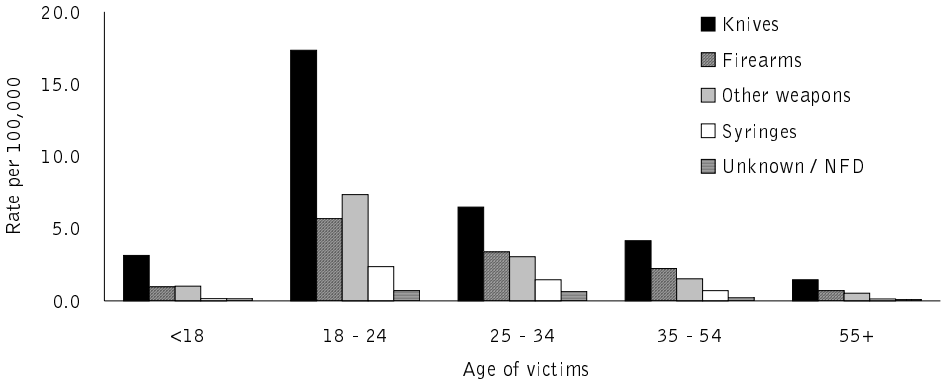
Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Figure 8 illustrates the risk of armed robbery victimisation by weapon type and victim age. The highest risk for members of all age groups was knife robbery (although amongst 18-24 year olds the risk was almost three times higher than the other age groups). A consistent pattern of risk for all age groups was observed, except for persons aged 18-24 years, where the second highest risk was associated with "other weapon" robbery (rate of 7 per 100,000), followed by firearms robbery (rate of 6).

Additional tables detailing percentage distribution of weapon use by victim age for the four larger jurisdictions can be found in Appendix 3 (Tables A3.5 to A3.8). Figures A3.1

to A3.4 (also in Appendix 3) detail the number of incidents experienced in each location as a function of weapon type and victim age.

Figure 8: Weapon use in armed robbery by age of victims



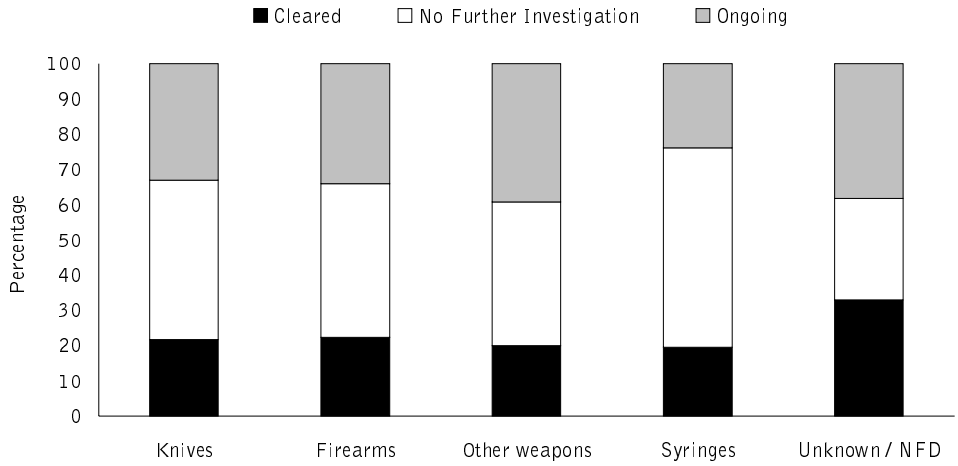
Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Weapon Use by Status of Investigation

Overall, around one-fifth of the armed robberies recorded in Australia (22%) were cleared by the time the information was received for analyses (that is, a period potentially ranging between four and eight months post-incident). Approximately 44% of all cases were not subject to further investigation and 34% were classified as ongoing (see Table 2).

There was very little difference between the proportions of knife, firearm or "other weapon" robberies that were cleared, required no further investigation, or were ongoing (see Figure 9). The distributions for each of these weapons mirrored the overall pattern for armed robbery regardless of weapon type in Australia. However, a somewhat higher proportion of syringe robberies (57%) were recorded as "no further investigation" when compared with knives (45%), firearms (44%) and "other weapons" (41%). The factors behind this difference cannot be ascertained.

Figure 9: Weapon use in armed robbery by status of investigation



Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Predicting Weapon Use as a Function of the Armed Robbery Situation

A multinomial logistic regression analysis was conducted on three categories of weapons: firearms, knives and a collapsed weapon category incorporating "syringes and other weapons" [3]. This analysis aimed to establish whether the victim's age and gender, and the location of the incident could reliably predict the type of weapon used. Because of the relatively small number, or complete absence of cases occurring with certain combinations of these variables (for example, victimisation by syringes in chemist shops against juveniles), location and age categories were further collapsed. The location category "Bank" was completely excluded from the analysis because the majority of the (relatively few) armed robberies occurring in a bank were committed with a firearm. Two models were examined, the first model including only weapon and location type, and the second model including location, weapon type, and victim age and gender. Earlier descriptive analysis suggested that some commercial armed robbery locations might be targeted because of the nature of the business conducted (i.e., chemists). The demographics of the individuals victimised in these armed robberies are therefore somewhat incidental, hence the examination of a model in which location was the only predictor. Details of the collapsed categories and a summary of the analysis can be found in Appendix 2 (Table A2.3).

Results of the analysis suggest that weapon use could not be reliably predicted, although age and location[4] were stronger predictors of which type of weapon would be used than gender. Specifically:

- victims aged 18 to 24 years were less likely to be victimised with a firearm regardless of location or gender of victim;
- juvenile victims (that is, those aged less than 18 years) were less likely to be involved in armed robberies using a "syringe or other weapon" than incidents involving firearms and knives;
- firearms were less likely to be used in residential locations, and the same applied to the (collapsed) "community and outdoor locations" category; and
- community and outdoor locations were more likely to be associated with the use of a "syringe or other weapon" than with a knife or a firearm.

It is important to note that the limited predictive power of the models is likely to be a result of the absence of variables relating to the offender.

Homogeneity of the Offence of Armed Robbery

The preceding analysis suggests that situational factors such as victim age, victim gender and location varied within each type of weapon, but that the detail given regarding a victim's age or gender, or even the location were insufficient to predict the type of weapon used in the armed robbery.

3 "Syringes" and "other weapons" were collapsed because of the relatively small number of cases in each these categories.

4 Odds ratios associated with locations in Model 1 were relatively unaffected by the inclusion of victim characteristics in Model 2.

In an attempt to identify any subtypes within the armed robbery situation, a principal component analysis was performed upon the categories within location, weapon type, victim age and victim gender (as per those categories listed in Table 2, totalling 18 categories). This type of analysis aims to answer the following: can the variables (or in our case, the categories of the variables) be combined on the basis of shared statistical attributes (namely, variance) so as to reduce the number of categories? This would be of value for current purposes because it would allow the identification of groups of categories that co-occur, and possibly assist in the identification of subtypes of armed robbery.

Unfortunately, this analysis did not identify a greatly reduced number of components. Even after undertaking steps to render it more interpretable (that is, orthogonal rotation), the 11 components extracted were not readily translatable into theoretically relevant armed robbery subtypes. A summary of the rotated principal component matrix can be found in Appendix 2 (Table A2. 4).

Results thus far suggest that the variables supplied in the Recorded Crime Australia format are not sufficient to allow the identification of detailed subtypes of armed robbery, and by implication, the monitoring of these subtypes over time. As a consequence, subsidiary thematic analyses were conducted on the narratives to determine whether the more detailed information contained in narratives could assist in the identification of armed robbery subtypes.

Phase 2: Analysis of Narratives

Results of the Thematic Analysis

Queensland Crime Reports (54 cases) and NSW incident narratives (50 cases) were carefully read and grouped according to common themes that linked the cases. Narratives sampled from the other jurisdictions were then examined for the presence of similar themes (21 cases from Western Australia, 14 from South Australia, and 6 from Tasmania; see Appendix 2 for detailed methodology). The advantage of this thematic analysis over the earlier quantitative analysis on the limited set of variables is that the whole event, including the modus operandi of the offender, can be taken into account.

Thematic analysis of the 145 narratives revealed at least three scenarios that characterise armed robbery:

opportunistic street muggings (n = 58);

amateur retail armed robbery (n = 54); and

professional armed robbery (n = 33).

Each scenario of armed robbery has its own distinguishing features, and differs in important ways from the others. A discussion of the three main scenarios of armed robbery follows.

Opportunistic Street Muggings

The first scenario, accounting for 40% of armed robbery narratives, describes those armed robberies that occur on the street or some public place (e.g., car park), with the offender(s) walking up to the victim and demanding the victim hand over their money (or wallet), mobile phone or cigarettes, and then decamping with the proceeds:

> *The suspect has approached the complainants who were walking … Suspect has called out to the complainants, who have stopped, and the suspect has approached the complainants. Complainant 1 has observed the edge of a blade protruding from under the t-shirt of the suspect, and has further observed a bulge at the top of the t-shirt, which looked like the handle of a knife. Suspect stated words to the effect "Have you got any money". He has then commenced to search all complainants pockets and removed the wallet from complainant 2. Suspect has then taken a black bag from complainant 2 and searched contents. Suspect stated words to the effect: "Have you got any smokes, just give us your bag". Suspect has then decamped scene with wallet and bag. (Case No. 27)*

During many of the street muggings, the offenders used words similar to: "*Hoy, stop, give me your wallet, you money, give it to me now*" (Case No. 09); or *"Give me your money or … "* (Case No. 63); or "*Give us your money, watches, cigarettes and valuables*" (Case No. 52); or "*Give me your mobile … "* (Case No. 50). Usually the type of weapon used by the offender(s) is a knife, but given the 'spontaneous' nature of the armed robberies that fall within this scenario, the type of weapon depends largely on what the offender has at his immediate disposal (e.g., rock, baseball bat, piece of timber, hand weight, broken bottle). In terms of victim selection, there is little indication that the victims were chosen for any particular reason, and it seems more likely that the victims were simply at the wrong place at the wrong time. The offenders used no disguises to hide their identity.

A variant of the 'street muggings' involves victims in parked vehicles being approached by offenders: *The victim was sitting in her parked car. The offender approached the drivers side door, opened it and told the victim to "move over". The offender then produced a screwdriver and again told the victim to move over, and pushed the screwdriver driver into the victim's stomach area. The victim screamed, and the offender closed the door and walked away"* (Case No. 60). If the vehicle is locked, the offender will coax the victim out of the car under some false pretext: "*Your number plate has fallen off*" (Case No. 53), or "*Have you got the time?*" (Case No. 51). One offender was more direct in what he wanted. Whilst holding a tree branch, he said to the victim sitting in his car, "*Get out or I'll hit you*" (Case No. 34).

Although an offender holding a weapon implies a threat of violence, some offenders made the point that they did not want to hurt the victim: "*…I have a knife. I don't want any trouble*" (Case No. 50), while others gave the victim a choice – if they resisted they would be injured: "*We can do this the easy way or the hard way*" (Case No. 52). Rarely did the victims sustain any injuries in this scenario. However, it is clear that in the few cases

where the offender physically assaulted the victim, it was usually because the victim had previously resisted the offender's demands:

> *The complainant was walking downstairs to the underground car park when he was confronted by the suspect, a male, early 20s … The suspect said to the complainant "Give me your wallet, I've got a knife and I'm going to stab you". The complainant refused to give up his wallet, so the suspect snatched the complainant's mobile phone out of the complainant's hands and punched him with a closed fist to the right side of his head. The suspect decamped in an unknown direction. (Case No. 40)*

Another possible subcategory of the opportunistic armed robbery scenario involves female offenders persuading intoxicated males to a move to a secondary location, where they are then threatened and robbed of personal items. Whilst this suggests some preparation on the part of the offender and so could be considered planned, victim selection appears to be entirely opportunistic, the gains small, and serious injuries are not inflicted upon the victim, making it more in keeping with the more opportunistic / amateur robbery scenarios.

Amateur Retail Armed Robbery

The second scenario, accounting for 37% of armed robbery narratives, describes those armed robberies that appear to be committed by amateurs (for lack of a better word), who executed the armed robbery ineptly. These armed robberies differ from the 'street muggings' outlined above in that they occur at a retail premise:

> *The complainant was working behind the counter of her shop, which is a milkbar … A male person has entered the store, and the complainant has said "Can I help you?". The complainant believed that this male was a customer as he smiled at her and then pulled a knife from somewhere on his person, pointed it at her throat and said "Give me money". After robbing the store the suspect ran off on foot… (Case No. 36)*

> *Unknown offender has entered the store, in his right hand was a metal baseball bat. The offender has hit this on the table and demanded money. The offender has then hit a display of chocolates with the bat, and then walked around to the end of the counter and demanded that the till be opened. The offender has then taken cash from the till. The offender has then decamped. (Case No. 23)*

In this scenario, there was little evidence to suggest that the offenders had meticulously planned the event. Most of the robberies appeared to be committed by robbers who lacked armed robbery experience. In his examination of armed robbers in the United Kingdom, Matthews (2002, p. 22-23) explains that 'amateurs' lack organisation in the execution of the armed robbery, select more accessible targets, and are characterised by their lack of experience. He also noted that in many cases the sums stolen are paltry or the robbery abandoned.

Many of the armed robberies that characterise this scenario also contain some of the elements described above by Matthews (2002). For example, in one incident, the armed robber fled a convenience store empty handed when the shop proprietor screamed when she saw the offender's knife (Case No. 14). In another armed robbery of a supermarket,

the offender waited patiently while the checkout operator re-scanned some items in order to be able to open the register. The operator then asked the offender for some money to put back into the register. The offender handed her $5, she scanned an item and then opened the register. It was only then that the offender was able to grab some money from the till (Case No. 16). In another case, the offender entered the service station, took a coke from the refrigerator, paid for it, and then took out a knife and said to the console operator: "I want all the money". The operator replied: "Don't be so stupid". The offender repeated the demand, to which the operator replied: "Don't be so stupid, and piss-off". The offender grabbed a handful of chocolate Freddo frogs and left (Case No. 93).

Lack of professionalism is exemplified in the following case: *"A male offender armed with a knife and wearing a full-face balaclava approached the doors to the service station. Police were refuelling at the time. The police saw the male and arrested him before he could commit the armed robbery*" (Case No. 89).

The most common weapon used in the amateur retail armed robberies is a knife, usually "cheap quality knives" (Case No. 44), with money sought by most offenders: "*I want the money from your till*" (Case No. 14), "*Give me the cash*" (Case No. 13), "*Give me all your money*" (Case No. 16).

Few victims sustain injuries during this type of armed robbery. Some offenders even apologised to their victims after robbing them: "*Get the money, get the money, I'm sorry man*" (Case No. 44), "*I don't want to do this, I am sorry but I am going to hold you up… I need some money*" (Case No. 01). Victims typically were only injured when they resisted the offender's demands:

> *Late in the afternoon, a male offender has come into the … Realty, whilst the complainant was seated at his desk. The male offender has then said to the complainant, "Give me all your money or I'll do you in". The complainant has replied, "Piss off". The offender then reached into the top of his shirt, underneath his shirt, and pulled out an open pocket knife … The offender then said, "I'm not bluffing, I'm fair dinkum", whilst pointing the knife at the complainant. The complainant then punched the offender in the jaw. The offender then stabbed the victim in the right shoulder with the knife. The offender then fled the premises. (Case No. 10)*

An additional factor that could potentially characterise these unplanned armed robbery scenarios is a tendency for perpetrators to act alone or with only one or two others, presumably because of the lack of forethought preceding the incident.

Professional Armed Robbery

The third and final scenario depicts those armed robberies that appear to have been planned, with some degree of organisation undertaken by the offenders prior to carrying out the event. There is no information available on the prior criminal histories of the offenders, nor were any of the armed robbers interviewed to ascertain whether they consider themselves to be "professionals", yet it seems that these armed robbers lie somewhere in between what Matthews (2002) describes as "intermediates" and

"professional and persistent robbers"[5]. The main differences between these planned armed robberies and the opportunistic and amateur armed robberies in the previous two scenarios is the level of organisation, and the large proceeds (high monetary rewards) of the armed robbery.

Many of the professional armed robberies involved offenders who wore disguises in order to protect their identities. Disguises took the form of balaclavas, ski masks, or dark make-up. Some also wore gloves. Another indication that the armed robbery was being committed by an experienced armed robber was when the offender gave instructions regarding denominations of money to his victims during the robbery: "*Fill it up … The Hundreds*" (Case No. 02), "*Grab the hundreds first, fifty's, twenty's, ten's, five's and I don't want any of that … change*" (Case No. 06), "*Don't worry about the five's*" (Case No. 04). Some also knew how much money to expect in a given day's takings: "*Where's the rest, there must be more for a Friday night*" (Case No. 07), and what time the victim would be leaving his business:

> *The informant turned his shop alarm on and closed and locked the door of the restaurant, and walked towards the car park where his vehicle was parked. When the informant reached his vehicle, another vehicle pulled up along side, and the offender (wearing a bandana and piece of cloth around his face) got out of the vehicle. He approached the informant and at some stage said, "Give me the money". As the offender drew closer to the informant, the offender swung a rifle that was in his left hand around and hit the left cheekbone of the informant. The offender then grabbed the moneybag from the informant, and turned around and ran towards the waiting vehicle. The offenders then drove away with about $3,500 (Case No. 33).*

Firearms are used more often in the professional armed robberies than in the previous two scenarios. Also, unlike the other two scenarios, some professional armed robbers tied up their victims or told them to lie on the floor. Again, when victims resisted the offenders did not hesitate in using violence.

The most significant factor that differentiates the professional armed robberies from the more opportunistic armed robberies is the value of the takings. Professional armed robberies often resulted in high rewards: the amount stolen ranged from a minimum of about $700 to as high as $20,000 in one incident. In contrast, the maximum amount netted in opportunistic and amateur armed robberies was about $1,500, which included property such as a mobile phones, watches, cigarettes, etc.

Other factors that may potentially be characteristic of this scenario include the presence of multiple offenders acting in different roles; the arrival and departure from the crime scene in a vehicle; and the deliberate targeting of safes and strongboxes rather than tills or stock like cigarettes.

Finally, whilst there appears to be an otherwise clear delineation in the type of target associated with professional versus opportunistic / amateur armed robberies, on the basis

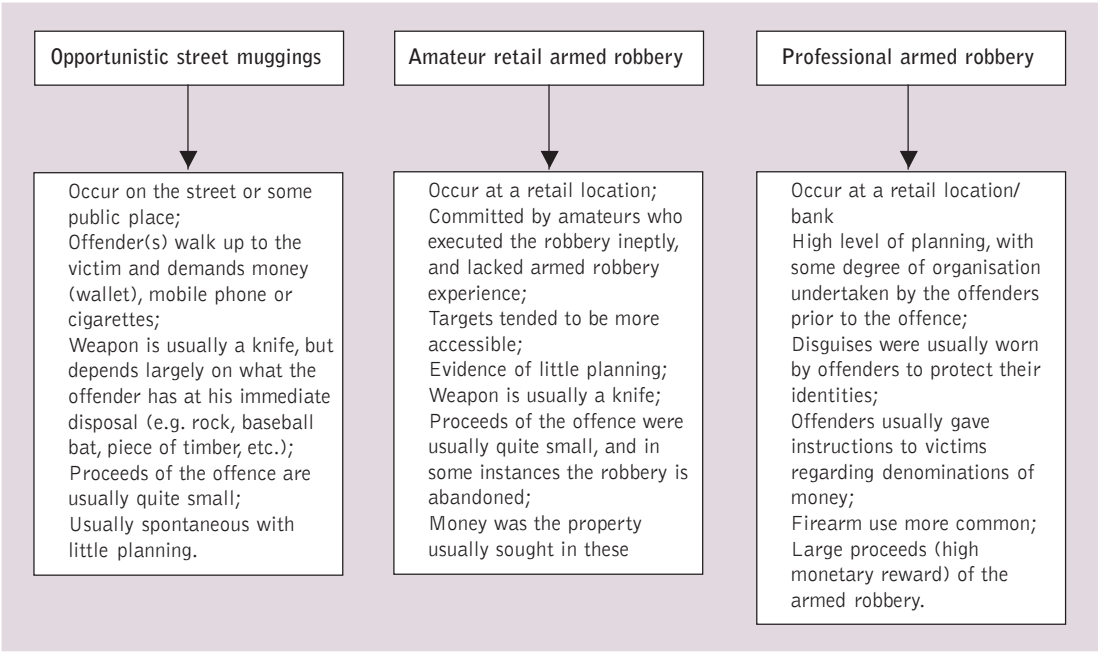
5 "Intermediates" were somewhat more organised and experienced than the amateurs, but appeared to be less dedicated than the "professionals". Unlike the amateurs, they engaged in a reasonable level of planning, had long histories of criminal involvement, were prepared to carry firearms, and were less dependent on drug use (Matthews 2002, p. 22-30).

of this sample of incidents, service stations and convenience stores occupy the unenviable position of being subject to both. The factors that render this vulnerability may include hours of business and low staff levels, but this would need to be examined in a larger number of incidents before strong conclusions could be drawn.

Figure 10 outlines the main characteristics found within each scenario.

Important variables emerged from the themes that could be used to differentiate the subtypes of armed robbery. These variables include: detailed location type, weapon type, value and type of property stolen, presence of a disguise, number of offenders, gender of offenders, presence of victim resistance and the presence of victim injury (see Table A2.5, Appendix 2). Unfortunately offender age information was not available for all narratives.

Figure 10: Common characteristics of armed robbery scenarios



Results of the Cluster Analysis

In addition to the thematic analysis, a cluster analysis was undertaken on the same narratives. A cluster analysis aims to group individual cases into homogeneous categories, and so in this instance might confirm the typology uncovered in the thematic analysis. Key variables to emerge from the thematic analysis (described above) were employed.

Four clusters were identified,[6] and the armed robbery incidents grouped within each showed a degree of overlap with the scenario types. One cluster grouping contained armed robbery incidents that were mostly committed by lone, male offenders who were rarely disguised, and who were typically armed with knives, syringes and other weapons

6 The SPSS analysis requested the identification of five clusters: single-linkage meant that the last cluster contained a single case.

(of the 81 cases, only 9 involved firearms). Cash takings were usually less than $1000 (37%, only 7% took more than $1,000) and 16% of cases listed no property taken by offenders. Around one-quarter of victims resisted and about 30% were assaulted or threatened with assault. Cases occurred in both street and retail settings, and so this cluster appears to encompass both opportunistic street muggings and amateur retail robbery types.

The next largest cluster (containing 49 cases) appears to best capture the professional armed robbery scenario. Incidents were perpetrated by multiple offenders (82% reported 2 or more) who showed higher levels of planning (53% wore disguises), with just over half occurring at licensed premises and other retail locations, and around 45% involving with firearms. These offenders had higher gains (27% involved takings of more than $1,000) and in all instances offenders escaped with some of the victim's property.

The two remaining clusters contained less than 10 cases. One contained cases that most resemble opportunistic muggings, but which almost always occurred in residential locations. Cases in the last cluster occurred only in service stations with small gains and little evidence of planning (i.e. no disguise), and so could be categorised as amateur retail armed robbery.

There was not perfect agreement between the thematic and cluster analyses. However this is to be expected given that the thematic analysis examined the entire armed robbery situation whereas the cluster analysis used a limited set of binary coded variables. The quantitative identification of what could be seen as both amateur and more professional armed robbery scenarios indicates that an expanded set of variables to those employed in the Recorded Crime Australia dataset can be used to inform various armed robbery situations. Presumably greater delineation between armed robbery subtypes could emerge if detailed offender characteristics were also examined.

Phase 3: Additional Analyses of Armed Robbery Using NSW Data

As indicated, not all jurisdictions provided armed robbery data in the requested ABS format. This meant that any additional variables supplied (e.g., offender information) and specific information for individual cases (e.g., detailed location information) could be further analysed to gain an understanding of weapon use in armed robbery beyond what is obtainable through the analysis of the standard set of ABS variables.

NSW was one jurisdiction to provide additional information.[7] The following analysis pertains to NSW only (see Appendix 2, Table A2.2 for a list of variables and variable categories for data provided by NSW). The patterns cannot be generalised across Australia and indeed, not every case in NSW was analysed. Thus outcomes may have only limited generalisability even in NSW. The purpose of this analysis, therefore, is to

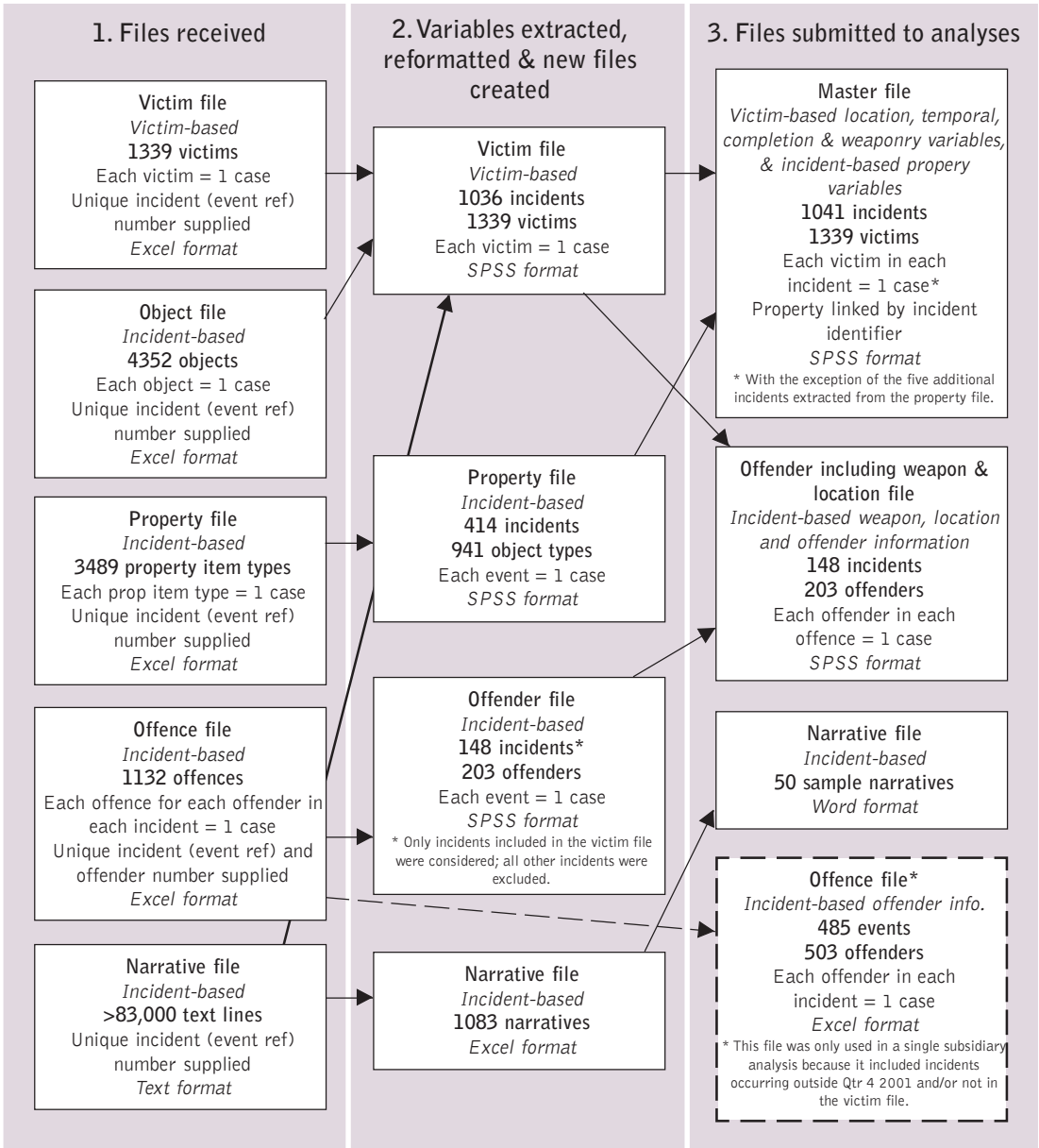
7 South Australia also provided additional variables, however there were considerably fewer incidents of armed robbery during the period analysed, and a number of cases had missing values for certain variables. The additional variables supplied by NSW and South Australia were not identical. For these reasons, only NSW data was considered in the subsidiary analysis.

provide an example of the type of information on the armed robbery situation that could be gleaned if such additional variables were made available to the Program.

To provide some context for the following discussion, around 37% of the 1,041 incidents considered involved more than one victim, with the remainder linked to only one victim.[8]

The additional variables supplied by NSW and used in the subsidiary analyses were received in five separate files. The 'event reference number' allowed incidents to be linked between the files. The process of transforming the original files into those used for the subsidiary analyses is illustrated in Figure 11.

Figure 11: Summary of the data extraction process for NSW unit record files

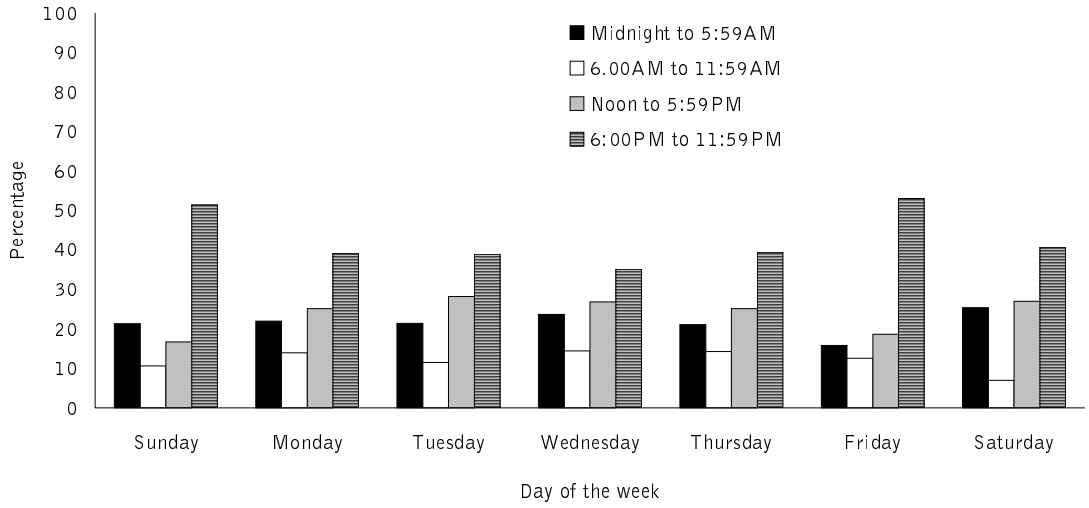


8 Additional cases to those examined in the National data set were available with respect to some, but not all, variables (see Figure 11).

Temporal Variations in Armed Robbery

Most of the NSW armed robberies were committed between the hours of 6pm and just before midnight. This pattern was consistent across all days of the week (Figure 12). There was also little difference in the day of the week that the armed robbery occurred, although fewer incidents were recorded as occurring on a Tuesday.

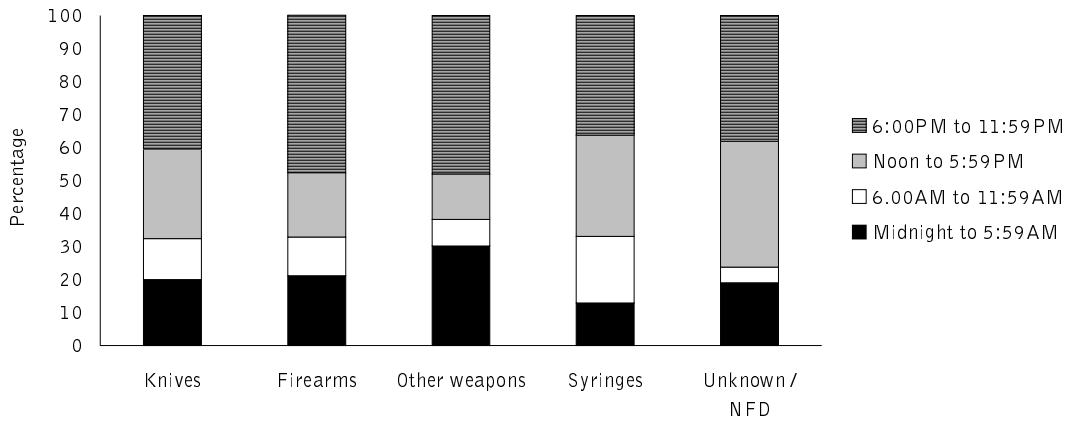
Figure 12: Armed robbery incidents in NSW by time of offence and day of the week



Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Weapon use varied according the time of the offence (Figure 13). For instance, a relatively small proportion of armed robberies involving syringes occurred in the early morning (midnight to 5:59 AM) and a relatively large proportion occurred during daylight hours (that is, 6:00 AM to 5:59 PM). In fact, over half of the armed robberies committed with a syringe occurred during daylight hours (51%). In contrast, around a third of robberies involving "other weapons" took place in the early morning and only a small proportion (around one-fifth) occurred in the daytime (6:00 AM to 5:59 PM).

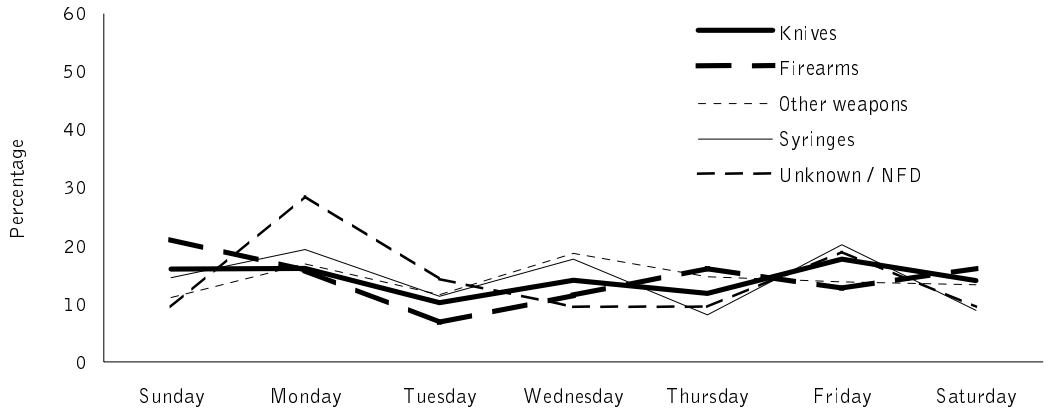
Figure 13: Weapon use in armed robbery by time of the offence



Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

There was slight variation in weapon use in armed robbery based on the day of the week. For example, Figure 14 shows that knife and syringe robberies were more common on Fridays, whereas "other weapon" robberies were more commonly committed on Wednesdays. On the other hand, a higher proportion of firearm robberies were committed on Sundays compared to rest of the week.

Figure 14: Weapon use in armed robbery by day of week of the offence



Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Specific Location of Armed Robberies

The unit record files received from NSW included detailed descriptions of the location of incidents. Over 110 separate types of locations were described, although in order to extract any patterns, these needed to be collapsed (see Appendix 2, Table A2.2). Appendix 3 (Table A3.9) contains counts of the types of weapons employed in the location categories associated with each victim, and to assist interpretability, locations with a count of less than ten were not incorporated in the table. In order to allow consideration of the actual number of victimisations in each location, raw counts in categories are presented in the discussion.

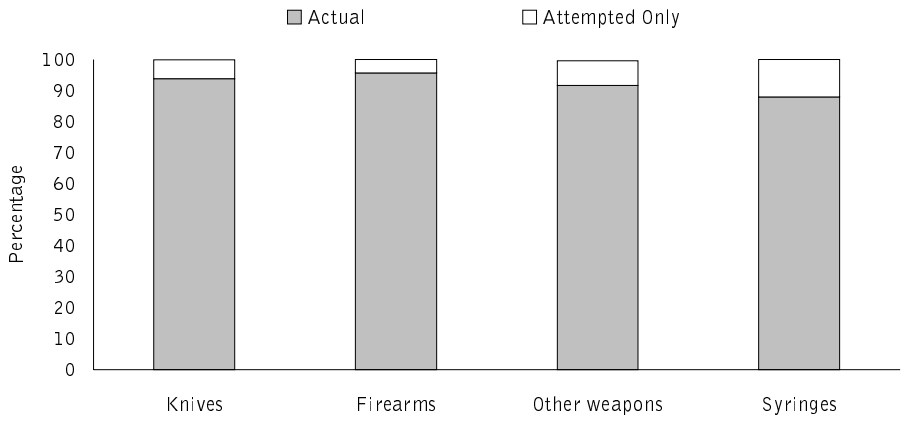
Not surprisingly, location categories that replicate those employed by the ABS show similar patterns of weapon use. For example, victims of armed robbery in financial institutions were most often threatened with firearms (11 of 18 victims), whereas in a chemist shop, or in the street, the majority of victims experienced offender(s) with a knife (22 of 26, and 227 of 402 respectively). The most interesting findings relate to locations that would be subsumed by the ABS "retail" category. Victims in licensed premises (pubs and clubs) are most often victimised by firearms (55 of 89 victims), in contrast to victims in small corner stores, milk bars and takeaways, who in the majority are threatened with knives (59 of 113). Victims in "other retailers" are also mostly subject to armed robberies with knives (33 of 62 victims). This suggests that licensed premises may be exceptional in the retail sector (as such they may need to be considered in isolation in order to obtain a more complete picture of armed robbery).

Location was also considered in conjunction with time of day information, and these findings are summarised in Table A3.10[9] (in Appendix 3). Victims in both service stations and in licensed premises experience the majority of armed robberies during the hours of darkness, namely 6:00 PM to 5:59 AM (88 of 102, and 70 of 89 victims respectively), as did victims threatened on public ground (such as parks, public toilets, etc) or on the street (49 of 68, and 273 of 403 respectively). In contrast, the majority of chemist shop victimisations occurred in the afternoon (midday to 5:59 PM; 22 of 26 victims), in the early morning (midnight to 5:59 AM) for adult entertainment venues (9 of 13), and between noon and midnight in small corner stores, milkbars and takeaways (80 of 113 victims).

Weapon Variation in Actual Versus Attempted Armed Robbery

In general, when a firearm (rather than some other type of weapon) is displayed in an armed robbery, it is more likely to elicit compliance from victims, who consequently hand over their property (see Matthews 2002). It is therefore more likely to result in a higher proportion of actual armed robberies than attempted armed robberies. This is consistent with NSW data. A higher proportion of firearm robberies were completed compared to all other weapon armed robberies. Only 4% of firearm robberies were attempted compared to 6% for knife, 8% for "other weapon" and 12% for syringe robberies (Figure 15).

Figure 15: Weapon use in armed robbery by result of attempted robbery



Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Weapon Variation in Armed Robbery Involving Single Versus Multiple Offenders

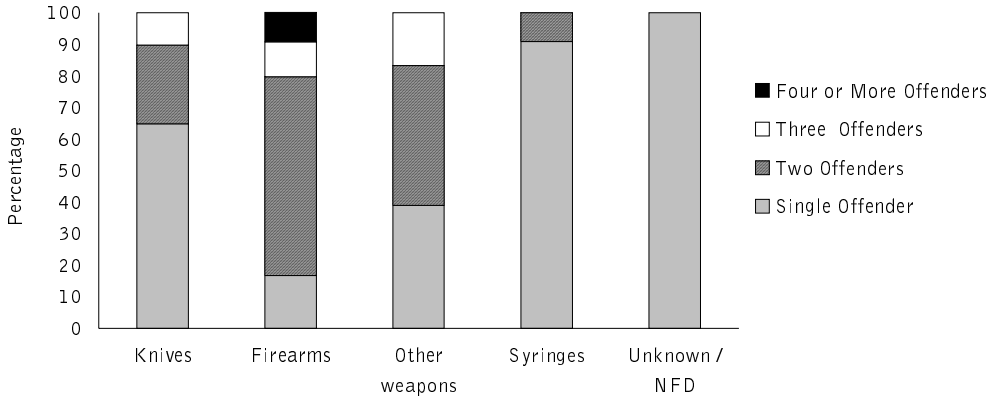
Previous research indicates that violent crime usually involves a single offender (82%; see Mouzos 2002). NSW data on the number of offenders[10] involved in each armed robbery incident supports this – 51% of NSW armed robberies were committed by a

9 As was the case with location and weapon information, location categories with counts less than 10 have been excluded from the table.

10 To reiterate, the final offender file contained details of 203 offenders involved in 148 separate incidents that occurred between October and December 2001. Although the full offence file contained many more cases, most of the cases did not fall within the period under examination (see Figure 11).

single offender. However the number of offenders involved in the incident was found to vary with the type of weapon used (see Figure 16). For example, the majority of knife and syringe robberies were committed by offenders acting alone. However 63% of firearm robberies, and 44% of the "other weapon" robberies involved two offenders.

Figure 16: Weapon use by number of offenders involved

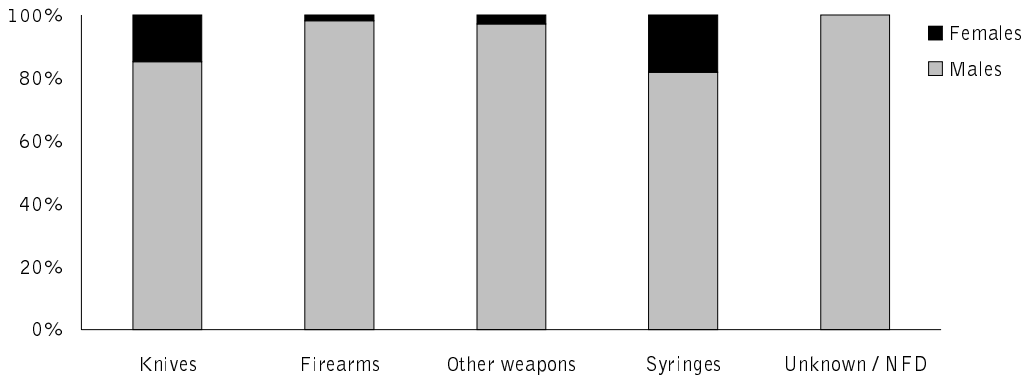


Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Offender Demographics and Weapon Use

Universally men commit more violent crime than women. This pattern was also observed in the NSW data and is illustrated in Figure 17. Interestingly, the proportion of males to females was not consistent across weapon types: a higher proportion of females were involved in knife (15%) and syringe robberies (18%) when compared to the other weapon categories (about 3%).[11]

Figure 17: Weapon use in armed robbery by gender of offenders

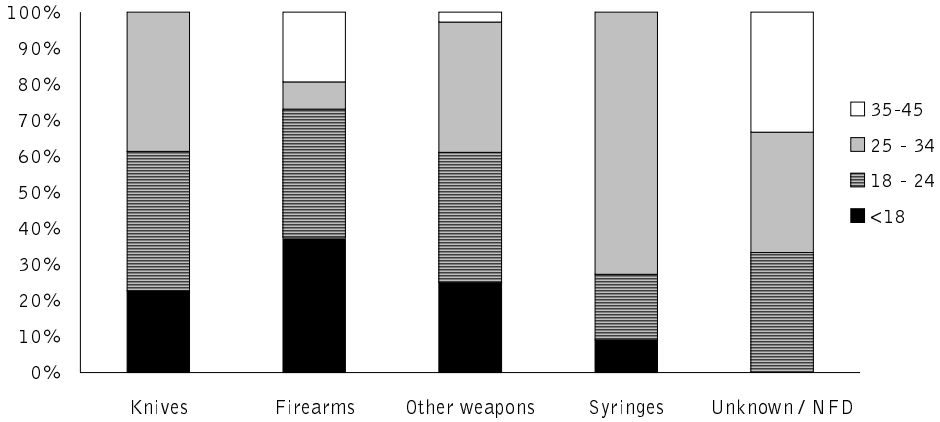


Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

11 Caution should be exercised when interpreting this weapon information in relation to offenders. Although offender details have been linked to an incident, and that incident itself has weapon details, there is no means of linking an individual offender to a particular weapon. Instead the strongest statement that can be made is that an offender was involved in an incident in which a particular type of weapon was used and if multiple offenders were involved, there is no means of establishing which of the offender(s) carried weapons.

Weapon use was also found to vary according to age of the offender. Figure 18 shows that knives were more commonly used in offences committed by those aged between 18 and 34 years (77%), and a similar pattern was observed for offenders who used "other weapons" (91%). In contrast, firearms were more commonly used in the incidents committed by juvenile and young adult offenders (age groups 0-17 and 18-24 years; 73%)[12], and syringes were more commonly used in the armed robberies committed by offenders aged between 25 and 34 years (73%).

Figure 18: Weapon use in armed robbery by age of offenders



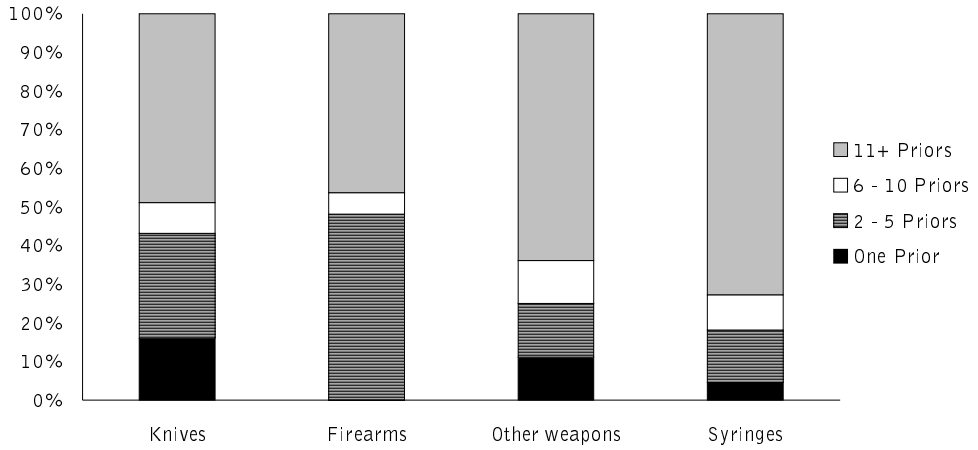
Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Weapon type also varied according to the number of prior offences that the offender had as recorded by police. Irrespective of the type of weapon used in an offence, there was not one offender among the reported cases who had not been charged with at least one prior offence. Most offenders were recorded as having 11 or more prior charges (Figure 19), but firearm robbery offenders did not follow this pattern: just under half of all firearms offenders had committed between 2 and 5 prior offences. This is not unexpected given the findings from the qualitative analysis. It is probable that firearms are more likely to be used by the so-called "professional" armed robbers, who should be less likely to come to the attention of law enforcement. In comparison, knife and syringe use was found to be common among the amateur armed robbers, who because of their less professional execution of an armed robbery might be more likely to be caught.

Interestingly, during the three-month period analysed, there were 5 offenders who were variously involved in 74 armed robbery incidents between them. Three persistent armed robbers were found to have been involved in more than 15 armed robberies each during this period (18, 19 and 23 incidents each). To determine whether this pattern was a function of the small number of cases examined, an analysis was conducted on the full offence file (see Figure 11). This file contained incidents that occurred between September 1998 and December 2001. Of the 485 incidents included in the file, 229 offenders were involved in more than one incident. In particular there were 4 prolific offenders who were involved in 79 armed robberies: one offender was involved in 30 armed robberies.

12 The actual number of incidents is 25.

Figure 19: Weapon use in armed robbery by the number of prior charges



Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Property Stolen in Armed Robbery Incidents

Information relating to the property stolen was extracted from an incident-based file. The discussion below is therefore offered with the caveat that property information only relates to incidents and cannot be linked to individual victims. Also, one exceptional case recorded the robbery of over 2000 mobile phones. This specific case was not included in any of the following analyses. Lastly, the information concerning type of property stolen is dependent on what is actually reported to police, therefore the property reported stolen may not necessarily include all property *actually* stolen during the incident.

The level of detail contained in property files was quite extensive therefore information was collapsed into categories in an attempt to identify any potential patterns. Numerous property categories resulted (24 in total). Table A3.11 (Appendix 3) details the percentages associated with each of the collapsed stolen property types, and illustrates that cash and mobile phones were the items most frequently taken in the armed robberies examined (21% and 20% respectively). Not surprisingly, these two items are probably the least traceable and have the most immediate utility to an offender. Unfortunately information detailing the amount of cash stolen was not available.

Licences and other identifying documents (12%) and credit cards (11%) were next most frequently stolen during the armed robbery, which could indicate a trend towards the deliberate robbery and subsequent misuse of identification papers, or may simply be a by-product of the theft of wallets and purses in which these items are typically contained. The lack of agreement between the total number of incidents recording wallets and purses (6%) and the total for licenses does not help clarify which account, if either, may apply to this set of incidents.

The majority of the 414 instances in which property information was matched to an incident resulted in the theft of a single item type (52%), with less than 5% of armed robberies resulting in the theft of more than 5 item types. On average, 2.3 items types

were stolen per incident considered. When an armed robbery incident involved a firearm, over half the cases resulted in the robbery of only a single item type (59%). Most noteworthy is the finding that 85% of all firearm-based incidents in this data set resulted in the robbery of 3 or fewer item types. Presumably these were of high value (given the greater potential firearms have to threaten and elicit compliance), but as noted cash amount information was not available, nor was the value of non-cash items.

Although value could not be ascertained, weapons employed and object types stolen in the various incidents have been cross tabulated and are shown in Table A3.12 (Appendix 3). Unfortunately the information was collated in a manner that did not allow an examination of whether multiple categories of objects were stolen according to weapon type. Rather, it simply linked a single type of object with the specific weapon used in that incident. This means that more than one type of object may have been stolen as the result of the presentation of a particular weapon in a particular incident, but each object type stolen in that incident was treated as a separate case for the current purposes. As with other analyses employing multiple categories, object categories with counts less than 10 have been excluded.

Of note, object types most commonly targeted during a street robbery such as personal stereos (walkmans), licenses and ID, clothing, mobile phones, wallets and purses, were associated with much lower rates (less than 20%) of firearm use. Although the overall number of object types stolen with a firearm was low, firearm use was most commonly associated with the theft of the following object categories: telecom related (69%, includes phone accessories and phone cards but not mobile phones), tobacco and related (29%), and cash (24%). Again, the use of syringes was low compared to all other weapons, but when used, they were involved in theft of items similar to those stolen during street robbery committed with a knife. There were no syringes used to facilitate the theft of cheques and money orders, or computer related objects.

One final analysis was undertaken to assess if weapon use could be effectively predicted from the additional NSW variables. A multinomial logistic regression was conducted, using the predictor variables of offender age, number of offender's prior charges, number of offenders involved in the incident, and location. As in the previous multinomial logistic regression, the weapon categories of "syringes" and "other weapons" were collapsed, and two models were examined: a model including only location as predictor and a model including all predictor variables (including those relating to the offender). Table A2.6 (Appendix 2) contains a summary of the results, and Table A2.7 (also in Appendix 2) contains descriptive information relating to continuous variables for each of the weapon categories.

Caution should be exercised when interpreting these outcomes: the cases examined are only a small subset of all armed robberies that occurred in NSW during the 3-month period, and as noted in the descriptive analyses of offender information, offenders were linked to incidents in which certain weapons were employed, but not to individual weapon use and this especially applies to incidents involving multiple offenders.

The model did not provide a good fit to the data. The analysis did, however, suggest that certain offender characteristics might be linked to the type of weapon used in the incidents in which they are involved. Specifically, offender age, total number of offenders and broad location (that is, retail versus all other locations) appeared to predict use of a firearm with some degree of reliability. The direction and magnitude of these apparent effects are not discussed in detail given the limitations associated with the model.

Although far from conclusive, the descriptive and more complex analyses of NSW data suggest that a greater understanding of the armed robbery situation can be achieved given additional, more detailed variables, especially those relating to the offender.

The key points to arise from the additional analysis are as follows:

- most armed robberies occurred between 6pm and midnight;
- weapon use at licensed premises differed compared to other retail premises, suggesting that they may be an exceptional case in the retail sector;
- more firearms robberies were completed compared to all other weapon robberies;
- just over half of all armed robberies in NSW were committed by an offender acting alone, although a higher proportion of firearms robberies were more likely to be committed by offenders acting in concert;
- firearms robbery offenders had the least number of prior charges;
- cash and mobile phones were the type of property most commonly stolen during the armed robberies; and
- offender age, number of offenders and offence location appeared to be linked to the type of weapon used.

Concluding Comments and Options for the Future

Victim and situational characteristics were found to vary with weapon use. The additional NSW analyses highlighted that weapon use also varies with offender characteristics as well as aspects of the situation not captured by Recorded Crime Australia formatted data (for example, number of offenders involved in the incident and the type of property stolen).

The analyses were limited because of a number of factors:

1. Not all cases contained valid data (it is important to recognise that there may be some systematic reason as to why cases contained missing, ill-defined, or unspecified data, and this unknown factor may be critical to our understanding of armed robbery);
2. The disparity in the number of armed robbery incidents occurring in jurisdictions affected sample size and therefore the reliability of the results (this problem would be less pronounced in a monitoring program as jurisdictional data was accumulated over time); and
3. Recorded Crime Australia categories do not allow for an examination of the full range of commercial armed robbery targets, especially those with high cash flows such as pubs and licensed clubs. The subsidiary analyses of additional NSW armed robbery data showed the potential for further value adding.

A question posed at the outset of this report was whether the ABS formatted unit record data would be sufficient for the purposes of monitoring the trends and patterns of armed robbery in Australia. In the most general sense, the answer to this question is "yes" because such data does allow for the monitoring of weapon use as a function of victim age, victim gender and location. But it does not assist in answering some of the important questions also posed at the outset of this report.

Research has consistently identified the importance of information relating to the armed robbery offender, especially when it relates to the type of weapon that is used (which is, of course, ultimately the offender's choice). Any monitoring of the detailed trends and possible types of armed robbery would be enhanced by offender characteristics and situational data including type of property taken, detailed location information to identify the targeting of specific types of retail locations (for example, pubs), and day and time of offence.

The thematic analysis of incident narrative material resulted in the identification of a possible typology of armed robbery (opportunistic street muggings, amateur retail armed robbery, and professional armed robbery), and variables that could be used to

identify these typologies. However, the extraction of detailed information from narratives, even a small subset of total narratives, was a labour intensive process. The quality of police narratives is also a function of individual writing styles, and available resources, which results in inconsistency of information across narratives. More importantly, changes in these factors would influence the interpretation of trends based only on narrative information.

Recommendations

The main purpose of this report was to assess whether the data that police provide to the ABS would be sufficient for the purposes of monitoring the trends and patterns of armed robbery in Australia, whilst value-adding where possible to that ABS data. On the basis of the findings outlined in this report the following is recommended:

1. That state and territory police services forward *unit record data* on armed robbery. Ideally this data will not be recoded into ABS Recorded Crime Australia formats, but will rather be in its raw state;
2. Specifically, this data should include (in addition to those variables already supplied to the ABS) the variables listed in Table 5;
3. It is further recommended that this information be forwarded to the AIC in a single victim-based file to minimise the recoding requirements. To assist jurisdictions in the collection of this data, it is recommended that the additional variables described above should be incorporated as fixed fields in the computer-based recording systems of each jurisdiction;
4. To allow the monitoring of trends and patterns in armed robbery on the basis of the more detailed and expanded variable set, it is recommended that state and territory police services forward armed robbery data to the AIC on a six-monthly basis;
5. It is also recommended that the AIC report back to jurisdictions with:
    a. Basic quarterly reports on trends and patterns, via a secure AIC website; and
    b. An annual report with more detailed analyses; and
6. Due to the resource-intensiveness of the process of information extraction, it is recommended that the examination of narratives not be included as an ongoing component of the Monitoring Program.

Feedback provided by state and territory police representatives indicates that all jurisdictions support the above recommendations in theory, but due to differences in recording systems and the ability to modify existing systems, not all jurisdictions can strictly comply with these recommendations in practice. Compliance with the recommendations is outlined in Table 6. For example, some jurisdictions were unable to forward data on a quarterly basis, rather they preferred six-monthly. In addition, not all jurisdictions would supply the additional variables identified in the report.

Table 5: National Armed Robbery Monitoring Program variables recommended for provision

Field description	Variable Names
Unique police reference number	Ref
State	State
Month of offence	Month
Year of offence	Year
JANCO/ABS offence code	Code
Location	Loc
Weapon(s)* used (ABS code) * list up to three different types of weapons used	Weap1 Weap2 Weap3
Victim age	Vic_age
Victim gender	Vic_sex
Relation of offender(s)* to victim (ABS code) * list relationship of first five offenders to each victim. If more than five offenders exclude additional offenders	ROV1 ROV2 ROV3 ROV4 ROV5
Outcome after 30 days (ABS code)	Out30
Outcome after 90 days (ABS code)	Out90
Outcome after 180 days (ABS code)	Out180
Count	Count
Offender(s) age* * list age of first five offenders. If more than five offenders exclude additional offenders	Of_age1 Of_age2 Of_age3 Of_age4 Of_age5
Offender(s) gender* * list gender of first five offenders. If more than five offenders exclude additional offenders	Of_sex1 Of_sex2 Of_sex3 Of_sex4 Of_sex5
Offence day of week	Day
Offence time of day	Time
Type of property taken* * list type of property for up to 5 types of property stolen. If more than five types of property stolen exclude additional property	Proptyp1 Proptyp2 Proptyp3 Proptyp4 Proptyp5
Value of property taken* * list value for up to 5 types of property stolen. If more than five types of property stolen exclude additional property	Propval1 Propval2 Propval3 Propval4 Propval5
Disguises worn per offender* * List up to 2 types of disguises worn for each offender	Of1dis1 Of1dis2 Of2dis1 Of2dis2 Of3dis1 Of3dis2 Of4dis1 Of4dis2 Of5dis1 Of5dis2
Victim resistance	Resist
Victim injury	Injury

Table 6: Jurisdictional compliance with recommendations

	NSW	Vic.	Qld	SA	WA	NT	ACT	TAS
Recommendation 1: That state and territory police services forward unit record data on armed robbery. Ideally this data will not be recoded into ABS Recorded Crime Australia formats, but will rather be in its raw state;	✓	✓	✓	✓	✓	✓	✓ - this is a possibility	✓
Recommendation 2: Specifically, this data should include (in addition to those variables already supplied to the ABS) the variables of offender age, offender gender, offence day and time, and value and type of property taken. The thematic analysis of the narratives indicated that other additional variables such as: whether disguises were worn, whether the victim offered resistance, and whether the victim was injured would allow for more detailed monitoring of armed robbery;	✓ - some variables	✓	✓ - qualified support, will not make system changes	✓ - some variables	✓	✓	✓ - some variables	✓
Recommendation 3: It is further recommended that this information be forwarded to the AIC in a single victim-based file to minimise the recoding requirements. To assist jurisdictions in the collection of this data, it is recommended that the additional variables described above should be incorporated as fixed fields in the computer-based recording systems of each jurisdiction;	✓	✓	X	✓	✓ - cannot comply immediately	✓	X - some additional fields cannot be supplied	✓ - only variables that do not require system changes
Recommendation 4: To allow the monitoring of trends and patterns in armed robbery on the basis of the more detailed and expanded variable set, it is recommended that state and territory police services forward armed robbery data to the AIC on a six-monthly basis;	✓	✓	✓	✓	✓	✓	✓ - appropriate approval required	✓
Recommendation 5: It is also recommended that the AIC report back to jurisdictions with: (a) Basic quarterly reports on trends and patterns, via a secure AIC website; and (b) An annual report with more detailed analyses; and	✓	✓	✓	✓	✓	✓	✓	✓
Recommendation 6: Due to the resource-intensiveness of the process of information extraction, it is recommended that the examination of narratives not be included as an ongoing component of the Monitoring Program.	✓	✓	✓	✓	✓	✓	Possibility of AFP extracting required additional variables from narratives	✓

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Appendix 1: Summary of Proceedings of the Second National Armed Robbery Roundtable

In furtherance of establishing the National Armed Robbery Monitoring Program, the Australian Institute of Criminology (AIC) convened a second National Armed Robbery Roundtable. This Roundtable took place at the AIC in Canberra, on Wednesday 6 March 2002 between 10.00am and 3.30pm (see Appendix 1 for a copy of the Agenda). The AIC wishes to extend its sincere gratitude and appreciation to all state and territory representatives for their active participation, presentations and contribution to discussions.

Aims of the Roundtable

The main aim of the Roundtable was to discuss an agenda for the joint implementation by state and territory police services in conjunction with the AIC, of the National Armed Robbery Monitoring Program.

Discussions focussed on:

- the pros and cons of a national program, including the issue of duplicating resources, and reducing burdens on the jurisdictions;
- practical issues for implementation and reporting; and
- achievable and workable outcomes in terms of value adding to the data.

The following is a summary of the proceedings, including key outcomes agreed to by representatives from each State and Territory Police Service.

Group Discussion

Following the background briefing on the impetus for the monitoring program, a number of jurisdictions (NSW, Qld, Vic and WA) presented to the group their views on the pros and cons of National Program. There was a general consensus of the group that the amount of information currently available was insufficient, and that there were limitations based on the extent of data collected by the ABS. The group also agreed that a greater understanding of the offence of armed robbery was required. It was also acknowledged that an in-depth analysis of armed robbery was beyond the resource capabilities of police services, and that an organisation such as the AIC could undertake such research.

Representatives also raised a number of concerns regarding the logistics of the Program. The main concern centred on the issue of duplicating resources. This was raised specifically in relation to the fact that the jurisdictions already provide data to the Australian Bureau of Statistics (ABS) for the *Recorded Crime Australia* publication, and that the collecting of additional variables would increase the workload of statistical service units within police services. In response, the AIC reassured each representative that the whole purpose of the Roundtable was to bring the stakeholders together to discuss achievable outcomes, that is, outcomes that would not impose additional burdens on statistical units.

Discussants also raised the issue of comparability between the jurisdictions in the collection of armed robbery data, and indicated that there were still a number of unresolved issues, despite such issues being raised in National Crime Statistics (NCS) forums.

Notwithstanding these issues, the group recognised the importance of a national program and its potential to deliver the type of information on armed robbery that can be used for police deployment strategies, and strategic assessments. It was also recognised that this program could also be used to improve data quality and assist police services in their endeavour to make certain fields mandatory in the recording of armed robbery.

The discussion then centred on resolving these issues, and devising a plan that was both attainable and addressed the concerns raised by the group. There was a general consensus by the group on using the data provided to the ABS as the foundation for the National Program. This would overcome the problem of duplicating resources, and it would not impact significantly on the current workload of statistical units. However, in recognition of the need for information beyond what is currently collected on armed robbery, the group indicated that an assessment needed to be made to determine whether it was feasible for the additional information to be extracted from police offence reports, and in particular, from the narratives, and to follow a similar process as that undertaken in the compilation of data for the National Homicide Monitoring Program. A number of representatives volunteered to pilot this process in their jurisdiction. This assessment would serve as a building block to understanding the completeness of information recorded for the offence of armed robbery.

Key Outcomes

Based on the group discussion, the following key outcomes were agreed to by each state and territory representative. To:

1. Provide the AIC with unit record data (or equivalent) for all armed robbery offences for the three-month period being from 1 October to 31 December 2001. This data will be in the same format as that already provided to the ABS, so that there will be no need for a separate collection nor for any duplication of efforts;

2. Provide the AIC with copies of all armed robbery offence reports, including the narratives and supporting documentation, such as local manuals etc, for the three-month period being from 1 October to 31 December 2001. This second key outcome was agreed to be piloted in the following jurisdictions:
   - South Australia;
   - Western Australia;
   - Tasmania;
   - Queensland; and
   - New South Wales (if possible).
3. Forward data and offence reports to the AIC by **15 April 2002**;
4. The AIC to provide a report to the jurisdictions outlining the results of the assessment of outcomes 1 and 2 by early **July 2002**.

Appendix 2: Technical Appendix

Table A2.1: ABS Recorded Crime Australia variables and recoding for the current analyses of national data

VARIABLE	NEW CATEGORIES	ABS CATEGORIES
Jurisdiction	NSW	NSW
	VIC	VIC
	QLD	QLD
	SA	SA
	WA	WA
	TAS	TAS
	NT	NT
	ACT	ACT
Month of offence	October	October
	November	November
	December	December
Location of offence	Residential	Residential not further defined
		Dwelling
		Outbuilding / residential land
	Community	Community location not further defined
		Community location - educational
		Community location - health
		Community location - religious
		Community location - justice
		Community location not elsewhere classified
	Transport & related	Transport location not further defined
		Transport location - terminal
		Transport location – conveyance in transit
		Transport location not elsewhere classified
	Outdoors	Transport location - carpark
		Community location - open space
		Street/footpath
	Retail & related	Other location not further defined
		Other location - administrative & professional
		Other location - retail not further defined
		Other location - retail not elsewhere classified
		Other location - wholesalers
		Other location - warehouse
		Other location - manufacturer
		Other location - agricultural
		Other location - recreational
		Other location not elsewhere classified
	Bank	Other location - banking
	Chemist	Other location – chemistry / pharmacy
	Service station	Other location – service station
	Unspecified	Unspecified
Weapon used	Firearm	Firearm
	Knife	Knife
	Syringe	Syringe
	Other weapon	Other weapon
	Unknown	Unknown
		Not applicable
		Inadequately defined

Table A2.1: ABS Recorded Crime Australia variables and recoding for the current analyses of national data (*continued*)

VARIABLE	NEW CATEGORIES	ABS CATEGORIES
Victim age	0 to 17 years	0 to 9 years
		10 to 14 years
		15 years
		16 years
		17 years
	18 to 24 years	18 years
		19 years
		20 to 24 years
	25 to 34 years	25 to 34 years
	35 to 54 years	35 to 44 years
		45 to 54 years
	55 years or more	55 to 64 years
		65 years and over
	Not applicable	Not applicable
	Not specified	Not specified
Victim gender	Male	Male
	Female	Female
	Not applicable	Not applicable
	Inadequately described	Inadequately described
Relationship of offender to victim	Known, not further defined	Known, not further defined
	Family, not further defined	Family, not further defined
	Partner	Partner
	Parent	Parent
	Child	Child
	Sibling	Sibling
	Other related family	Other related family
	Non-family, not further defined	Non-family, not further defined
	Ex-partner	Ex-partner
	Other non-family	Other non-family
	Unknown to victim	Unknown to victim
	Not applicable	Not applicable
	No offender identified	No offender identified
	Inadequately described	Inadequately described
State of investigation [a]	Cleared	Investigation finalised - offender proceeded against (all sub-categories)
	No further investigation	Investigation finalised - no offender proceeded against (all sub-categories)
	Ongoing	Investigation not finalised (all sub categories)

a Jurisdictions varied in the type of outcome information supplied. This variable was constructed from the ABS "Outcome of Investigation after 30 days", ABS "Outcome of Investigation after 90 days", ABS "Outcome of Investigation after 180 days", or the outcome provided for that victim case (no timeframe attached). The single "state of investigation" variable took its category value from the last recorded outcome. For example, the value at 90 days would be taken if the victim file only had values for 30 days and 90 days, but if a victim file had values for all three timed variables, the value would be derived from the 180 day variable. If only a single outcome variable was supplied, this provided the value. Some jurisdictions did not provide outcome information coded in the ABS format. In these cases, information was recoded using the Recorded Crime Australia manual.

Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Table A2.2: Description of data items used in the NSW analyses

VARIABLE	CATEGORIES OR VALUES
Unique incident identifier	Unique letter/number string
Day of the week on which offence occurred	Sunday
	Monday
	Tuesday
	Wednesday
	Thursday
	Friday
	Saturday
Time of the offence	Midnight to 5:59 AM
	6:00 AM to 11:59 AM
	Noon to 5:59 PM
	6:00 PM to 11:59 PM
Armed robbery type	Actual
	Attempted
	Other - accessory after & conspiracy
Type of object stolen [a]	Credit card or credit card vouchers
	Cheque, money order or lottery ticket
	Bank book or signature card
	Licence or other ID documents
	Bank equipment (e.g. ATM)
	Wallet, purse or bag
	Bicycle
	Books or other papers
	Jewellery and watches
	Cameras and related equipment
	Safes and tills
	Stereo or video (games & equipment)
	Tobacco and related products
	Mobile phones
	Telecommunications related (exclude mobile phones)
	Personal items (e.g. toiletries)
	Cash
	Clothing and sunglasses
	Keys
	Weapons
	Computer and related equipment
	Methadone
	Tools and rope
	Other unspecified
Total items stolen in incident	Numeric value

Table A2.2: Description of data items used in the NSW analyses (*cont.*)

VARIABLE	CATEGORIES OR VALUES
Precise location	Adult entertainment venue
	Museum, library, church or gallery
	Financial institution
	Restaurant or café
	Corner store, milk bar or takeaway food shop
	Pub or licensed club
	Bottle shop
	TAB or gambling club
	Chemist
	Newsagent
	Jeweller
	Tobacconist
	Service station
	Other retailers
	Professional offices, government or police
	Post officeOther business or commercial sites
	Recreational (e.g. gym or video arcade)
	Video store
	Taxi
	Transport terminals (excluding bus stops)
	Hospital or medical locations
	Car park
	Public ground (e.g. toilets, parks, shopping centres)
	Motel or other accommodation
	Home unit
	House and its surrounds
	Street, path or bus stop
	Other residential site
	School
	Other transport
	Unknown
Prior charges recorded for offender [a]	Numeric value
Law part description for offender charges [a]	Robbery unarmed
	Armed and aggravated robbery
	Accessory to or conspire to commit armed robbery
	Only drug-related
	Only property-related
	Violence-related (excluding armed robbery)
	Only weapon-related
Number of charges listed for offender [a]	Numeric value
Offender age in years (as of 2001) [a]	0 to 17 years
	18 to 24 years
	25 to 34 years
	35 to 54 years
	55 years or more
Offender gender [a]	Male
	Female
Total number of offenders recorded for incident [a]	Numeric value

a This information was extracted from incident-based files. This means it can be linked back to an incident via the unique incident identifier but cannot be linked to the individual victim(s) associated with the incident in question.

Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Table A2.3: Odds ratios (and standard errors) from multinomial regression analysis of weapon used[a] in armed robbery by offence location, victim sex, and victim age, national data (n = 1,849)

	Model 1 [b]				Model 2			
Variable	Firearms		Syringes & other weapons		Firearms		Syringes & other weapons	
Residential location	.59	(.22)*	1.50	(.19)	.56	(.23)*	1.45	(.20)
Community & outdoors location	.31	(.15)*	1.29	(.13)	.32	(.15)*	1.30	(.13)*
Transport location	.01	(.60)*	1.16	(.24)	.01	(.60)*	1.20	(.24)
Service station	.89	(.22)	1.12	(.23)	.88	(.23)	1.01	(.24)
Retail including chemist (ref) [c]	1.00		1.00		1.00		1.00	
Age 0 to 17 years	na		na		.83	(.20)	.69	(.19)*
Age 18 to 24 years	na		na		.69	(.16)*	1.07	(.14)
Age 25 to 34 years	na		na		1.06	(.17)	1.33	(.15)
Age 35 years & over (ref) [c]	na		na		1.00		1.00	
Male	na		na		1.13	(.14)	1.19	(.13)
Female (ref) [c]	na		na		1.00		1.00	

* Statistically significant at p<0.05

a Knives were coded as the baseline (reference) category for the outcome variable of weapon used because they constituted the largest category. Odds ratios should therefore be interpreted as the likelihood of firearm armed robbery compared to "syringe and other weapon" and knife armed robbery; and "syringe and other weapon" armed robbery compared to firearm and knife armed robbery. Analyses were conducted in SPSS, which offers no option for alternative coding schemes for predictor and outcome variables.

b Model 1 is the model including only one predictor variable, location. Model 2 is the full model, containing all predictor variables.

c This category acted as the baseline (reference) category for this predictor variable in the model, therefore the odds ratio equals 1.

Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Table A2.4: Orthogonally rotated principal component matrix arising from the analyses of offence location, weapon type, victim age, and victim sex, national data (n = 1871) [a]

Variable [b]	1	2	3	4	5	6	7	8	9	10	11
Residential	.01	.04	.05	.02	.00	-.09	.09	.92	-.05	.01	-.14
Community	.02	.02	.04	-.08	.13	.24	.64	-.02	.02	-.02	-.03
Transport	-.07	.01	-.03	-.01	.83	.06	-.06	.02	.06	.03	.02
Outdoors	.89	.01	-.04	-.02	-.24	.00	-.12	-.23	-.14	-.09	-.10
Retail	-.83	.00	.03	-.01	-.20	-.07	-.12	-.29	-.29	-.14	-.09
Bank	.11	-.02	-.01	.01	.11	-.02	-.08	.06	-.12	.80	.17
Chemist	-.02	-.01	.03	.02	-.01	-.10	.16	-.15	.01	.09	.78
Service station	-.05	-.08	-.05	.06	.00	.09	-.05	.00	.85	.02	.07
Firearm	-.35	.10	.08	.00	-.32	-.11	.10	-.15	.19	.60	-.41
Knife	.15	-.82	-.04	-.04	.16	-.26	-.09	.08	-.09	-.30	.25
Syringe	.08	.04	.02	.06	-.06	.87	.11	-.09	-.01	-.07	-.09
Other weapons	.11	.90	-.05	.00	.10	-.14	-.06	.11	-.08	-.19	.15
Age 0 to 17 years	.18	-.05	.15	-.03	.46	-.34	.24	-.35	-.18	-.03	-.39
Age 18 to 24 years	.00	.02	-.90	-.35	-.05	.09	-.18	.02	.06	-.08	.04
Age 25 to 34 years	-.02	.03	.11	.96	-.04	.09	-.13	.05	.06	.02	.04
Age 35 to 54 years	-10	.00	.75	-.51	-.13	.17	-.26	.14	.03	.04	.12
Age 55 years & over	-.05	-.01	-.01	.00	-.24	-.15	.72	.13	-.04	-.03	.20
Male	.23	.16	.04	-.03	.07	-.31	.07	-.08	.51	-.19	-.13

a The number of required principle components was not specified, rather SPSS was instructed to extract all components with a minimum eigen value of 1.00.

b Categories within each of the variables were recoded as binary variables, with 1 indicating category membership.

Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Table A2.5: Variables emerging from thematic analyses and submitted to cluster analyses (n = 145)

VARIABLE	NEW VARIABLES CREATED FROM CATEGORIES [a]
Time of offence	Midnight to 5:59 am
	6:00 am to 11:59 am
	Noon to 5:59 pm
	6:00 pm to midnight
Day of the offence	Sunday
	Monday
	Tuesday
	Wednesday
	Thursday
	Friday
	Saturday
Location	Residential
	Pub, Club or Liquor Store
	Convenience Store, etc.
	Bank
	Service Station
	Retail
	Public Space
	Transport
Reported number of offenders	1 offender
	2 offenders
	3 or more offenders
Reported Gender of offenders	Male
	Female
	Both male & female offenders reported
Disguise worn	Yes
	No
Mobile phone stolen	Yes
	No
Wallet targeted by offenders	Yes
	No
Other property targeted and/or stolen	Cash, less than $1,000 or not specified
	Cash, between $1,000 & $9,999
	Cash, $10,000 or more
	Cigarettes or beer
	Personal items (e.g. jewellery)
	Vehicle
	Nil taken
Victim(s) injured	Yes
	No
Victim(s) resisted	Yes
	No
Weapon used	Long arm or firearm not specified
	Pistol
	Knife
	Multiple weapons listed
	Syringe
	Striking instrument (e.g. bat or axe)
	Other (e.g. tree branch or rock)

a If a variable had more than two categories, each category was recoded as a new binary variable, with 1 denoting membership of that category and 0 denoting non-membership.

Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Table A2.6: Odds ratios (and standard errors) from multinomial regression analysis of weapon used[a] in armed robbery by offence location, number of offender's prior charges, offender age, total number of offenders, NSW data (n = 200)

	Model 1 [b]				Model 2			
Variable	Firearms		Syringes & other weapons		Firearms		Syringes & other weapons	
All other locations	.39	(.40)*	1.23	(.34)	.15	(.50)*	1.15	(.36)
Retail and related locations (ref)[c]	1.00		1.00		1.00		1.00	
Number of prior charges	na		na		1.02	(.03)	1.01	(.02)
Offender age	na		na		.81	(.05)*	.98	(.03)
Total number of offenders	na		na		2.65	(.27)*	1.14	(.25)

* Statistically significant at $p<0.05$

a Knives were coded as the baseline (reference) category for the outcome variable of weapon used because they constituted the largest category. Odds ratios should therefore be interpreted as the likelihood of firearm armed robbery compared to "syringe and other weapon" and knife armed robbery; and "syringe and other weapon" armed robbery compared to firearm and knife armed robbery. Analyses were conducted in SPSS, which offers no option for alternative coding schemes for predictor and outcome variables.

b Model 1 is the model including only one predictor variable, location. Model 2 is the full model, containing all predictor variables.

c This category acted as the baseline (reference) category for this predictor variable in the model, therefore the odds ratio equals 1.

Note: Because information was only available for approximately 200 offenders, not every detailed location category could be represented in the sample. In this analysis, offender age (in years), number of offender's prior charges, and offenders involved in the incident were treated as continuous variables. In order to incorporate some type of location information, cases were classified as either "retail and associated", or "all other locations". None of the offender information related to incidents occurring in banks.

Unfortunately the small number of cases for which offender information was available also limited the total number of predictor variables that could be included in the analysis. This type of analysis requires a large number of cases relative to each and every variable used to predict the outcome. The variables included in this model were chosen on the basis of the results of the descriptive analyses and findings from previous research into armed robberies.

Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Table A2.7: Descriptive statistics for number of prior charges, offender age, and total number of offenders, NSW data

	Firearms		Syringes & other weapons		Knives	
Variable	Mean	SD	Mean	SD	Mean	SD
Number of prior charges	9.4	6.0	16.1	11.2	15.1	14.9
Offender age	18.6	3.6	24.3	6.5	24.8	8.0
Total number of offenders	2.2	1.0	1.5	.7	1.5	.7
(N)	54		58		88	

Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Methods Employed in the Qualitative Analysis of Armed Robbery Narratives

The Queensland Police Service forwarded 54 narratives sampled from armed robbery incidents occurring between October and December 2001. These were read and grouped according to main themes.

NSW incident narratives were initially submitted to an analysis of key words and phrases to establish basic narrative content. For instance, the word "taxi" occurred 191 times over all narratives, whereas the word shotgun appeared in only 28 reports. On the basis of this broad classificatory scheme, a subset of 50 incidents, half containing the word "syringe" and half containing the word "pistol",[13] were randomly selected. These were examined in a detailed qualitative fashion by a reader with no knowledge of the results of the Queensland narrative analysis.

The analysis of the NSW armed robbery narratives yielded themes that easily fell within the scenarios identified in the analysis of Queensland armed robbery narratives. The fact that similar results were obtained from two readers independently examining narratives extracted from two jurisdictions suggests that the proposed typology possesses some degree of reliability.

Forty-one incidents were then sampled from each of the remaining jurisdictions using the following sampling rules:

> Western Australia – sample every tenth narrative, resulting in 21 from a total of 215 cases;
>
> South Australia – sample every fifth narrative, resulting in 14 from a total of 71 cases; and
>
> Tasmania – sample every second case, resulting in 6 cases from a total of 12.

These armed robbery narratives were then examined to assess if the cases could be classified within the typology derived from NSW and Queensland narratives.

13 These two words were selected because both weapons can be easily concealed yet represent two very different tools in terms of: the physical range of control they can exert; the extent with which they can immediately inflict extreme injury; and their ease of availability.

Appendix 3: Additional Tables and Figures

Table A3.1: Type of weapon by location, NSW

Type of weapon	Residential No.	Residential %	Community No.	Community %	Transport related No.	Transport related %	Outdoors No.	Outdoors %	Retail & related No.	Retail & related %	Bank No.	Bank %	Chemist No.	Chemist %	Service station No.	Service station %	Unspecified No.	Unspecified %	Total No.	Total %
Firearms	10	13	8	20	2	4	52	13	216	35	11	61	0	0	24	24	0	0	323	24
Knives	45	59	12	30	29	56	229	56	256	42	3	17	22	85	47	48	1	0.2	644	48
Syringe	5	7	10	25	11	21	44	11	42	7	0	0	0	0	12	12	0	0	124	9
Other weapon	14	18	8	20	9	17	80	20	94	15	2	11	3	12	15	15	0	0	225	17
Unknown / NFD	2	3	2	5	1	2	3	1	9	2	2	11	1	4	1	1	0	0	21	2
Total	76	6	40	3	52	4	408	31	617	46	18	1	26	2	99	7	1	0.1	1337	100

Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Table A3.2: Type of weapon by location, Victoria

Type of weapon	Residential No.	Residential %	Community No.	Community %	Transport related No.	Transport related %	Outdoors No.	Outdoors %	Retail & related No.	Retail & related %	Bank No.	Bank %	Chemist No.	Chemist %	Service station No.	Service station %	Unspecified No.	Unspecified %	Total No.	Total %
Firearms	3	13	0	0	1	2	12	9	32	25	3	43	0	0	18	35	1	6	70	17
Knives	13	54	0	0	28	61	73	55	69	54	3	43	6	67	25	49	3	19	220	53
Syringe	1	4	0	0	1	2	8	6	5	4	0	0	0	0	1	2	0	0	16	4
Other Weapon	4	17	1	50	9	20	28	21	15	12	1	14	2	22	7	14	1	6	68	16
Unknown / NFD	3	13	1	50	7	15	11	8	7	6	0	0	1	11	0	0	11	69	41	10
Total	24	6	2	1	46	11	132	32	128	31	7	2	9	2	51	12	16	4	415	100

Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Table A3.3: Type of weapon by location, Queensland

Type of weapon	Residential No.	Residential %	Community No.	Community %	Transport related No.	Transport related %	Outdoors No.	Outdoors %	Retail & related No.	Retail & related %	Bank No.	Bank %	Chemist No.	Chemist %	Service station No.	Service station %	Total No.	Total %
Firearms	17	37	0	0	0	0	5	8	18	18	4	67	1	50	2	12	47	20
Knives	12	26	2	100	1	33	30	46	42	43	1	17	0	0	9	53	97	41
Syringe	0	0	0	0	0	0	3	5	8	8	0	0	0	0	2	12	13	5
Other Weapon	17	37	0	0	2	667	22	34	24	25	0	0	1	50	2	12	68	29
Unknown / NFD	0	0	0	0	0	0	5	8	6	6	1	17	0	0	2	12	14	6
Total	46	19	2	1	3	1	65	27	98	41	6	3	2	1	177	7	239	100

Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Table A3.4: Type of weapon by location, Western Australia

Type of weapon	Residential No.	Residential %	Community No.	Community %	Transport related No.	Transport related %	Outdoors No.	Outdoors %	Retail & related No.	Retail & related %	Bank No.	Bank %	Chemist No.	Chemist %	Service station No.	Service station %	Total No.	Total %
Firearms	2	6	0	0	0	0	3	8	10	18	2	50	4	57	2	13	23	14
Knives	13	38	3	60	4	57	21	57	26	46	2	50	3	43	7	44	79	47
Syringe	0	0	0	0	1	14	0	0	3	5	0	0	0	0	0	0	2	3
Other Weapon	19	56	2	40	2	29	13	35	18	32	0	0	0	0	7	44	61	37
Total	34	20	5	3	7	4	37	22	57	34%	4	2%	7	4%	16	10%	167	100%

Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Table A3.5: Type of weapon by age of victims, NSW

Type of weapon	Less than 18 years		18 – 24 years		25 – 34 years		35 – 54 years		55 + years		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Firearms	35	23	86	20	71	26	97	28	20	25	309	24
Knives	86	57	222	52	116	42	160	46	38	48	622	48
Syringe	4	3	37	9	37	13	33	10	6	8	117	9
Other Weapon	24	16	80	19	50	18	52	15	12	15	218	17
Unknown / NFD	3	2	4	1	4	1	7	2	3	4	21	2
Total	152	12	429	33	278	22	349	27	79	6%	1287	100%

Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Table A3.6: Type of weapon by age of victims, Victoria

Type of weapon	Less than 18 years		18 – 24 years		25 – 34 years		35 – 54 years		55 + years		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Firearms	5	8	14	15	18	20	16	18	3	14	56	16
Knives	35	57	49	53	45	50	48	55	14	64	191	54
Syringe	3	5	5	5	3	3	4	5	0	0	15	4
Other Weapon	12	19	18	19	13	14	12	14	3	14	58	16
Unknown / NFD	7	11	7	8	11	12	7	8	2	9	34	10
Total	62	18	93	26	90	25	87	25	22	6	354	100

Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Table A3.7: Type of weapon by age of victims, Queensland

Type of weapon	Less than 18 years		18 – 24 years		25 – 34 years		35 – 54 years		55 + years		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Firearms	4	17	5	11	6	17	10	25	6	35	31	19
Knives	15	63	17	38	13	36	16	40	8	47	69	43
Syringe	0	0	1	2	2	6	0	0	0	0	3	2
Other Weapon	5	21	20	44	11	31	13	33	3	18	52	32
Unknown / NFD	0	0	2	4	4	11	1	3	0	0	7	4
Total	24	15	45	28	36	22	40	25	17	11	162	100

Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Table A3.8: Type of weapon by age of victims, Western Australia

Type of weapon	Less than 18 years		18 – 24 years		25 – 34 years		35 – 54 years		55 + years		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Firearms	1	4	0	0	3	13	3	12	1	11	8	7
Knives	14	58	25	68	8	35	11	42	3	33	61	51
Syringe	1	4	0	0	0	0	2	8	0	0	3	3
Other Weapon	8	33	12	32	12	52	10	39	5	56	47	40
Total	24	20%	37	31%	23	19%	26	22%	9	8%	119	100%

Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Table A3.9: Type of weapon by specific location, NSW [a]

Specific location	Knives	Firearms	Other weapons	Syringes	Unknown/ NFD	Total
Adult entertainment venue	6	3	4	0	0	13
Financial institution	3	11	2	0	2	18
Restaurant, cafe	18	34	5	7	1	65
Corner store, milk bar, takeaway	59	31	11	10	2	113
Pub, licence club	13	55	20	0	1	89
Chemist	22	0	3	0	1	26
Newsagent	4	3	5	4	1	17
Service station	47	24	18	12	1	102
Other retailers	33	11	4	13	1	62
Prof. offices, govt., police	1	5	1	1	3	11
Businesses, commercial, other	25	17	7	1	0	50
Video store	25	14	21	1	0	61
Transport & terminals (excl. bus stop)	23	2	9	6	1	41
Carpark	22	22	6	5	1	56
Public ground	48	9	7	4	0	68
Home unit	11	3	5	2	1	22
House & surrounds	28	6	5	3	1	43
Street, path, bus stop	227	48	78	46	3	402
Schools	5	4	2	0	0	11

a Location categories with counts of less than 10 have been excluded from this table

Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Table A3.10: Time of incident by specific location, NSW [a]

Specific location	Midnight to 5:59AM	6:00AM to 11:59AM	Noon to 5:59PM	6:00PM to 11:59PM	Total
Adult entertainment venue	9	0	1	3	13
Financial institution	0	11	5	2	18
Restaurant, cafe	6	2	12	45	65
Corner store, milk bar, takeaway	17	16	30	50	113
Pub, licence club	33	13	6	37	89
Chemist	0	2	22	2	26
Newsagent	1	7	5	4	17
Service station	48	4	10	40	102
Other retailers	3	15	27	17	62
Prof. offices, govt., police	1	2	7	1	11
Businesses, commercial, other	4	6	19	21	50
Video store	0	3	5	53	61
Transport & terminals (excl. bus stop)	3	8	6	24	41
Carpark	6	7	17	27	57
Public ground	19	7	12	30	68
Home unit	2	0	3	17	22
House & surrounds	15	4	10	14	43
Street, path, bus stop	113	50	80	160	403
Schools	0	0	6	5	11

a Location categories with counts of less than 10 have been excluded from this table

Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Table A3.11: Type of property stolen, NSW

Property type	No.	%
Credit card or credit card vouchers	107	11
Cheque, money order or lottery ticket	10	1
Bank book or signature card	58	6
Licence or other ID documents	113	12
Bank equipment (e.g. ATM)	6	1
Wallet, purse or bag	60	6
Bicycle	2	0
Books or other papers	6	1
Jewellery and watches	68	7
Cameras and related equipment	19	2
Safes and tills	7	1
Stereo or video (games & equipment)	16	2
Tobacco and related products	21	2
Mobile phones	190	20
Telecommunications related (exclude mobile phones)	17	2
Personal items (e.g. toiletries)	9	1
Cash	195	21
Clothing and sunglasses	7	1
Keys	9	1
Weapons	3	0
Computer and related equipment	12	1
Methadone	2	0
Tools and rope	2	0
Other unspecified	2	0
Total	941	99 [a]

a Values do not total 100 because of rounding

Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Table A3.12: Type of weapon by type of object stolen, NSW [a]

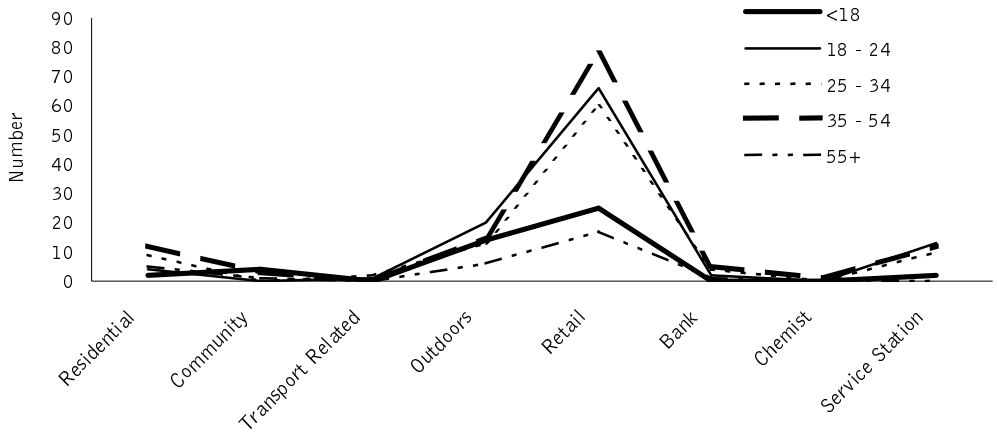
	Firearms		Knives		Syringe		Other weapon		Unknown/ NFD		Total	
Type of object stolen	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Credit card & vouchers	14	13	61	57	9	8	20	19	3	3	107	97
Cheque & money order	4	40	5	50	0	0	1	10	0	0	10	100
Bank book & signature card	6	10	42	70	5	8	6	10	1	2	60	100
Licence & ID	18	16	65	57	13	11	14	12	5	4	115	100
Wallet, purse & bag	8	13	34	57	11	18	6	10	1	2	60	100
Jewellery & watches	13	19	37	54	7	10	11	16	0	0	68	99
Cameras & equipment	1	6	14	82	1	6	1	6	0	0	17	100
Stereo/video games & equipment	0	0	8	50	4	25	4	25	0	0	16	100
Tobacco & related	6	29	6	29	2	10	7	33	0	0	21	101
Mobile phones	23	12	108	57	22	12	33	17	4	2	190	100
Telecom related	11	69	3	19	1	6	1	6	0	0	16	100
Cash	45	24	97	51	19	10	25	13	4	2	190	100
Clothing & sunglasses	0	0	7	70	2	20	1	10	0	0	10	100
Computer & related	0	0	10	83	0	0	2	17	0	0	12	100

a Object type categories with counts of less than 10 have been excluded from this table

b Percentage values do not total 100 because of rounding

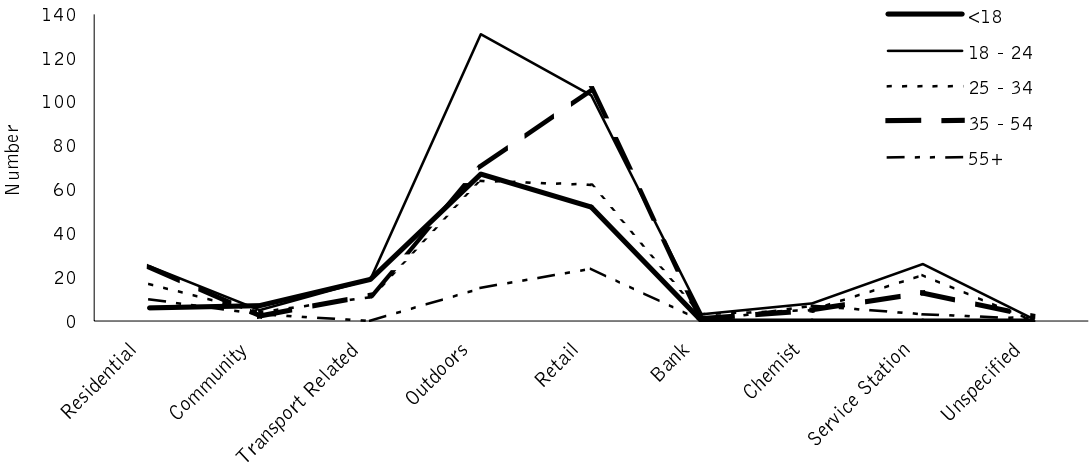
Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Figure A3.1: Firearm armed robberies—type of location by victim age



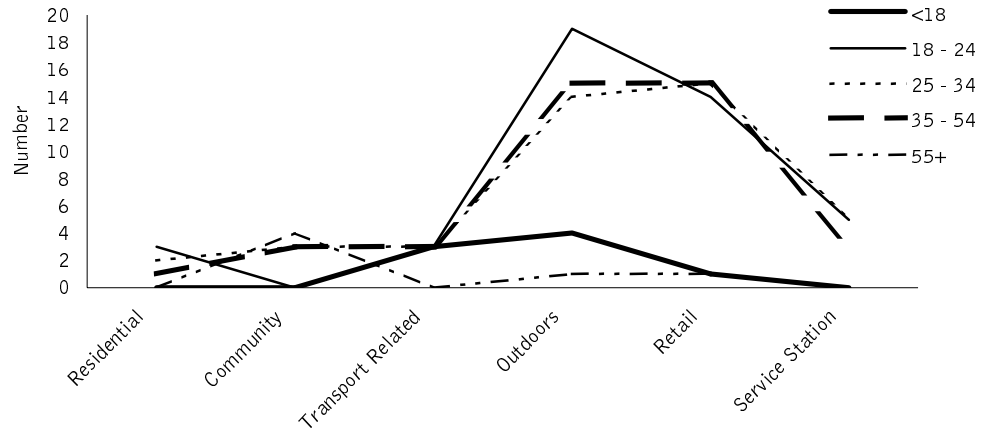
Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Figure A3.2: Knife armed robberies—type of location by victim age



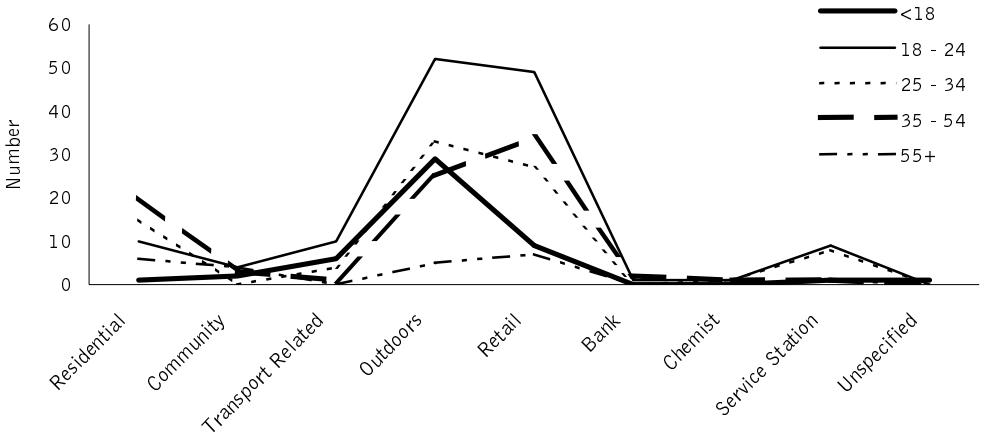
Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Figure A3.3: Syringe armed robberies—type of location by victim age



Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]

Figure A3.4: Other weapon armed robberies—type of location by victim age



Source: Australian Institute of Criminology, National Armed Robbery Monitoring Program, 1 October – 31 December 2001 [computer file]