Weapon use, victim injury and public safety measures in Amsterdam-Amstelland

Weapon-related violence explained by the routine activity theory.

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Master thesis

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Dutch summary (Samenvatting)

Deze scriptie is de afsluiting van de door mij gevolgde masterspecialisatie Public Safety van de opleiding Public Administration. In deze scriptie is onderzoek gedaan naar de veroorzakers van wapengebruik en slachtofferletsel gedurende wapengerelateerde geweldsdelicten in de politieregio Amsterdam-Amstelland, en hoe het (lokale) veiligheidsbeleid op deze kenmerken is toegesneden. Aanleiding hiervoor is een opdracht die uitgevoerd is in een eerder stadium van de master track. Hieruit is destijds gebleken dat de onderbouwing van beleid in de meeste gevallen zeer summier is, waardoor ik mij ben gaan afvragen in hoeverre hiervan sprake is in het geval van de bestrijding van wapengerelateerd geweld. Gebleken is dat wapenbezit in Amsterdam de risicofactor is welke de meeste samenhang vertoont met meerdere probleemgedragingen. Kennis over de factoren die van invloed zijn op wapengebruik en slachtofferletsel bij wapengerelateerde geweldsmisdrijven is belangrijk, omdat hieruit kan worden afgeleid welke beleidsmaatregelen en -instrumenten het meest effectief zullen zijn. Over de wijze waarop geweldsmisdrijven worden gepleegd is wat Nederland betreft relatief weinig bekend, zeker in vergelijking met andere onderzoekstradities. Empirische toetsingen van verklaringen voor wapengebruik schaars. Daarnaast bestaat weinig inzicht in de invloed die wapens hebben op de kans dat het slachtoffer letsel oploopt, enig Amerikaans onderzoek uitgezonderd. Maar gezien de grotere beschikbaarheid van vuurwapens in de Verenigde Staten, kunnen deze bevindingen niet zomaar gegeneraliseerd worden naar de Nederlandse situatie. Het onderzoeksdoel kan als volgt worden samengevat: Onderzoeken welke factoren wapengerelateerd geweld en letsel verklaren in de politieregio Amsterdam-Amstelland en het toetsen in hoeverre het (lokale) veiligheidsbeleid op deze factoren is toegesneden, zodat uiteindelijk op basis van deze bevindingen aanbevelingen worden gedaan ter verbetering van het lokale veiligheidsbeleid. Om dit te bewerkstelligen is theorie en praktijk aan elkaar gekoppeld, om vervolgens de resultaten hiervan te koppelen aan het veiligheidsbeleid. Theorie is in deze zin de literatuurstudie, de praktijk omvat data afkomstig uit empirisch onderzoek. De belangrijkste publicaties die hiervoor de basis vormen zijn publicaties met betrekking tot de relatie tussen wapengebruik en slachtofferletsel, publicaties over de relatie tussen verzet door het slachtoffer en

slachtofferletsel, en publicaties over de gelegenheidstheorie. Als methode van empirische dataverzameling is binnen dit onderzoek gebruik gemaakt van een dossieronderzoek. Deze data is afkomstig uit een dossieronderzoek dat is uitgevoerd bij het politiekorps Amsterdam-Amstelland, waar 700 opsporingsonderzoeken zijn onderzocht. Op basis van de literatuur zijn hypotheses opgesteld om te kunnen toetsen welke factoren bepalend zijn voor wapengebruik en slachtofferletsel gedurende wapengerelateerde geweldsdelicten. Uit de univariate analyse van het dossieronderzoek is een stereotypering vast te stellen: "Een groep eerder veroordeelde mannen, begin 20, van allochtone afkomst, en niet onder invloed van drugs en/of alcohol beroven op straat één man, ouder dan 30 jaar van allochtone afkomst en tevens niet onder invloed van drugs en/of alcohol. Tussen dader en slachtoffer heeft geen eerder geweld plaatsgevonden wat logischerwijs met zich meebrengt dat ze elkaar niet kennen. Tijdens deze straatroof wordt meestal één wapen gebruikt, een steekwapen of een vuurwapen. Dit wapengebruik is weloverwogen en dient ter bedreiging van het slachtoffer. Het slachtoffer verzet zich gedurende het gewapende geweldsdelict niet en slachtofferletsel blijft grotendeels uit." Deze eigenschappen hebben echter niet allemaal een (even grote) verklaringswaarde voor wapengebruik en slachtofferletsel. Vervolgens is het veiligheidsbeleid uiteengezet, zowel landelijk als lokaal. Dit omdat het landelijke beleid in grote mate doorwerkt in het lokale beleid. Ondanks de gepretendeerde aandacht die binnen het veiligheidsbeleid wordt gegeven aan wapengerelateerd geweld, valt het op dat de begrippen 'wapen' en letsel zeer beperkt zijn terug te vinden. Binnen de beleidsmaatregelen uit het veiligheidsbeleid die zich hierop focussen is het vervolgens zeer summier omschreven op welke policy target wordt gefocust. En voor zover dit bekend is, is nauwelijks bekend hoe men bij deze groepen terecht is gekomen. Deze bevindingen hebben tot hypotheses geleid omtrent de aannames binnen het veiligheidsbeleid. Uit de toetsing hiervan is te concluderen dat de beleidsveronderstellingen in de praktijk niet opgaan, terwijl daarnaast is gebleken dat het veiligheidsbeleid zeer beperkt is toegesneden op de factoren waar in deze scriptie van is gebleken dat ze leiden tot een vergrote kans op wapengebruik en slachtofferletsel. De belangrijkste beleidsmaatregel binnen het veiligheidsbeleid wordt aangewezen op basis van frequentie. Hier wordt dus enkel naar de omvang van wapengerelateerd geweld gekeken, niet naar de aard ervan. Gebleken is dat eigenschappen die frequent voor komen niets hoeven te zeggen over hoe wapengebruik en

letsel te verklaren zijn. Daarnaast is door het aselecte karakter van deze maatregel de efficiëntie in het geding. In deze scriptie zijn eigenschappen van wapengerelateerd geweld getoetst op de mate waarin het voorspellers blijken te zijn voor een vergrote kans op vuurwapengebruik. Waardoor het aanbevelenswaardig is om de mogelijkheden te onderzoeken in hoeverre op enkele van deze eigenschappen zou kunnen worden geselecteerd zonder dat sprake is van het schenden van grondwettelijke verboden. Verder is gebleken dat adviezen over hoe te handelen als slachtoffer gedurende het plaatsvinden van wapengerelateerd geweld incorrect zijn. Het is dan ook aan te bevelen deze adviezen aan te passen. Wat betreft vervolgonderzoek moet worden toegevoegd dat al het voornoemde geldt voor de situatie in de politieregio Amsterdam-Amstelland. Er wordt namelijk enkel gebruik gemaakt van data afkomstig uit deze politieregio. Doordat deze regio moeilijk te vergelijken is met andere regio's, is het aan te bevelen om ook in andere politieregio's soortgelijk onderzoek uit te voeren. Om zo te controleren of bevindingen uit deze scriptie ook gelden voor andere politieregio's. Daarnaast dient verder onderzoek naar factoren die leiden tot wapengebruik en letsel bij wapengerelateerde geweldsmisdrijven ook een wetenschappelijk belang. De bestaande schaarste van empirische toetsingen van verklaringen voor wapengebruik en slachtofferletsel is met dit onderzoek weliswaar iets is afgenomen, maar dat doet geen afbreuk aan de wenselijkheid omtrent verder onderzoek.

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Preface

Writing this preface is more or less my last act as a student. The contrast with writing my very first assignment as a freshman in Leiden is almost impossible to describe. The degree of personal growth that I have gone through during my student days is also indescribable. It's hard to believe that my student days are over now, though at the same time I recognize that it is about time.

During one of my final lectures by Marsha de Vries, it was asked if anyone was interested in a case study at the Amsterdam-Amstelland police. Being a student who was still searching for an adequate set of data to substantiate the master thesis I was interested immediately. The start at the Kabelweg in Amsterdam can be classified as slightly problematic, due to an accumulation of ICT-related problems. Nevertheless, I will not forget my time in Amsterdam, and especially the days as a resident of the Jordan district. I really enjoyed our nation's capital. The long days in the library also had its charm, but it is just not comparable. I proudly present the concluding piece of my study. However, to be honest, I have to say that without the help, support and inspiration from a number of people I never would have been able to reach this point. In this preface I would like to thank these people.

I would like to thank Jan van Zijtveld, Désirée Verhoeven and Raf Ariëns from the police Amsterdam-Amstelland for the time and effort they have spent on me in Amsterdam. Also thanks to the boys of the PvdUT, in particular David. I will never forget the SPSS conversations.

My supervisors should not be missing in this preface. I want to thank Marsha de Vries for her positive but critical and especially constructive comments. My own contributions were always treated with positivity, which was certainly appreciated. After our appointments, I was always much more motivated than before I walked into your office. I would also like to thank Guus Meershoek for his input; his critical remarks led to new insights and approaches which certainly made positive contributions to my thesis.

I do not have enough space to thank all my friends, but the following persons certainly deserve to be mentioned. First my brother from another mother, Tijn, for repeatedly showing interest and acting as an excellent sparring partner. Raymond, Maarten, Dennis, Roel and Dirk also deserve my gratitude; they are the ones that have sat through most of my complaints.

I will conclude with my family. First my grandfather, who, of all, perhaps has motivated me the most. The last words that he addressed to me, while lying on his death-bed, were: Make sure that you graduate, always keep studying. I only had to think of that and I immediately knew that I would not disappoint him. Of course, I cannot forget Johanne. Thanks for the help regarding the parts within this thesis that require a creative background. Without your efforts, certain diagrams would have looked rather childish. I would like to thank Stefan too, for all his remarks about me doing nothing all day. That really motivated me. And last but most definitely not least, my parents. Without their unconditional trust, ongoing support and patience I would have not come to where I am now. Graduated! Mom and Dad, thanks, this is also yours!

Enschede, January 21, 2013

Robert ten Breul

Chapter I - Introduction

1.1 Background

"Together with his accomplices the suspect committed an armed robbery of a jewelry store. Unlike the suspect, the victim did not know that the weapon they have used during the robbery was not real. They used a fake weapon, but unlike the suspects, the victim did not know that. She experienced the robbery in great fear, and thought that she would not survive it. The victim resisted heavily during the robbery. Through the struggle and the hits by one of the suspects, including with the gun, the victim was rather injured. The violence and the threat of the firearm were very frightening for the victim. Until this day she has trouble processing this robbery and is experiencing difficulty with resuming her hitherto normal life."[1]

The quote above is part of a court ruling on an armed robbery of a jewelry store. The impact on the victims of this armed robbery is immense. She has incurred injuries and the aftermath is also still noticeable. Libby (2009) identifies three different types of costs of injuries resulting from the use of weapons. Besides the substantial economic costs, which are primarily expressed in the costs of medical treatment, there are societal and individual costs. A major societal cost is the fear of victimization, which could hinder a victim to participate in society. The individual costs could include the psychological symptoms as a result of injury to the victim, friends and family of him or her, and bystanders.

> *"Due to all of the above costs, it is worthwhile to engage in research to understand violence and thereby prevent it."* (Libby, 2009:10)

A look at the available literature on the subject leads me to the conclusion that little has been written about this. Research on this phenomenon can be described as sparse (Van Wilsem & Stobbe, 2006). That makes me question as to what factors weapon use and victim injury are caused. Are there certain aspects that are crucial in terms of the risk of victim injury and weapon use? This may include the following aspects: committing resistance, offender-, victim-, and situational characteristics, as committing a crime in a group form, the age of the victim and the environment in which the crime was committed. I am primarily interested in violent crimes in which weapons are involved. This is because of the

[1] Rechtbank Amsterdam (Court of Amsterdam), May 9, 2012, LJN BW5361

prominent role that a weapon has during a violent crime and the influence of weapon use on the course and consequences of a violence crime (Boutellier et al, 2008).

My interest is not limited to statements on weapon-related violence and victim injuries. How to find a solution to the problem of weapon-related violence has also piqued my interest. I will focus on the government, the concern for public order and safety is ultimately one of the government's most distinctive tasks. From my public administration background, and given the aforementioned scarcity of research on the issues of weapon violence and victim injury, the question arises of how one comes to the assumptions on which the safety policy is based. If policy evaluations are then considered which show that several preventive measures aimed at the prevention of injury from violence have seemingly no demonstrable effect and/or did not achieve the desired results (Van Noijen & Wittebrood, 2008), then my interest in how to properly address this problem will only increase. One may then begin to wonder if the right explanatory factors of weapon-related violence and victim injury were anticipated.

1.2 Research aim

The research aim is threefold. First, I want to make clear what the characteristics of weapon-related violence are. To achieve this I have chosen the police region Amsterdam-Amstelland, a region that is selected for practical reasons. I want to create a general characterization of what weapon-related violence in Amsterdam-Amstelland looks like. Then I want to test which of these characteristics are an explanatory factor of weapon use and victim injury. If the attention is restricted to how often a factor occurs in weapon-related violence, it is not possible to say whether this factor is also explanatory and to which extent this factor is explanatory for weapon-related violence and victim injury. The first aim is to increase knowledge about the factors that explain weapon-related violence and victim injury.

If certain factors offer an explanation for weapon-related violence and injury, it does not mean that these factors are actually addressed within the local safety policy. The second goal is to investigate to what extent the local safety policy is attuned to the explanatory factors of weapon-related violence and victim injury. In order to achieve this, it should

initially be made clear how the local safety policy looks, for instance which are the factors that are addressed within the safety policy. When this is completed, it is possible to verify for each explanatory factor whether this factor also is addressed within the safety policy. For example, if the empirical data shows that factor X is an explanatory factor for gun-related violence, it can be examined to which extent the local safety policy is attuned to this factor. Ultimately, based on these findings, it is possible to make recommendations on which factors should be addressed within the local safety policy. Through this method, the third objective of this thesis is to be accomplished: improving local security in order to contribute to the reduction of weapon-related violence and victim injury caused by weapon-related violence.

In short, the research objective can be summarized as follows: Examine which factors offer an explanation for arms-related violence and injuries and assessing the extent to which the local safety policy are attuned to these factors. And to assess the extent to which the assumptions within the safety policy correspond to the empirical findings. So, ultimately, based on these findings, recommendations are made to improve the local safety policy.

1.3 Central question and research questions

1.3.1 Central question

To reach the aforementioned goals, the following central question, which includes all aspects within this thesis, must to be answered:

Which factors lead to weapon use a victim injury during weapon-related violence in Amsterdam-Amstelland, and to what extent is the local safety policy attuned to these factors?

Answering this question leads directly to achieving the first two objectives, namely to research which factors explain weapon-related violence and victim injury, and to test to what extent the local safety policy is attuned to these factors. Ultimately, this will lead to recommendation, so by answering this question, the third aim of this thesis is indirectly realized.

1.3.2 Research questions

In order to answer the central question, this question will be split in four parts, which will be answered in separate steps. For a number of sub-questions, additional empirical research is needed. The design of these research questions is twofold. On the one hand, it consists of a descriptive part stating what the characteristics are of violence in practice, and how the problem of weapon-related violence is dealt with in practice. On the other hand, there is an explanatory section where an explanation is sought for gun-related violence and whether this is addressed in the right way. The preceding shows that in addition to a division into description and explanation, there also seems to be a division between characteristics of weapon-related violence and the policy attuned to this type of crime. In order to answer the central question, the following research questions were made up:

I. What are the characteristics of weapon-related crime in Amsterdam-Amstelland?

Through answering this descriptive research question, the central concept of this study, weapon related violence, will be made understandable. With the help of these findings, a detailed overview will be created of the characteristics of weapon-related violence, on the basis of which a delineation is made that will be the foundation of this study.

II. What factors explain firearm use and victim injury in Amsterdam-Amstelland?

Weapon-related violence and victim injury are not isolated and the factors that affect these phenomena should be mapped. Clarifying “what” the composition of gun-related violence and injuries in Amsterdam-Amstelland looks like, says nothing about "how" weapon-related violence and victim injury are caused. Focusing policy on factors that occur often is not wise, since no account is taken for the explanatory value of this factor. Therefore it first needs be examined to what extent a characteristic of weapon-related violence and victim injury also has an explanatory value. From the theoretical framework, the routine activity theory, hypotheses are formed in order to assess which factors may provide explanations for weapon-related violence and victim injury.

III. What are the characteristics of the local safety policy regarding weapon-related violence in Amsterdam-Amstelland?

The local safety policy refers to the policies aimed at reducing weapon-related violence and victim injury. To find out how the local safety policy is attuned to the factors that lead to victim injury and weapon use, logically it should first be clear what the characteristics are of the local safety policy. The characteristics that will be further examined are the policy targets that are aimed at within the local safety policy, and the assumptions that precede the choices for these policy targets.

IV. To what extent are the assumptions of the local safety policy, in terms of weapon-related violence in Amsterdam-Amstelland, correct?

As soon as the policy targets within the safety policy are described, it is possible to examine to what extent this corresponds to the empirical data. In answering this question it is tried to make clear whether the policy targets, which are aimed at within the safety policy, are the right ones. With the help of empirical evidence it is checked whether the explanatory factors are also addressed as policy targets within the safety policy. In addition, it is examined whether the policy targets are also explanatory factors in the empirical evidence. This dual approach will make sure that there none of the aspects will be overlooked and recommendations will be as complete as possible.

1.4 Societal and scientific relevance

Research into factors that lead to the weapon use and victim injury during weapon-related crime and how these findings can be of value to the safety policy, is relevant for several reasons. First of all, research on weapon-related violence serves a public interest, because in this manner insight can be gained into how the use of weapons and injuries is established. Research shows that weapon use significantly increases the risk of violence (Ministerie van Justitie, 2005). In addition, possession of arms is the risk factor which shows the most coherence with multiple forms problematic behavior in Amsterdam (Boutellier et al, 2008). This means that insight into the factors that contribute to the development of this weapon use is of great importance for safety policy. Furthermore, knowledge about the factors that

influence injury during weapons-related violence is important as from this it is possible to derive which policy measures and -instruments are most effective. When particularly offender characteristics appear to determine the chance of injury, then a focus within the safety policy on problem youth or reducing alcohol abuse would be an obvious policy choice. If especially situational characteristics are of important influence, then policy recommendations include increasing supervision in environments where crime occurs frequently.

Research on weapon-related violence is also relevant from a scientific viewpoint. Investing in preventive measures also means investing in the scientific substantiation of the effects of the measures (Van Noijen & Wittebrood, 2008). Tark & Kleck (2004:862) argue that within criminology there exists little formal theory with the aim of providing an explanation for the effects crime on the victims of crime. According to Van Wilsem en Stobbe (2006) there is relatively little known on how violent crimes are committed in the Netherlands, especially in comparison with other research traditions. One of the few studies conducted in the Netherlands was written by the same authors. It concerns research into the conditions that are associated with the use of weapons during violent incidents. Attention is given to the relation between the presence of weapons and the injuries of the victim. Van Wilsem & Stobbe (2006:35) state that abroad there is more known about the extent of firearm-use and the number of victims of violence that are injured. Nevertheless, empirical tests of explanations for weapon use remain scarce. There is also little understanding of the impact these weapons have on the likelihood that the victim will be injured, except some American research. However, according to Van Wilsem & Stobbe (2006:35), the findings from these studies cannot simply be generalized to the Dutch situation, given the greater availability of firearms in the United States. It is therefore important to gain more insight into how offenders in the Netherlands behave during violent crimes. This void of scarce empirical tests, of explanations for weapon use and the impact these weapons have on the likelihood that the victim is injured, is attempted to be slightly supplemented by this thesis. Special attention will be given to the role of resistance. This research concerns the police region Amsterdam-Amstelland.

1.5 Definitions of concepts

Central concepts of this study are ‘weapon-related violence’, ‘weapon use', 'resistance' and 'victim injury'. For readability of this thesis, this section will briefly clarify what is meant when these concepts are used in this research.

Weapon-based violence: First, violence needs to be defined. The definition that is used in this study is: "... the intentional use of physical force or power, through threat or actual use, against oneself, another person, or against a group or community, that will (most likely) result in injury, death, psychological harm, underdevelopment or neglect." (De Vries, 2009:9). This research focuses on violence involving weapons use.

Weapon use: The use of a weapon or threaten to do this.

Resistance: De Vries (2009) distinguishes between fight, flight, freeze and faint as possible responses to imminent damage. If someone is aware of the reality of that time, a choice can be made between fight and flight. If this is not an option, the only alternative seems to be a figuratively escape. This occurs by physically stiffening or fainting. From the preceding subdivision is the categorization derived which is used within this thesis: resistance, fleeing and cooperate (a combination of freeze and faint, as faint occurs only once). Under resistance is understood both physical resistance (e.g. fighting) as verbal resistance (e.g. swearing) (Frenken, 1994).

Injury: Injury is roughly divided in injuries due to accidents (traffic, work, sports and private) and intentional injuries (violence and suicidal behavior) (Lanting & Hoeymans, 2008). This research concerns the intentional injuries. Injury resulting from violence is understood as all physical injuries inflicted by others with the intent to injure or kill.[2]

[2] http://www.nationaalkompas.nl/gezondheid-en-ziekte/ziekten-en-aandoeningen/letsels-en-vergiftigingen/geweld/beschrijving/

1.6 Structure of the research

Answering the research questions will be achieved due the following structure. Different research methods are used to accomplish this. The research to be conducted will partly consist of a literature review and partly of an empirical study (case study) with subsequent data analysis. The explanation of these different methods can be found in Chapter 2.

The review of the literature is discussed in Chapter 3. This literature review will lead to the theoretical framework, the foundation on which this thesis is based. Within the theoretical framework, the routine activity theory will take a prominent place. Within the theoretical framework the hypotheses which are to be tested will be composed. Based on the findings of this chapter the checklist is developed. With use of this checklist the empirical data will be collected during the case study on the investigation files. The collected empirical data is used to test the hypotheses.

The answer of *research question I* is established in Chapter 4 through an analysis of the empirical data that comes from the case study. The analysis of the data is based on an overview of the variables, with attention paid to following aspects: the mean, standard deviation, sum, minimum and maximum.

The answering of *research question II* will take place in Chapter 5, by means of the coupling of the results from Chapter 4 with the theoretical insights of Chapter 3. Here the hypotheses are tested on the basis of empirical data from the case study. This will make clear what the explanatory factors of weapon use and victim injury are.

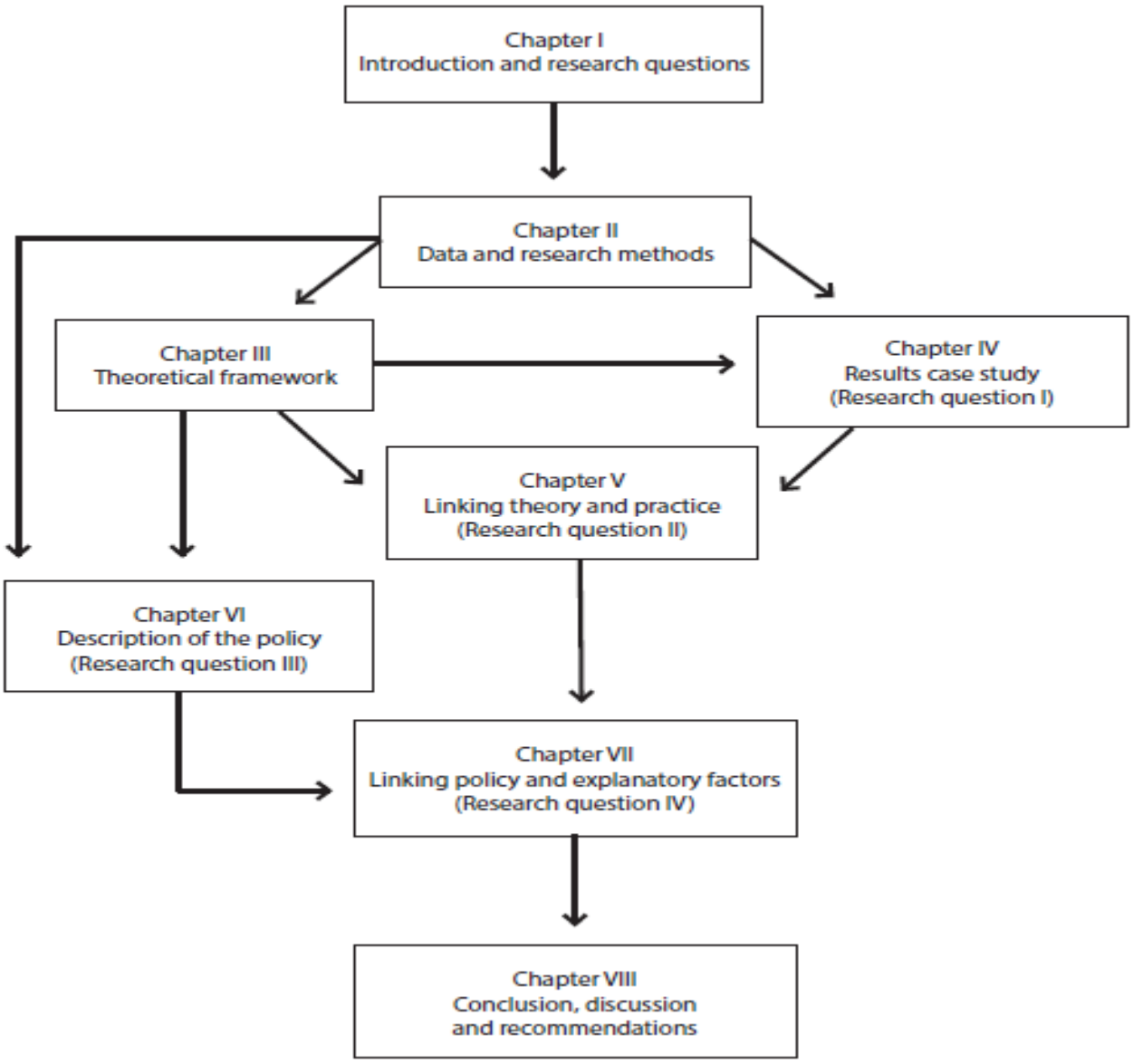
In order to answer *research question III*, a number of safety policy documents will be described in Chapter 6. These documents describe the national safety policy and the local safety policy of Amsterdam Amstelland. The main publications that are studied in this chapter will all have a focus on reducing weapon-related violence.

Chapter 7 will conclude with the answering of *research question IV*. This is done by linking the explanatory factors from Chapter 5 to the policy targets within the local safety policy which emerged in Chapter 6. The answer is formed after finding out whether the explanatory factors which have emerged from the empirical evidence are also acting as

policy targets within the safety policy. In addition, the policy targets from the safety policies also examined to what extent these targets can be regarded as explanatory factors derived from the empirical data.

Chapter 8 will consist of the conclusions, the discussion and the recommendations to improve the local safety policy.

Figure 1: Schematic representation of the research structure



Chapter II – Data and methods

2.1 Introduction

This chapter discusses the data and the necessary research methods to collect and analyze this data. I will first discuss the methodology which will be used to answer the research questions. Next the establishment and completion of the case study is discussed. The collected data is then discussed, and particularly the composition and the pros and cons of these data. Hereafter, the independent variables and the dependent variables are will be explained. This chapter will conclude with the presentation of the statistical analysis techniques that will be used.

2.2 Research method

This thesis will research the explanatory factors of victim injury and weapon use during weapon-related violence and to what extent the local safety policy is attuned to these factors. In first instance this is done by linking theory and empirical evidence. The results of this will then be linked to the local safety policy. Theory will emerge from the literature review; empirical evidence will emerge from the case study conducted on the investigation files.

2.2.1 Literature review

The literature study will result in a theoretical framework and the hypotheses. The main publications that form the basis are publications that regard the relation between weapon use and victim injury, publications about the relation between resistance by the victim and victim injury, and publications about the routine activity theory. The publication in which this theory was first published is mainly used for the explanation of the routine activity theory (Cohen & Felson, 1979). Studies that have used this theory as the basis are also used. For the formation of the theoretical framework, publications were included that explain aspects of weapon-related violence, i.e. ‘weapon use', 'resistance' and ‘injury’. Based on the literature review, a number of hypotheses are composed. These hypotheses form the basis for answering the second research question. The answer to this research question is accomplished by testing the aforementioned hypotheses. The hypotheses are tested with

statistical analyzes in SPSS, using the quantitative empirical data derived from the case study.

2.2.2 Empirical data

The answer to the first research question consists of a description of the empirical data. These data is derived from a case study which is conducted at the Amsterdam-Amstelland Police. The checklist that is used for this purpose can be found in appendix I. This research is part of a larger study; the checklist that is composed in the context of this larger research has been taken over in its entirety. Based on the aforementioned literature, this check list is extended with certain aspects in the interest of my own research. The case study will be discussed later in this chapter.

2.2.3 Policy

The national government is explicitly anticipating on the reduction of crime and disorder. Much of the current policy stems from the safety program 'Naar een veiliger samenleving' (Towards a safer society). An example is the 'Actieplan tegen geweld' (Action plan against violence) which created the foundations for approaching violence in the public and semi-public domain. However, this concerns violence in general. Regarding weapon-related violence, reducing gun ownership always has been a point of attention for successive governments in the Netherlands. The most salient policy measures are the 'Project illegal wapenbezit' (Project illegal weapon possession) part of the Action plan against violence; the total ban on stilettos, switchblades and balisongs; and (the extension of) frisking. This thesis will make use of the 'Regionaal Veiligheidsplan Amsterdam-Amstelland 2007-2010/11' (Regional Security Plan Amsterdam-Amstelland 2007-2010/11), for the description of the local safety policy focused on armed violence. This policy document is of great importance in the field of regional safety policy. The policy measures that target weapons at the local level show much overlap with national policies. These most salient policy measures are weapon inspections at educational institutions and at hotels, restaurants and pubs/bars: a local knife prohibition; and frisking. The focus of this thesis is not only on the use of weapons, but also on advice by the government regarding victim injury prevention. The aforementioned policy is addressing this indirectly. These advices

are intended for citizens on how to act if violence can no longer be prevented and the victim has already become part of it. The main advices that can be found on the websites of the police are explained. All the above will be discussed in Chapter 6. Once this is executed it will be possible to answer research question 3 completely. This will indirectly contribute to answering research question 4.

2.3 Case study

The method of data collection within this study will be a case study (empirical study of completed investigation files). This case study will be conducted at the Amsterdam-Amstelland Police. The data, which will include 700 investigation files, is provided by the same police force. These are selected by a random sample over the period September 2006 to December 2010 and sent to me in the form of a list with 700 investigation file numbers. This random sample was drawn from pre-selected offense types. The condition for selection is that the violence was committed with a weapon. Some examples of these types of offenses are: threat, street robbery, robbery at home manslaughter/murder, simple assault and shoplifting with violence. The complete list can be found in appendix I (see the aforementioned check list). In short, this concerns investigation files of offenses where a weapon is part of the modus operandi. These investigation files can be consulted in the information system 'Basisvoorziening Handhaving' (Basic Provision Enforcement). This information system can be used after attending a short course, which is required to obtain authorization to access the information system. There is a very low degree of dependence towards the information provider. This means that there is little influence on what data can and cannot be collected and used (only shielded investigations with restrictions are not accessible) and there is no influence on any eventual conclusion. Besides the previously mentioned non-accessible investigation files, there are also incomplete investigations that will not be included in this research. Among these incomplete investigation files are all the investigation files from 2006, because it is impossible to consult investigations older than 5 years. Because the case study took place from September 2011 to December 2011, and additional variables were collected during this period, all the investigations files of 2006 are not included. The original range of the investigation files, September 2006 to December 2010, gradually changed in January 2007 to December 2010. During the analysis of the

investigation files, the data was entered directly into SPSS. Processing the information derived from the investigations was very time-consuming because only a portion of the sometimes very long texts was relevant. Due this, analyzing a file ranged from fifteen minutes to an hour. Ultimately, the collected data resulted in a dataset, by means of which a descriptive analysis is possible on to what extent there is a correlation between weapon use, resistance by the victim and the victim injury.

2.3.1 Sample

Of the original 700 investigation files, 463 investigations remained. 89 investigation files from 2006 and 148 investigation files from 2007 to 2010 were not included due to incompleteness. With the total number of 463 investigation files the required sample size of 385 investigation files is more than met. Because the total population from which the 700 investigations were obtained is unknown, an infinite population is assumed. The use of these secondary data has some disadvantages. I would like to highlight two of these disadvantages. The first relates to the use of investigation files with respect to the hypotheses. Because these data were not originally intended for scientific research, data can be less suitable or reliable. Data from investigation files are not sufficient to cover all aspects of the theories that are used. Routine activity structures and subcultures are determined by direct factors on which, on the basis of investigations, no information can be inferred (Van Wilsem & Stobbe, 2006). Thus it is only possible to address aspects of the theories that are measurable with the data that is used.

The second disadvantage of the use of police investigation files is one that is discussed by several authors (Cook, 1986; Kleck & Delone, 1993; Tark & Kleck, 2004). Investigation files are dependent on the willingness of victims to report violence. When an incident occurs and no report is filed, the possibility exists that this can lead to an incomplete representation of reality. This refers to the distorted image that is caused by the use of this data regarding the outcome of resistance by victims. Compared to other sources, the percentage of victims that indicated they resisted during a robbery is at a much lower level in the police investigation files (Cook, 1986).

Especially in cases where successful resistance was committed victims do not report the crime. This results in that resistance by victims in practice is being many times more effective in preventing victim injury, than shown in the police reports (Tark & Kleck, 2004). This also has the effect that the dangers of committing resistance are being overestimated. According to Kleck and Delone (1993) the reason for this discrepancy is easily explained: if resistance is successful, which means that the victim is not injured and has not suffered any damage to their property, the crime attempt will not be reported, simply because the victim feels that there is little to report.

> *"Consequently, samples of crimes which come to the attention of the police are systematically biased for judging the efficacy or frequency of victim resistance."* (Kleck & Delone, 1993:158)

In addition, this study will make use of estimates by victims, especially in the cases where no suspect is arrested (in 71.1% of the 461 cases the suspect unknown). This also implies risks. Assessments of offender characteristics by the victim may be incorrect, because this assessment has taken place in a stressful situation where the victim was under threat of a weapon. There are two ways of dealing with this problem. The first is not using the investigation files at all. According to Van Wilsem and Stobbe (2006) much data will be lost, if the investigation files are not used at all. Certain offenses cannot be included in the data analysis to a large extent. In particular, the most common type of violence, street robbery: as for this offense offender and victim are often not acquainted with each other. The opposite possibility is, of course, the use of these data. To ensure that the use of estimates does not lead to a distortion of the results, the finding based on estimates are compared with official police report data. The relation of age and ethnicity were compared with the dependent variables of three of the most common offenses (representing 66.2% of the total population). Significant differences were not found.

2.4 Variables

The following summarizes the independent and dependent variables and the categorization of these variables. The substantiation of the choice for these variables will be explained in

the next chapter. The offender-, victim-, and situational characteristics are in all cases the independent variables.

2.4.1 Independent variables

First, I will discuss the offender characteristics that are addressed in the case study. Based on the literature the following variables will be included: presence of at least one male offender, age of the oldest offender, the ethnicity of the offender(s), alcohol and/or drug use by offender(s), and committing the offense with a group. To determine the role of the gender of the offender(s), a variable is created that indicates the extent to which there was at least one male offender present: at least one male offender (1) or no male offender is present (0). In case of multiple offenders, the age of the oldest offender whose age was known will be used. Otherwise it will be difficult to make use of the information on the age of the offenders. According to Van Wilsem & Stobbe (2006) it is better to take account of the age of the oldest offender, because if the offenders operate in a group, the oldest offender is most likely to be the most influential with regard to the method of violence. This variable is categorized and divided into seven different age groups.[3] With regard to the use of crosstabs and chi-square tests (see 2.4); these data are categorized in order to achieve a more useful variable. In cases where no suspect has been arrested, a similar determination of the age of the offender will be achieved. It that case, however, it will be achieved on the basis of an estimate by the victim.

Regarding the ethnicity of the offender, a distinction is made whether at least one of the suspects is of non-western origin (1) or that none of the suspects is of non-western origin (0). If the suspect is arrested, this was done on the basis of the nationality, country of birth and country of birth of the parents that were mentioned in the police file. In cases where no suspect is arrested, ethnicity will be based on the description given by the victim, which will be on the basis of external characteristics in the report file. Furthermore, it will be determined whether at least one of the suspect(s) were under influence of drugs and/or alcohol (1) or that none of the suspects were under influence of drug and/or alcohol (0). It

[3] These are: < 18 year (1), 18-19 year (2), 20-24 year (3), 25-29 year (4), 30-34 year (5), 35-39 year (6), > 39 year (7)

is also assessed whether the weapon-related violence is committed in a group form (1) or that it is just a single offender (0). Both victim and offender records of offenders are not included. This factor cannot be estimated by victims in cases where no suspect has been arrested.

As regards to the victim characteristics, a non-standard method was used. This is not addressed to individual characteristics of victims, but these are plotted against the offender characteristics.[4] This results in a score which is called the power asymmetry. This ranges from strongly positive (+++) to strongly negative (---), so there are seven possible outcomes.[5] Three factors do change the power asymmetry score: gender (male), age (20-44 years) and the number of persons (group). If a factor is present on the offender side, this contributes to a positive power asymmetry. If a factor is present on the victim side, this contributes to a negative power asymmetry. A strongly positive power asymmetry indicates a powerful offender against a weak victim, a strongly negatively power asymmetry reflects a strong victim opposed by a weak offender.

The last group of variables that should explain weapon use is the situational characteristics. In the theoretical framework, the following three situational characteristics emerged: the relation between the offender and the victim, the intervention possibilities for third parties, and earlier violence between the offender and the victim. The collected data is also divided. First, whether from the investigation showed that the offender and victim were strangers to each other (1) or had already previously encountered each other (0). Second, it was examined whether the offense was committed in a secluded place. Intervention opportunities for others are present (0) or absent (1). Finally, it is examined whether there has occurred earlier violence between offender and victim (1), or that this has not occurred (0).

For the explanation of weapon use and victim injury the aforementioned variables are the independent variables. Next to these variables there are two groups of variables that are of

[4] Because the offender characteristics are both processed individually and in the power asymmetry scores the possibility of multicollinearity exists. This means that the independent variables in the model measure the same. This is checked using SPSS. It appears that multicollinearity does not exist.
[5] Strongly positive +++ (1), moderately positive ++ (2), weak positive + (3), weakly negative - (4), moderately negative -- (5), strongly negative --- (6), and neutral +/- (7).

added value for the explanation of victim injury. This is weapon characteristics and action characteristics. The first group represents the type of weapon that is used by the offender and is divided into the following categories: firearms (1), blade weapons (2), and blunt instruments/other weapons (3).[6] As for the second group, it is evaluated how the victim acted during the weapon-related crime. This variable was categorized as follows: fleeing (1), resisting (2), and cooperation (3).

2.4.2 Dependent variables

Because this study is conducted in several steps, some variables do not have a similar function in each step. First, considering weapon use, this will also be the dependent variable. In a next step, if the relation between aspects weapon use and victim injury is examined, it will act as an independent variable. However, there is a small difference. As a dependent variable the categorization, with respect to the independent variable, is brought back to the use of firearms (1) and the use of non-firearms. What remains is the variable victim injury. This is the only variable that can only be regarded as a dependent variable. The following subdivision will be used: victim injury (1), and no injury victim (0). All independent and dependent variables are shown in Table 1.

Table 1
Summary of the variables

Independent variable *Offender characteristics*	Definition
Presence of at least one male offender	0 = No 1 = Yes
Age of the oldest offender	1 = < 18 years 2 = 18-19 years 3= 20-24 years 4 = 25-29 years 5 = 30-34 years 6 = 35-39 years 7 = > 39 years
Presence of more than one offender	0 = No 1 = Yes

[6] The three most common other types of weapons: paving stones, tasers, and fire extinguishers.

Alcohol and/or drug use by at least one offender	0 = No 1 = Yes
Presence of at least one non-western offender	0 = No 1 = Yes
Victim characteristics plotted against offender characteristics	
Power asymmetry	1 = Strongly positive (+++) 2 = Moderate positive (++) 3 = Weak positive (+) 4 = Weak negative (-) 5 = Moderate negative (--) 6 = Strongly negative (---) 7 = Neutral (+/-)
Situational characteristics	
Relation between offender and victim	0 = Know each other 1 = Unknown to each other
Previous violence between offender and victim	0 = No 1 = Yes
Intervention possibilities for third parties	0 = Present 1 = Absent
Weapon characteristics	
Type of weapon	1 = Firearm 2 = Blade weapon 3 = Blunt instruments/Other
Action characteristics	
Defensive measures of the victim	1 = Fleeing 2 = Resistance 3 = Cooperation
Dependent variables *Weapon use*	
Dependent variable weapon use	0 = Use of non-firearm 1 = Firearm use
Victim injury	
Dependent variable victim injury	0 = No victim injury 1 = Victim injury

2.5 Statistical analysis

To answer the research questions, these questions need to be tested in the form of hypotheses. The testing of these hypotheses is performed with the application SPSS. With the aid of the results of the investigation files and by means of cross-tabs, a chi-square test

and Cramer's V test will be conducted in SPSS, in order to examine whether a statistically significant relation exists between the variables.

2.5.1 Chi-square test and Cramér's V test

Crosstabs are used to examine the association between variables. The variables are derived from the case study results. The chi-square test[7] (χ2-test) will determine whether a relation exists between two variables in a crosstab. This test is based on a comparison of the observed values in the table with what one might expect if the two distributions would be completely independent. In other words, the probability will be assessed if the data in the table occurred by chance. The expected value is determined by the software as an estimate of the number of responses while assuming that there is no relation between the variables. The actual value is the entered data from the case study. If these two numbers are close together, there is no association between the variables; the value of one variable is not affected by the other. If the numbers are widely apart then there is obviously a relation between the variables. The higher the value, the stronger the relation between the variables. To determine whether the observed value deviates significantly from the expected value, it is compared to the critical chi-squared value. This value is dependent on the desired reliability of the test (which is similar to the Z-value of the sample) and the number of degrees of freedom. A value less than 0.05 means that there is a significant relation between the variables. A value higher than 0.05 indicates that there is no significant relation, and so that the hypothesis should be rejected. The chi-square test indicates whether or not it is worth to further examine all row and column percentages.

Because the chi-square test is not a clear measure for the association between two variables, this test is e.g. strongly influenced by the size of the sample, a corrected test will be used, namely Cramér's V. The calculation of Cramér's V is based on chi-square. The latter gives an indication of the strength of the association between two variables, but is not an association measure because there is no upper limit. The strength of this association will be calculated by using Cramér's V-test in SPSS. A Cramer's V score of 0.10 can be considered as a good threshold value for suggesting the presence of a significant relation between the two

[7] For a further explanation of the chi-square test, see: http://www.acastat.com/Statbook/chisq2.htm

variables.[8] However, the results of the chi-square test and Cramér's V only indicate whether there is a connection, and how strong this connection is. These test cannot give further information on the direction of the connection. The test is limited to statements about whether the correlation between the two variables is based purely on chance, or that there is an actual relation between the two variables is present.

2.5.2 Logistic regression

Three dependent variables are identified in this study to identify: weapon use, victim resistance and victim injury. Given the dichotomous nature of these variables, it is a possibility to perform a logistic regression analysis. Logistic regression analysis is used to examine the impact of a variable on an event, after observing other important variables. In order to interpret the results of this analysis, both B and exp(B) are used. B is the regression coefficient, and it shows how much the logit changes while there is a single point change in the independent variable. Because this does not explain much, exp(B) is used, that indicates with what number the odds must be multiplied when the independent variable increases 1 point. The independent variables are encoded with the values 0 and 1. An odds ratio of 8,562 implies that if moved from one group to another, the independent variable is increasing with one, the odds of the occurrence of the dependent variable will increase with 8,562. When B is positive, exp(B) will be larger than 1. This means that the chance of belonging to the group of firearm users increases when the independent variable increases. When B is negative, exp(B) will be smaller than 1. This means that the chance of belonging to the group of firearm users decreases when the independent variable increases (Verhagen, 2007).

[8] The coefficient ranges from 0 to 1 (perfect association). The following guidelines can be used for interpreting Cramer's V correlations. These are only crude estimates for interpreting strengths of correlations. If Cramer's V = .01 to .05 (No or negligible relationship), .06 to .10 (weak relationship), .11 to .15 (Moderate relationship), .15 to .25 (Strong relationship), .25 or higher (Very strong relationship). Source: http://faculty.quinnipiac.edu/libarts/polsci/statistics.html

2.6 Research steps

Table 2 clearly displays the linking of the steps, parts, outcomes, tests, sub-questions and hypotheses.

Table 2: Research steps

Step	Part	Outcome	Test	Hypotheses	Sub-question
1	Literature review	Theoretical framework; hypotheses			
2	Data collection	Empirical data			
3	Data description	Summary weapon-related violence			I
4	Matching theory and data	Explanatory factors	Chi-square; Logistic regression	1-11	II
5	Description safety policy	Summary of the safety policy			III
6	Matching explanatory factors and policy	Degree of attuning of the safety policy	Chi-square	12 -15	IV

Chapter III: Theoretical framework

3.1 Introduction

Before considering the relation between weapon use and the risk of victim injury, it will be explained why this research is focused on the differences between weapons and not focused on the differences between weapon use and non-use of weapons. This has both a theoretical and a practical reason. Practically speaking, I can be very brief, I only had access to violent crimes during which a weapon was used. As a result, violent crimes in which no weapons were used are not taken into account. Therefore it is not possible to make a comparison. Theoretically, this should not a problem. Kleck and Delone (1993) argue that, with respect to policy reasons, the most relevant comparison is not between armed and unarmed violence. A better comparison would be between violence during which firearms were used and violence during which other types of weapons were used. Especially between those weapons which in all likelihood would have been used if firearms would not have been available, namely knives. Policies aimed at combating firearms are not intended to or capable of realizing a decrease in the number of knives, which means that these will remain available as alternative means of aggression (Kleck & Delone, 1993). A side note should be placed here. Aforementioned refers only to the American situation, and more specific only to robbery.

3.2 Weapon use

For the explanation of weapon use, the routine activity theory will be used. The routine activity theory is based on the rational choice theory. The rational choice attempts to explain the commission of a crime on the basis of costs and benefits of behavioral alternatives (Cornish & Clarke, 1986). The costs associated with crime include the probability of detection which is taken into account by the offender and the penalization of an certain offense. There are also benefits related to an offense, for example, any loot that is collected by a criminal. By means of a cost-benefit analysis it is assessed whether the estimated benefits exceed the estimated costs. If this is the case an offender will proceed in committing an offense. The routine activity theory, is a further development of the rational choice theory. The routine activity theory suggests that there are three conditions which

have to be met for an offense to take place: a motivated offender, an suitable target and the absence of a capable guardian. In places with more suitable targets, little control and low costs of committing a crime, offenders are more likely to commit their crimes. The assumption of the routine activity theory is that all offenders have a criminal motivation, and only those who possess this motivation will actually hunt for attractive targets (Bruinsma, 2000). According to Cohen & Felson (1979), the absence of any of these elements is sufficient for the occurrence of a crime. The meeting in time and space of suitable targets and absent capable guardians can lead to a large increase in crime. Whereas in the meantime there is no necessary change or increase in the structural terms that motivate individuals to proceed in committing a crime (Cohen & Felson, 1979).

> *"Each successfully completed violation minimally requires an offender with both criminal inclinations and the ability to carry out those inclinations, a person or object providing a suitable target for the offender, and absence of guardians capable of preventing violations."* (Cohen & Felson, 1979:590)

A potential offender is defined as someone who, for any reason, could commit a crime (Clarke & Felson, 1993). An important principle in the routine activity theory is that the chances of becoming a victim of crime vary between individuals, because they are exposed to varying degrees of motivated offenders. Individuals who have a lifestyle and daily routine activities that result in an increased exposure to (potential) offenders, are at increased risk of becoming victims of crime. Characteristics of these individuals such as age, gender and marital status, are believed to influence the risk of victimization, because certain groups behave differently, and his behavior influences the frequency of ending up in risky situations (Wittebrood, 2006). Some examples of possible offenders are: teenage boys, the unemployed and drug addicts. A suitable target of crime is any object that can possibly be taken or any person that can possibly be attacked by the offender (Clarke & Felson, 1993). Besides the presence of willing offenders, it is assumed that the risk of victimization increases as the attractiveness of victims or their property is greater. This attractiveness is determined by vulnerability, antagonism and satisfaction (Wittebrood, 2006). The suitable target does not always need to be a person. It does happen often that the target is an object. Examples are: unlocked houses, expensive cars and goods which are easily transportable.

Lack of a capable guardian can be understood as everything that makes it easier to victimize a suitable target (Groff, 2008). The routine activity theory states that the risk of victimization will increase as the protection of individuals and their property is less (Wittebrood, 2006). Examples are: people who walk the streets alone, a limited presence of the police, the lack of alarm systems, and the absence of security cameras. According to Siegel (2010:81) the strengths of the theory are: that it can explain the crime rates and trends, that it shows how the behavior of the victim may affect criminal opportunities, and that it suggests that the risk of victimization can be reduced by increasing guardianship and/or decreasing the vulnerability of the victim.

3.2.1 Offender characteristics and weapon use

In the literature, several aspects are recognized that influence the balancing by an offender on which he or she will base the decision to actually use a weapon. Weapon availability, offender vulnerability, and lifestyle are considered as influential in terms of weapon use. Not all of these properties will increase weapon use. The different aspects will be explained in the remainder of the paragraph, starting with availability.

> *"…weapon of choice decisions assuming equal accessibility, are influenced by a range of social and contextual factors."* (Brennan & Moore, 2009:218)

According to Van Wilsem & Stobbe (2006) the starting point of the opportunity theory is that the probability of weapon use will be higher as: the availability of weapons increases, the physical vulnerability of the offender increases, and the vulnerability of the target decreases. In addition, the probability of detection, which is largely influenced by situational characteristics, is of great importance.

According to the opportunity theory, a motivated offender is one of the characteristics that increase the risk of crime. Weapons according to Van Wilsem & Stobbe (2006) are seen as tools which cause a better realization of violence, which in turn will lead to an increased motivation. The decision whether or not to use a weapon has to be seen as the outcome of a balancing act of the costs and benefits of both behavioral options. This is influenced by both the availability and the physical vulnerability of the offender. Considering weapon

availability, it can be stated that certain social groups are over-represented in terms of weapon possession (Spapens and Bruinsma, 2004). Van Wilsem & Stobbe (2006) argue that gun ownership is seen as an important factor that determines the availability of weapons during a violent situation. These social groups are: persons under influence of alcohol and/or drugs, young men (<30 years), persons of immigrant origin, and persons who often spend time in groups. From the availability assumption it can be assumed that these social groups have an increased chance of weapon use during criminal events.

The second aspect that affects the choice of the offender on weapon use, is the physical vulnerability of the offender. If an offender has little physical strength, he or she is more likely to use a weapon. Based on this it can be stated that young male offenders have a lower chance of weapon use. The same applies to persons who often spend time in groups. The risk of physical dominance over the target is larger, which makes weapon use less necessary (Van Wilsem & Stobbe, 2006). Drug users are more likely to use weapons. With the aid of a weapon they are still able to effectively commit a crime, despite their physical condition. So the opposite is claimed here, namely that the probability of weapon use in Amsterdam-Amstelland is lower if it concerns a young male offender, or a group of offender.

The aforementioned approaches are contradictory. In terms of availability, an increased probability of weapon use by younger men is predicted, while from the perspective of vulnerability a lower probability is predicted. Therefore, in addition to the routine activity theory, other theories are consulted regarding explanations for weapon use. A theory that fits well with the routine activity theory is the subcultural theory. In contrast to the routine activity theory which focuses on the influence of offender-, victim-, and situational characteristics, the subcultural theory is focusing only on offender characteristics. According Bovenkerk (2004) the subcultural theory focuses on explaining delinquent behavior of groups that have a lifestyle that deviates strongly from conventional society. It is assumed that an alternative system of values and rules of conduct exists in the group. It is of great importance for group members to gain recognition and respect in their own circles. Within a group delinquency may be the only legitimate mean to gain this. Opinions on which delinquent behavior is or is not an acceptable part of the subculture are part of the norms and values that prevail in the subculture. Several social characteristics of the

offender may increase the risk that weapons become a means to support the social identity (Van Wilsem & Stobbe, 2006:38). The hypothesis from the subcultural theory can be regarded as corresponding to the assumptions from the availability perspective, however, on a different basis, namely only offender characteristics. Within the subcultural theory weapon use is also typically male and concentrated during the young adult years. Group pressure causes that members are resisting to be inferior to each other in terms of weapon use. Based on subcultural aspects, non-western groups have a greater chance of weapon use. This is caused by the disadvantaged socio-economical position , which these groups take possession of relatively often (Spapens & Bruinsma, 2004). The subcultural approach, which focuses only on offender characteristics, also assumes an increased risk of weapon use.

Ownership/dominance hypothesis I: Relation between gender and weapon use

H 1 - Men are more likely to use a firearm during weapon-related violence in Amsterdam-Amstelland

Ownership/dominance hypothesis II: Relation between age and weapon use

H 2 - Young people are more likely to use a firearm during weapon-related violence in Amsterdam-Amstelland

Ownership/dominance hypothesis III: Relation between age and weapon use

H 3 - Persons under influence of drugs and/or alcohol are more likely to use a firearm during weapon-related violence in Amsterdam-Amstelland

Ownership/dominance hypothesis IV: Relation between groups and weapon use

H 4 - Persons who act in groups are more likely to use a firearm during weapon-related violence in Amsterdam-Amstelland

Ownership/dominance hypothesis V: Relation between ethnicity and weapon use

H 5 - Persons of non-western origin are more likely to use a firearm during weapon-related violence in Amsterdam-Amstelland

3.2.2 Victim Characteristics and use of weapons

An attractive target is, as previously stated, a prerequisite to the occurrence of crime in the opportunity theory. The offender is making a rational tradeoff, in which costs should be kept as low as possible.

> *"Criminals tend to be somewhat selective in choosing a crime target and are most attracted to targets that appear to offer a high payoff with little effort or risk of legal consequences."* (Cook, 1986:2)

Victims that require little effort are preferred by offenders. According to Cook (1983) the amount of effort that is needed by an offender to achieve his objectives (the participation of the victim), is depending highly on the characteristics of the victim, especially the vulnerability of the victim. So, little effort can be seen as the same as a high degree of vulnerability of the victim. Cook (1986) argues that potential criminals are more likely to attack a relatively vulnerable victim. Given their physical vulnerability, Cook (1986) mentions women, the elderly, and victims that are unarmed, alone, small, weak or under the influence of alcohol as examples of attractive targets. According to Cook (1983), the importance of a weapon for a criminal offender while committing a crime is closely linked to the vulnerability of the victim. Against a vulnerable victim, the chance of successfully committing a crime is depending only to a minor extent on the type of weapon that is used. While a weapon may be essential to the offender when he is opposing a more invulnerable victim. Cook (1983) states that the value of a weapon during a crime affects the likelihood that a weapon is actually used during that crime.

Potential targets that are able and willing to defend themselves are less prone to become a victim than others. Unlike physical vulnerability of the offender, for the victim the chance of weapon use against him increases when his physical strength increases. The risk of resistance is larger, so the 'power asymmetry' decreases and the offender is forced to choose to use his weapon (Kleck & Delone, 1993). As components of vulnerability, Cook (1983) mentions physical size, physical strength and age. A high degree of physical size and physical strength, and an age between 20 and 44 years are important factors in determining the probability of weapon use. It can be concluded that in cases of a positive power

asymmetry (where a group of young male offenders is facing an older female victim state), there is a lower risk of weapons use than in a situation with a negative power asymmetry (when an old female offender faces a group of young male victims). In the latter situation, the offender is largely dependent on the weapon while committing a crime.

Power Asymmetry hypothesis: Power asymmetry and firearms

H 6 - The more negative the power asymmetry, the higher the lethality of the weapon used by the offender(s) in Amsterdam-Amstelland.

3.2.3 Situational characteristics and weapon use

According to Van Wilsem and Stobbe (2006) offenders have a bigger aversion to risks as the offense they commit becomes serious, such as the use of more dangerous weapons. This is because of the larger consequences for the offenders if they get caught. The penalty for armed robbery (Article 317 of the Criminal Code) is higher than the penalty for the using a pair of brass knuckles during a pub brawl (Article 302 of the Criminal Code).

According to Felson and Messner (1996), one of the consideration in the decision-making process of offenders is the increased risk that third parties will intervene. The risk of criminal prosecution by the authorities can reduce both the use of violence as the level of violence.

> *"… offenders will typically choose locations and situations in which capable guardians are absent."* (Felson & Messner, 1996:522)

This implies that the amount of weapon use decreases when the amount of social control increases. More social control means a higher risk of intervention by third parties, which will increase the probability of detection. The risk of more dangerous weapon use during the offense is greater if intervention opportunities for others are absent. Remote places are locations which meet this condition.

Besides intervention by third parties, social control also directly affects the increased probability of detection. It concerns the social control that is exercised by the victim himself. Here the question arises as to what extent the relation between offender and victim

determines the choice of an offender for a particular type of weapon. According to Libby (2009) it is shown that both female and male offenders will use more lethal weapons against unknown victims.

> *"…it is less common to find firearm involvement as the relation between victim and offender becomes closer."* (Libby, 2009:55)

If the offender and victim are acquaintances, the probability of detection will increase. With possible prosecution, and heavier punishment by the use of more lethal weapons, in mind, less dangerous weapons will be used against acquaintances. On the other hand it could be stated that if offender and victim are unknown to each other, more lethal weapons will be used by the offender, since the probability of detection is reduced by means of fatally wounding the victim. In their study, Felson & Messner (1996) state a similar hypothesis, namely that a closer relation between offender and victim will result in a larger number of deaths. However, based on their findings, they concluded that offenders are insufficiently motivated by the identifiability principle to kill the victim. Drawdy & Myers (2004) also conclude that their initially hypothesized positive correlation, between a closer offender-victim relation and the increased lethality of the weapon of choice, is not detectable.

Probability of detection hypothesis I: Relation between offender and victim and weapon use

H 7 - If the offender and the victim are strangers to each other, the risk of firearm use is larger than when the offender and the victim know each other

***Probability of detection hypothesis II*: Previous violence between offender and victim and weapon use**

H 8 - *If there is no previous violence between offender and victim, the risk of firearm use is larger than when there is no previous violence between offender and victim*

***Probability of detection hypothesis III*: Opportunities to intervene by others and weapon use**

H 9 - If intervention opportunities for other people are absent the chances of firearm use are larger than when these intervention opportunities for third parties are present

3.3 Relation between weapon use and victim injury

This theoretical framework will continue with the theoretical foundation of the relation between weapon use and victim injury. Besides weapon use and injury due to violent crimes, in the Netherlands there is little understanding of the impact that these weapons have on the probability of victim injury. As far as this is researched, it concerns American research. Findings from these studies are not easy to generalize to the Dutch situation, given the greater availability of firearms in the United States (Van Wilsem & Stobbe, 2006). However, this literature will serve as a guide line for the construction of the hypotheses.

The rational choice approach, which is the foundation of the routine activity theory, presumes a clear trade-off between costs and benefits with regard to the relation between weapon use and victim injury. Brennan & Moore (2009) argue that the "harm potential", which is associated with weapon use in violent situations, will increase both the costs and the benefits of violence. First, the physical effort of committing a crime decreases, the same as the chance of revenge by the victim and the risk of injury to the offender. In short, the 'harm potential' of a weapon increases the likelihood that the offender will not become a victim. Opposite of these benefits are the potential costs of weapon use, including the increase of legal punishment, a greater risk of retaliation by the victim in the longer term, and an increased risk of physical injury and its associated psychological consequences (Brennan & Moore, 2009). The relation between the 'harm potential' of a weapon and the risk of victim injury can be either positive or negative. It can be expected that a greater 'harm potential' of a weapon will increase the possibility of victim injury. If the gun had not been present, no use could have been made of the 'harm potential' of the weapon. In contrast, if the victim is aware of the ' harm potential ', the aforementioned psychological reactions could potentially lead to a cooperative attitude by the victim. When fearing an increased risk of possible injury, a victim might change his behavior. This means that a

higher 'harm potential' of a weapon, will lower the risk of victim injury. In other words, a negative relation. According to Kleck and Delone (1993), it is given these different findings, that it is hard to deduce a clear prediction about the direction of the effect of weapons on the likelihood of victim injury. Considering the literature on the relation between the use of weapons and victim injury, it can be concluded that the disagreement about this relation is also shown in from previous research.

3.3.1 Positive relation between weapon use and victim injury

First, the positive relation will be explained. Zimring (1968) researched whether of firearms are more lethal than other weapon types. He compared fatal and non-fatal firearm and blade weapon incidents and concluded that crimes with a firearm are 5 times deadlier than incidents with a blade weapon. Zimring's research concluded that the lethality of a confrontation between offender and victim is depending on the weapon that is used, where a firearm causes more injury than any other type of weapon. This is also called the 'instrumentality effect' (Carter, 2006). According to Altheimer (2008:11) this 'instrumentality effect' hypotheses has three assumptions. First, the use of a firearm during a robbery or assault increases the probability of (fatal) injury. Second, it provides offenders a chance to injure victim over a long distance. And third, it makes it easier for an offender to attack multiple victims in comparison to situations where other types of weapons are used. According to Libby (2009) weapons are an inherent causal mechanism that determines the extent to which a violent offense will result in the death of the victim. Since firearms are more lethal than other types of weapons, the involvement of firearms during a crime influence the outcome, and in particular the extent to which violent confrontations have a fatal outcome (Libby, 2009). Felson and Messner (1996) argue that certain types of weapons are causing serious injury more often than others. Firearms increase the risk of fatal injury by a factor of 40, while the use of a blade weapons is increasing the risk of fatal injury four times as compared to a similar crime in which no weapons are used. Research by Brennan et al (2006:397) shows that the use of a weapon is clearly associated with increased severity of the injury. Van Wilsem & Stobbe (2006) also conclude that there is a connection between victim injury and the presence of weapons. For both firearms as "other" weapons it resulted in a higher risk of injury in comparison with incidents where a

blade weapon or no weapons were present. In summary, the chance to incur victim injury is largely a matter of chance in that *the more dangerous the firearm, the greater the chance that an attack will result in injury*. The weapon instrumentality effect is especially relevant to firearms due its incomparable features (Russell 2000:22).

3.3.2 Negative relation between weapon use and victim injury

> *"Weapon possession would reduce the likelihood of attack and injury to the victim because the weapon would serve as a substitute for physical attack, rather than its vehicle."* (Kleck & Delone, 1993:57)

Unlike the previous section there are also results available that demonstrate a negative relation between the use of weapons and victim injury. Cheng (2009:9) concludes that injury is more common in robberies in which no firearm is involved, because victims of robberies in which a firearm is involved are less likely to resist the offender. Cook (1976) argues that robberies in which a firearm is involved have a smaller risk of victim injury than robberies involving a different kind of weapon. However, Cook gives a different explanation than Cheng. He argues that offenders with a gun, as opposed to offenders with a different weapon, do not have to physically attack the victim in order to intimidate them. Kleck and McElrath (1991) came to the conclusion that crimes committed with a firearm are less likely to result in an attack or injury than crimes committed without a weapon or with a non-firearm. However, they concluded that the risk of death or serious injury was more likely when an attack occurred during a crime involving a firearm. Results from research by Kleck and Delone (1993) also show that during a robbery it is less likely that armed offenders injure their victims than unarmed offenders do. In addition, they state that an increased lethality of a weapon results in a decreased chance of victim injury. Robbers who use a firearm are less likely to injure their victims than robbers that use a blade weapon, and these groups are in turn both less likely to injure their victims than robbers who use other types of weapons. They add that these findings might seem surprising to outsiders, but that these are standard findings for researchers that have studied empirical evidence on these issues.

Weapon instrumentality hypothesis: **Relation between weapon use and victim injury**

H 10 – The higher the harm potential of a weapon, the greater the chance of victim injury

3.4 Victim resistance

There are different findings with regard to the relation between victim resistance and victim injury. On the one hand it is suggested that resistance leads to a greater risk of injury, whereas in other studies it is concluded that the risk of victim injury can be reduced by resisting the offender. These differences can be explained by methodological shortcomings of the aforementioned studies. First I will discuss the importance of the sequence of victim resistance and victim injury and the possible methodological implications of a lack of knowledge about this sequence. Second I will discuss the results from previous research into the relation between victim resistance and victim injury.

3.4.1 The importance of understanding the sequence of victim resistance and victim injury

> *"where one does not have information on the sequence of resistance and injury, one cannot draw conclusions about whether resistance provoked injury, because a positive association may be primarily due to crimes in which injury provoked resistance from previously non resisting victims."* (Tark & Kleck, 2004:865)

Bachman et al (2002) argue that one of the main reasons for the ambiguous nature of these findings may be a fundamental methodological reason. According to Tark and Kleck (2004) the main reason for the seemingly contradictory findings is attributable to the inability of most researchers to determine the order of victim resistance and victim injury, whether there is victim resistance prior to victim injury, or victim resistance due to victim injury. The majority of all research into the effects of victim resistance on the risk of victim injury is unable to establish the chronological order of resistance-prior to-injury or injury-prior to-resistance (Bachman et al, 2002). Almost all research on the consequences of victim resistance on the risk of victim injury concerns resistance at any time during the offense. This includes both resistance that occurred before, during or subsequent to victim injury. The result of not being able to determine when this resistance has occurred, is that previous research often wrongly concludes that victim resistance leads to victim injury. According to

Bachman et al (2002) a significant amount of resistance may have occurred after and in response to injury caused by the offender. The observed correlation between resistance and injury could also be a reflection of the fact that victims resist after being injured, which is exactly the opposite, namely victim injury that leads to victim resistance. Kleck and Delone (1993) examined 10 studies on the effects of victim resistance on victim injury. Most of them reproduced that victim resistance was associated with a higher risk of victim injury. These findings were consistent with the idea that victim resistance may provoke the offender to proceed to an attack on the victim. This interpretation is however clouded by uncertainty about the sequence: Based on the data in almost all of these studies it could not be sufficiently determined whether the attack by the offender or the resistance of the victim occurred first. Therefore the findings could also be reconciled with the idea that an attack on the victim by an offender, is ensuring a previously passive victim to resist. In this way, injury prior to victim resistance can obscure statements about injuries caused by resistance. Bachman et al (2002) argue that self-protection implies that resistance precedes injury, in order to prevent this potential injury. So, determining the sequence of actions is necessary for making statements about the relation of victim resistance and victim injury.

3.4.2 De relation between victim resistance and victim injury

Bachman et al (2002) argue that victim resistance can be seen as a form of self-help. Self-help occurs when one is trying to protect himself so that they do not become a victim of crime. Examples include: the installation of home security systems, the purchase of anti-theft devices for cars, and buying weapons. An example of a more direct form of self-help is when a person commits active resistance, in order to not become a victim of crime, or, if victimization is already in progress, to minimize the damage as much as possible. One of the few consistent findings in the literature on victimization is that resistance is successful in preventing the completion of a crime (Bachman et al., 2002). Apart from these findings little consistency is found. On the one hand, it is apparent from numerous studies that the use of physical resistance during the occurrence of a crime can lead to an increased risk of injury. On the other hand, the conclusion is the opposite, namely that physical resistance to an offender prevents further injury to the victim. As already stated in the previous section,

Kleck and Delone (1993) made an inventory of 10 studies on the effects of victim resistance on victim injury.

The majority of these studies associate victim resistance with a higher risk of victim injury. These findings are consistent with the idea that the victim resistance provokes the offender to attack the victim. Tark and Kleck (2003) conclude that almost all researchers who discovered positive associations between injury and resistance, and therefore concluded that victim resistance ensures the offender to inflict injury to the victim, were unable to determine whether victim resistance preceded the infliction of the injury by the offender. Injury prior to resistance was effectively treated the same as cases where resistance inflicted injury. Block (1977, as shown in Kleck and Delone, 1993) claimed that he could determine the resistance-injury sequence by means of his data. He concluded that in some cases, resistance by the victim occurred after the offender attacked the victim. These findings are inconsistent with the idea that resistance provokes the offender to attack the victim. Research by Kleck (1988, as shown in Kleck and Delone, 1993), which also was able to determine the resistance-injury sequence, confirms this conclusion. This study also shows that resistance was not preceded by injury during a majority of the offenses. Thus, some consistency is observed. The few studies in which the resistance-injury sequence could be verified, all concluded that virtually all forms of victim resistance will decrease the risk of later victim injury (Tark and Kleck, 2003). Since, the resistance-injury sequence is not compatible with the resistance-causes-attack idea in most cases, the positive associations from studies wherein the sequence is unclear need to be provisionally interpreted as attacks by the offender that stimulate victims to resist (Kleck & Delone, 1993).

Resistance-injury hypothesis: **The relation between victim resistance and victim injury**

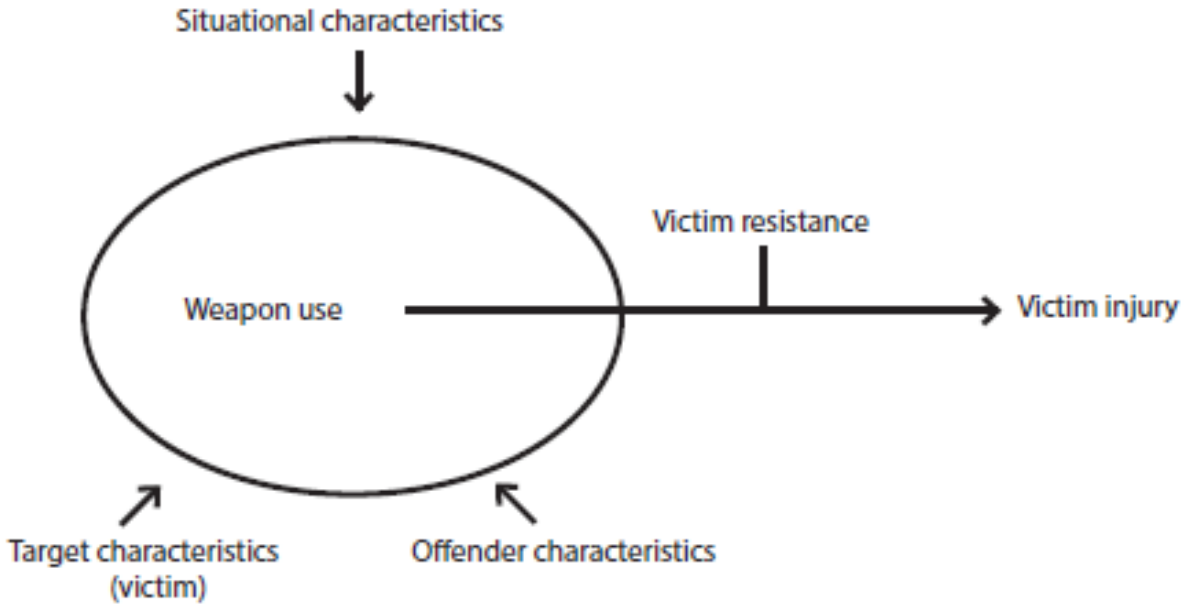
H 11 - Resistance by the victim increases the risk of victim injury

3.5 Conclusion

The theories in chapter 3 formed the basis for a theoretical framework by means of which a number of hypotheses can be formulated about the influence of factors of weapon use and

victim injury during weapon-related violence. These hypotheses affect the choices that must be made in behalf of the data procession and play an important role in answering the research questions. Most of the aforementioned hypotheses are based on the conceptual model of the routine activity theory. The results of the testing of these hypotheses are to be found in Chapter 5. All of the above hypotheses form an answer to the second research question. In summary, based on the theoretical grounds it is possible to identify whether there is a correlation between weapon-related violence, victim resistance and victim injury. Weapon use is associated with victim injury, which suggests that the factors that influence weapon use also have an impact on victim injury. According to the above, victim resistance is also associated with victim injury, so all three aspects can be processed in a theoretical model. This model is shown in figure 2:

Figure 2: Theoretical model



Chapter IV – Weapon-related violence described (univariate analysis)

4.1 Introduction

In order to answer the first research question "*What are the characteristics of weapon-related crime in Amsterdam-Amstelland?*" it should be made clear how weapon-related violence in Amsterdam-Amstelland is composed. This will be achieved through a univariate analysis of the empirical data that results from the case study. The data analysis is based on an overview of the variables, divided into the aspects derived from the routine activity theory, namely: offender characteristics, victim characteristics and situational characteristics. These will be discussed in the remainder of the chapter. Weapon use, victim resistance and victim injury are also examined.

4.2 Offender characteristics of weapon-related violence in Amsterdam-Amstelland

The age of the 416 oldest offenders who were acting in a crime ranges from 12-70 years old. The average age of all these oldest offenders who were acting in a crime is 27 years (standard deviation = 9.26). In 65% of the cases it involves an offender from the age group <30 years. If specified further by age category, the category 20-24 years takes the largest share, namely 25.4%. As for gender characteristics, it is striking that in 98% of all cases of weapon-related violence at least one male offender is involved. Only 11 of the 460 cases, in which the gender of the offender is known, exist of only female offenders. Ethnicity is an important property of offenders in weapon-related violence, in 86% of the cases there is at least one offender of ethnic origin present. The influence of alcohol and/or drugs seems to be marginal, given that only 7% of the offenders were intoxicated during the commission of the weapon-related offense. Offenders that operate in groups (54%) are slightly more common than an offender who acts on his own (46%). The antecedents of offenders are only transparent for the 133 known offenders (which corresponds to 29% of the total number of offenders). For these cases it is striking that in 70% of the known offenders has offender antecedents, while in only 26% of the known offenders has victim antecedents.

4.3 Victim characteristics of weapon-related violence in Amsterdam-Amstelland

The age of the 459 oldest victims who were acting in a crime ranges from 10-86 years old. The average age of all these oldest victims who were acting in a crime is 34 years and 2 months (standard deviation = 14.12). In 56% of the cases it involves a victim from the age group <30 years. If specified further by age category, the category >40 years takes the largest share, namely 31.6%. As for gender characteristics, it is striking that in 80% of all cases of weapon-related violence at least one male victim is involved. In 91 of the 459 cases, in which the gender of the victim is known, there are only female victims. A majority of the victims of weapon-related crime are of ethnic origin. In 56% of the cases there is at least one victim of ethnic origin present. For victims, the influence of alcohol and/or drugs also seems to be marginal, given that only 7% of the victims were intoxicated during the commission of the weapon-related offense. It is much more common that there is only one victim (75%) than the victim was part of a group (25%). In 29% of the cases at least one victim has victim antecedents, while the percentage in terms of offender antecedents is around 21%.

4.4 Situational characteristics of weapon-related crime in Amsterdam-Amstelland

In 21% of the cases offender and victim were acquaintances, while in 7% of all weapon-related crimes there was previous violence between offender and victim. When all the weapon-related crimes are categorized it is obvious that these are not evenly divided. A subdivision has been made between the following types of offenses: street robbery (39.9%), robbery on a commercial institution (22.6%), threat (15.2%), assault (14.5%), robbery at home (5.9%), and other weapon-related violence (1.9%). Weapon-related violence can be divided into several types of violence types of violence[9]: instrumental violence (street robberies, robberies of commercial institutions and robberies at home: 68.4%) and expressive violence (threats and abuse: 29,7%). More than two thirds of all the cases of weapon-related violence can be characterized as instrumental violence. In addition, a

[9] It is possible to make a distinction between expressive violence (expression of feelings such as anger, hatred, power and impotence), instrumental violence (used to gain (im)material benefits), cultural violence (fulfills a ritual function) and political violence (to invigorate a political statement)(Actieplan tegen geweld (Action plan against violence), p.2).

subdivision is made of the types of location. Again, there is no sign of an even distribution. A vast majority of weapon-related violence takes place in the streets (48.2%). Shops (14.8%) and at home (14.3%) are locations of frequent occurrence. Other locations are: hotels, restaurants and pubs/bars (6.7%), stairway/elevator (4.1%) park or parking lot (3.3%) public transport (1.7%) en other locations (6.9%). Translated into guardianship it can be concluded that a guardian is present in 74% of the cases of weapon-related violence.[10]

4.5 Weapon use characteristics of weapon related violence in Amsterdam-Amstelland

On average, 1,21 weapons were present during weapon-related violence (standard deviation = 0.48). In 91% of the cases the offender deliberately opted for the weapon. If looked at the specific weapon types, blade weapons and firearms had the largest share, respectively 46% en 45,3%. Blunt instruments (6.3%) and other weapon types (2.4%) complete the list. The average amount of weapons that are used during weapon-related violence is slightly lower than the amount of weapons that are present, namely 1,18 weapons (standard deviation = 0,465). The offender deliberately used the weapon in 79% of the cases. In 78% of the cases it was used to threaten the victim, actual weapon use occurs in the remaining 22%. The nature of actual weapon use is divided as follows: stabbing (9,5%), hitting (8,7%), shooting (1,5%), and other forms of weapon use (2,2%). If weapon types are compared with the nature of weapon use, then the possibility exists to make a distinction between alleged use (shooting with a firearm) and non-alleged use (hitting someone with a firearm). This occurs in respectively 18,2% and 3,7% of all the cases of weapon-related violence.

4.6 Victim resistance and victim injury during weapon-related violence in Amsterdam-Amstelland

Injury occurs in 129 of the 461 cases of weapon-related violence (28%). The cases in which the sequence of resistance an violence is clear (this applies 96,5% of all cases), can be subdivided as follows: no victim resistance with no resulting victim injury (52.1%), no victim resistance with resulting victim injury (16.2%), victim resistance with no resulting

[10] The establishment of this rate is achieved by adding streets, shops, restaurants, hotels, pubs/bars, public transport and some of the other sites.

victim injury (22.7%), and victim resistance with resulting victim injury (9.2%). As explained in the previous chapter, it is required to understand this sequence in order to ensure that no bias is created. In 11.3% of the 444 cases of weapon-related violence of which the resistance-injury sequence is known, the victim fled. In 20.7% of the cases the victim physical resisted the offender, and in 68% of the cases no victim resistance occurred.[11]

4.7 Conclusion

The results from previous sections form the basis for answering the first research question "*What are the characteristics of weapon-related crime in Amsterdam-Amstelland?*" It can be concluded that there is no clear overall picture of weapon-related violence in Amsterdam-Amstelland. As indicated in the previous paragraphs it is too differentiated, given the many possibilities. A short description of weapon-related violence in Amsterdam-Amstelland can best be done on the basis of the most common characteristics of the offenders, victims and the situations in which the weapon-related violence occurs. The same applies to the results of weapon use, victim resistance a victim injury. If all the most common features are combined, then weapon-related violence in Amsterdam-Amstelland can be described as follows: *"In the streets of Amsterdam-Amstelland a group of previously convicted male offenders, early 20s, of ethnic origin, and not under the influence of drugs and/or alcohol is robbing a male victim, older than 30 years of ethnic origin, and also not under the influence of drugs and/or alcohol. Previous violence has not occurred between offender and victim which logically entails that they are not acquainted. Usually only one weapon is used is used during these street robberies. This can be a firearm or a blade weapon. This weapon use is deliberate, and the intention of weapon use is to threaten the victim. The victim does not resist during the offense, and victim injury does not occur in the majority of the cases."*

[11] This discrepancy (28% versus 25.4% (= 16.2% +9.2%) is the result of the inclusion of the cases with an unknown resistance-injury sequence in the total number of cases (this involves 17 cases).

Chapter V – Weapon-related violence explained (bivariate analysis)

5.1 Introduction

This chapter is intended to answer research question II: *What factors explain firearm use and victim injury in Amsterdam-Amstelland?* To determine whether there are significant differences in offender-, victim-, and situational characteristics between firearm use and non-firearm use (blade weapons, blunt instruments and other weapons) several analytical techniques are used. For the dichotomous or nominal variables a Chi-square test will be performed in order to determine whether the distribution is significantly different. Then a logistic regression analysis will be performed with the significant variables to determine the extent to which these variables contribute to the prediction of weapon use. These analyses are also used to determine whether there are significant differences in offender-, target-, and situational characteristics in cases involving victim injury, and to which extent these variables contribute to the prediction of victim injury.

5.2 A motivated offender

This section will discuss whether there are significant differences in offender characteristics between firearm use and non-firearm use. Attention will be paid to the presence of at least one male offender, the age of the oldest offender, being under the influence of drugs and/or alcohol by at least one offender, whether the offender(s) operate in a group form, and the presence of at least one offender of non-western origin.

5.2.1 Gender

Gender characteristics of offenders appear to have no significant differences in the distribution between firearm use and non-firearm use. The crosstab (Table 3) shows that most cases of weapon-related violence are characterized by the presence of at least one male offender (97.6%). A vast majority of these offenders uses a firearm. If the absolute numbers are considered, firearm use happens almost only in situations where at least one male offender is present. Firearm use only happens in one single case when no male offender is present. Men use firearms more often than women, respectively 46.3% and 9.1%. **R**elatively speaking, it can be concluded that men are more likely to use a firearm

than women *(Chi² = 6,004, p < .05)*. This is a moderate relation *(Cramér's V = .114)*. Table 3 shows the distribution of cases in which no male offender was present and the cases where at least one male offender was present. The total research group is shown, as is the division between firearm use (FAU) and non-firearm use (Non-FAU).

Table 3
Presence of at least one male offender disaggregated for non-firearm use (Non-FAU) and firearm use (FAU) (N=460)

	Total		**Non-FAU**		**FAU**		**Chi² (df)**
	n	(%)	*n*	(%)	*n*	(%)	
No	11	100%	10	90,9%	1	9,1%	6,004* (1)
Yes	449	100%	241	53,7%	208	46,3%	
Total	460	100%	245	53,3%	209	46,7%	

*p<.05, **p<.01, ***p<.001

5.2.2 Age

The following will discuss the differences in firearm use among various age groups. The differences between firearm use and non-firearm use are significant divided with regard to the age of the oldest offender. In absolute numbers the most firearms are used in cases where the oldest offender is younger than 18 years or 20-24 years. Offenders in the age category that ranges from 18-24 years use a firearm as often as they use a non-firearm. Offenders in the age category that ranges from 25-34 years use a firearm more often than non-firearms. The latter two groups are responsible for 69% of all cases of weapon-related violence, but at the same time for 81% of all cases of firearm use. This is in contrast to the other age categories, which are all using non-firearms more often than firearms. They are responsible for 31% of all cases of weapon-related violence, but in the same time for only 19% of all cases of firearm use. It can be concluded that, compared to older offenders, young offenders are more likely to use a firearm *(Chi² = 24,447, p < .001)*. This is a strong relation (Cramér's V = .242). Table 4 shows the age categories of the oldest present offender disaggregated for non-firearm use (Non-FAU) and firearm use (FAU).

Table 4
Age categories of the oldest present offender disaggregated for non-firearm use (Non-FAU) and firearm use (FAU) (N=416)

	Total		**Non-FAU**		**FAU**		**Chi² (df)**
	n	(%)	*n*	(%)	*n*	(%)	
<18 years	46	100%	30	65,2%	16	34,8%	24,447*** (6)
18-19 years	46	100%	24	52,2%	22	47,8%	
20-24 years	117	100%	60	51,3%	57	48,7%	
25-29 years	63	100%	28	44,4%	35	55,6%	
30-34 years	63	100%	31	49,2%	32	50,8%	
35-39 years	47	100%	34	72,3%	13	27,7%	
>39 years	34	100%	29	85,3%	5	14,7%	
Total	416	100%	236	56,7%	180	43,3%	

*p<.05, **p<.01, ***p<.001

5.2.3 Drug and/or alcohol use

Alcohol and/or drug use by the offender causes significant differences in the distribution between firearm use and non-firearm use. Most cases of weapon-related violence are characterized by an offender that is not under influence of drugs and/or alcohol (92.8%). A majority of these offenders are not using a firearm. Looking at the cases of firearm use, this occurs almost only in situations where the offender is not under influence of drugs and/or alcohol. Only 1 in every 6 cases which involve drug and/or alcohol use by the offender is also characterized by firearm use. Relatively speaking, it can be concluded that persons who are under influence of drugs and/or alcohol less often use a firearm than those who are under influence *($Chi^2 = 7,055$, $p < .01$)*. This is a moderate relation *(Cramér's V = .130)*. Table 5 shows the distribution of the cases where an offender is and is not under influence of drugs and/or alcohol. The total research group is shown, as is the division between firearm use (FAU) and non-firearm use (Non-FAU).

Table 5
Drug and/or alcohol use by the offender disaggregated for non-firearm use (Non-FAU) and firearm use (FAU) (N=415)

	Total		**Non-FAU**		**FAU**		**Chi² (df)**
	n	(%)	*n*	(%)	*N*	(%)	
Not under influence	385	100%	212	55,1%	173	44,9%	7,055** (1)
Under influence	30	100%	24	80,0%	6	20,0%	
Total	415	100%	236	56,9%	179	43,1%	

*p<.05, **p<.01, ***p<.001

5.2.4 Groups

The differences between firearm use and non-firearm use are significant divided with regard to crimes committed by a single offender and crimes committed by a group of offenders. The crosstab (Table 6) shows that a small majority of all cases of weapon-related violence can be characterized by the presence of more than one offender (53.8%). A small majority of these make use of a firearm. All previous significantly divided offender characteristics showed that both groups within those specific characteristics made use of non-firearms more often than firearms. This does not apply to this characteristic. Regarding the amount of offenders it is clear that offenders who operate in a groups use firearms more often, while offenders who are acting alone use non-firearms more often *($Chi^2 = 14,895$, $p < .001$)*. This is a strong relation *(Cramér's V = .180)*. Table 6 shows the distribution of the cases where an offender is committing a crime alone and the cases where there is more than one offender. The total research group is shown, as is the division between firearm use (FAU) and non-firearm use (Non-FAU).

Table 6
The amount of offenders disaggregated for non-firearm use (Non-FAU) and firearm use (FAU) (N=461)

	Total		**Non-FAU**		**FAU**		**Chi² (df)**
	n	(%)	*n*	(%)	*n*	(%)	
A single offender	213	100%	137	64.3%	76	35.7%	14,895*** (1)
More than one offender	248	100%	115	46.4%	133	53.6%	
Total	461	100%	252	54,7%	209	45,3%	

*p<.05, **p<.01, ***p<.001

5.2.5 Ethnic origin

The ethnicity of offenders appears to have no significant distribution between firearms and non-firearm use. The crosstab (table 7) shows that a large majority of all cases of weapon-related violence can be characterized by the presence of at least one offender of non-western origin (86%). If the absolute number of firearm use is considered, it becomes clear that in most of these cases at least one offender of non-western origin is involved (89%). Relatively speaking, offenders of non-western origin also use a firearm more often than offenders of western origin. However, the chi-square test shows that there is no statistical relation between firearms and ethnicity *($Chi^2 = 3,417$, $p = .065$)*.

Hypothesis 5 is rejected

Table 7 shows the distribution of cases where at least one offender of non-western origin was present and the cases where they were not present.

Table 7
Presence of non-western offenders disaggregated for non-firearm use (Non-FAU) and firearm use (FAU) (N=443)

	Total		**Non-FAU**		**FAU**		**Chi^2 (df)**
	n	(%)	*n*	(%)	*n*	(%)	
No offender of non-western origin	62	100%	41	66.1%	21	33.9%	3,417 (1)
At least one offender of non-west. or.	381	100%	204	53.5%	177	46.5%	
Total	443	100%	245	55.3%	198	44.7%	

*p<.05, **p<.01, ***p<.001

5.3 A suitable target

More than just the victim characteristics should be examined, in order to determine whether a relation exists between victim characteristics and weapon use by offenders. It is important to compare the vulnerability of the victim to the vulnerability of the offender. In this way, the emergence of a distorted view of reality is prevented. To determine whether there is a relation between victim characteristics and weapon use by offenders, the concept of power asymmetry will be used. The differences between non-firearm use and firearm use in terms of power asymmetry are discussed below. In most cases there is no power

asymmetry between offender and victim; they are equally strong. In cases where there is no power asymmetry a non-firearm is used more often than a firearm. The same applies to situations with a positive, a weak positive, and a negative power asymmetry. Situations with a weak negative power asymmetry are the only exception to this. These are the situations in which the victim is slightly stronger than the offender. Relatively speaking, the overall picture concludes that, a firearm is used more often if there is a negative power asymmetry than when there is a positive power asymmetry *($Chi^2 = 10,879, p < .05$)*. This is a strong relation *(Cramér's V = .162)*. Table 8 shows the distribution of the power asymmetry scores. The total research group is shown, as is the division between firearm use (FAU) and non-firearm use (Non-FAU).

Table 8
Different power asymmetry (P.A.) scores disaggregated for non-firearm use (Non-FAU) and firearm use (FAU) (N=415)

	Total		**Non-FAU**		**FAU**		**Chi^2 (df)**
	n	(%)	*n*	(%)	*n*	(%)	
Moderately positive P.A.	23	100%	12	52,2%	11	47,8%	10,879* (4)
Weak positive P.A.	126	100%	82	65,1%	44	34,9%	
Neutral P.A.	197	100%	111	56,3%	86	43,7%	
Weak negative P.A.	58	100%	23	39,2%	35	60,3%	
Moderately Negative P.A.	11	100%	7	63,6%	4	36,4%	
Total	415	100%	235	56,6%	180	43.4%	

*p<.05, **p<.01, ***p<.001

5.4 The lack of a capable guardian

5.4.1 Relation between offender and victim

The relation between offender and victim turns out to be significantly distributed between firearm use and non-firearm use. Offenders and victims are strangers to each other in most cases of weapon-related violence. In these situations it is more common to use a firearm than a non-firearm. In contrast, in 77% of all the cases in which offender and victim are acquaintances a non-firearm is used. For this characteristic of weapon-related violence there is a clear division, which can be summarized as follows: If offenders and victims are strangers to each other, a firearm is used more often than a non-firearm. However, if they

are acquaintances then the opposite is true *(Chi² = 25,444, p < .001)*. This is a strong relation *(Cramér's V < .235)*. Table 9 shows the distribution of the cases where offender and victim were acquaintances and cases where they were strangers to each other.

Table 9
Relation between offender and victim disaggregated for non-firearm use (Non-FAU) and firearm use (FAU) (N=461)

	Total		**Non-FAU**		**FAU**		**Chi² (df)**
	n	(%)	*N*	(%)	*n*	(%)	
Acquaintances	97	100%	75	77,3%	22	22,7%	25,444*** (1)
Strangers	364	100%	177	48,6%	187	51,4%	
Total	461	100%	252	54,7%	209	45,3%	

*p<.05, **p<.01, ***p<.001

5.4.2 Previous violence between offender and victim

The occurrence of previous violence between offender and victim turns out to be significantly distributed between firearm use and non-firearm use. The crosstab (Table 10) shows that in a large majority of all cases of weapon-related violence there is no previous violence between offender and victim. During these situations, non-firearms are used more often than firearms. This also applies to situations where previous violence has occurred between offender and victim. Looking at the relative numbers, it shows that a firearm is used in 46.7% of all cases with no previous violence, which applies to only 25,8% of the cases with previous violence. Relatively speaking, it can be concluded that if no previous violence occurred between offender and victim, then a firearm is used more often than in situation where previous violence has occurred *(Chi² = 5,115, p < .05)*. This is a moderate relation *(Cramér's V = .105)*. Table 10 shows the cases in which previous violence between offender and victim has occurred, and the cases in which it has not occurred.

Table 10
Previous violence between offender and victim disaggregated for non-firearm use (Non-FAU) and firearm use (FAU) (N=461)

	Total		**Non-FAU**		**FAU**		**Chi² (df)**
	n	(%)	*n*	(%)	*n*	(%)	
No previous violence	430	100%	229	53,3%	201	46,7%	5,115* (1)
Previous violence	31	100%	23	74,2%	8	25,8%	
Total	461	100%	252	54,7%	209	45,3%	

*p<.05, **p<.01, ***p<.001

5.4.3 Intervention possibilities for third parties

The extent to which it is possible for third parties to intervene appears to be significantly distributed between firearm use and non-firearm use. The crosstab (Table 11) shows that most cases of weapon-related violence take place in environments with no possibilities for third parties to intervene. In these situations it is most common to use a non-firearm, which happens in 2/3 of the cases. The opposite is true for situations where intervention possibilities for third parties exist. In 2/3 of these cases a firearm is used. Briefly, this distribution can be described as follows: when intervention opportunities for third parties are absent, a non-firearm is used more often than a firearm. When these intervention opportunities are present the opposite is true *($Chi^2 = 34,141$, $p < .001$)*. This is a very strong relation *(Cramér's V = .272)*. Table 11 shows the distribution of the cases where intervention opportunities for third parties are present and the cases where these are not present. The total research group is shown, as is the division between firearm use (FAU) and non-firearm use (Non-FAU).

Table 11
The presence of intervention possibilities for third parties disaggregated for non-firearm use (Non-FAU) and firearm use (FAU) (N=461)

	Total		**Non-FAU**		**FAU**		**Chi² (df)**
	n	(%)	*n*	(%)	*n*	(%)	
Intervention possibilities for third parties are present	128	100%	42	32,8%	86	67,2%	34,141*** (1)
Intervention possibilities for third parties are absent	333	100%	210	63,1%	123	36,9%	
Total	461	100%	252	54,7%	209	45,3%	

*p<.05, **p<.01, ***p<.001

5.5 Multiple logistic regression of firearm use

5.5.1 Introduction

A chi-square test is essentially a descriptive test, related to correlation. It is not a modeling technique, a statistical model is lacking and there is no real dependent variable. This study will not only describe the strength of the relation. A multiple logistic regression is performed to determine the extent to which the offender, victim, and situational characteristics can give a correct prediction for the probability of firearm use. This logistic regression includes the aforementioned variables which showed that they differ significantly between firearm use and non-firearm use in. The parameters are shown in Table 12. Included are the corresponding Wald-statistics, which express the strength of the contribution of the parameter.

Table 12 shows that if only the offender characteristics are considered, then a distorted view is created of how the variables contribute to the prediction of firearm use. In Model A, which only takes into account offender characteristics, there are more statistically significant independent predictors than in Model C, which also takes into account victim- and situational characteristics.

In a logistic regression there is no constant difference in the dependent variable (weapon use) as a result of a constant difference in the independent variable (gender). As is the case in a normal regression analysis. Instead, there is a constant difference in the odds ratio. Gender characteristics produce an odds ratio regarding firearm use. An offender with the same other characteristics but with different gender characteristics also produces an odds ratio regarding firearm use. The calculation ((odds ratio male – odds ratio female) / odds ratio female) represents the increase in percentages for each step in the independent variable gender. The same information can also be obtained by reducing the Exp(B) scores in Table 12 with 1 (Ergun, 2009).

Table 12

Independent predictors of firearm use(n = 410, missing = 51 (Model C))

	Model A		Model B		Model C	
	Exp(B)	Wald	Exp(B)	Wald	Exp(B)	Wald
Offender characteristics						
Presence male offender	3,581	1,402	4,305	1,792	5,748	2,321
Age (ref: < 18 years)	-	15,239	-	14,442	-	18,147
18-19 years	1,593	1,141	1,510	0,837	1,595	0,946
20-24 years	1,606	1,657	1,593	1,492	1,666	1,533
25-29 years	2,383*	4,501	2,348*	4,070	2,415	3,786
30-34 years	2,246*	3,857	3,157**	7,040	5,403***	12,244
35-39 years	0,921	0,031	1,324	0,334	1,723	1,103
>39 years	0,452	1,805	0,606	0,682	0,847	0,068
Group	1,697*	5,487	2,277***	10,409	2,685***	12,047
Alcohol/Drugs	0,364**	4,268	0,311	5,439	0,295*	4,889
Victim characteristics						
Power Asymmetry (ref: Neutral P.A.)			-	14,922	-	14,280
Positive Power Asymmetry			1,072	0,020	0,687	0,509
Weak Positive Power Asymmetry			0,553*	5,126	0,448**	8,279
Weak Negative Power Asymmetry			2,346*	6,407	2,011	3,489
Negative Power Asymmetry			1,489	0,318	1,035	0,002
Situational characteristics						
Relation Offender/Victim (1 = strangers)					3,201**	9,036
Previous armed violence					3,889*	4,898
Intervention possibilities (1 = absent)					0,227***	28,951
Nagelkerke R^2	.124		.168		.282	

* p < .05, ** p < .01, *** p < .001

5.5.2 Analysis

As for offender characteristics it can be concluded that the gender of the offender is not an independent predictor of firearm use. So there is no relation between gender and firearm use.

Hypothesis 1 is rejected

Age however, can be considered as an independent predictor of firearm use. For offenders in the age category of 30-34 years, the odds ratio of firearm use/non-firearm increases by 440% compared to offenders younger than 18 years. In other words, adjusted for the other

indicators, the probability that an offender aged 30-34 years will use a firearm, is about 5.4 times higher as the probability of firearm use by an offender younger than 18 years . So the risk of firearm use is higher among older offenders than among younger offenders.

Hypothesis 2 is rejected

However, when an offender is under the influence of drugs and/or alcohol the odds ratio decreases by 70% compared to an offender who is not under the influence of drugs and/or alcohol. The latter has, adjusted for the other indicators, (1./.295) = 3.39 times higher risk of firearm use than an offender who is under the influence of drugs and/or alcohol.

Hypothesis 3 is rejected

Committing a weapon-related violent crime in group form, also increases the odds of firearm use/non-firearm use considerably, namely about 168%. Offenders who operate in groups, have, taking into account the influence of other variables by keeping them constant, a 2.6 times higher risk of firearm use than offenders operate alone.

Hypothesis 4 is accepted

A weak positive power asymmetry is the only victim characteristic that acts as a significant predictor for firearm use. If there is a weak positive power asymmetry the odds ratio of firearm use/non-firearm use decreases by approximately 55% compared to situations where there is a neutral power asymmetry. As offenders and victims are evenly strong, the chance of firearms (1./.448) = 2.23 higher than when the offender is slightly stronger than the victim. Within power asymmetry there are no other significant predictive characteristics. Outside power asymmetry there are no other victim characteristics processed in the multiple logistic regression.

Hypothesis 6 is accepted

All situational characteristics (the relation between offender and victim, previous armed violence between offender and victim, and the intervention possibilities for third parties) appear to be independent predictors for firearm use in violent crimes. If the offender and victim are strangers to each other the chances of firearm use increase by 220%. The chance

of becoming a victim of a firearm-related crime is 3.2 times higher for a victim that does not know the offender compared to situations where they are acquaintances.

Hypothesis 7 is accepted

The occurrence of previous violence between offender and victim seems to be an independent predictor for firearm use. Where previous violence is the case, the chances of firearm use are 3.9 times higher than in the cases where there no previous violence has taken place.

Hypothesis 8 is accepted

The opportunity to intervene for third parties is the final situational characteristic that changes the odds ratio of firearm use/non-firearm use dramatically. The change of firearm use decreases by 77% when there are no intervention possibilities for third parties. Adjusted for the other indicators, the risk of firearm use in situations where intervention possibilities for third parties are present is (1./.277) = 3.6 times higher than in situations where intervention opportunities for others are absent. Further situational characteristics are not processed in the multiple logistic regression.

Hypothesis 9 is rejected

5.6 Relation between weapon use and victim injury

Previous sections show that there is coherence between a large number of offender-, victim-, and situational characteristics on the one hand and firearm use on the other hand. Some of these characteristics are independent predictors for firearm use. In this section, it is examined to which extent there is a link between the aforementioned weapon use and victim injury. In order to do this, a further specification of weapon use is used. In the previous sections the distinction between firearm use one the hand and non-firearm use on the other hand was used. The following sections use a further distinction of non-firearm use into blunt instruments, blade weapons, and other types of weapons. This distribution needs to ensure that an even more detailed picture is created of the relation between weapon use and victim injury.

The differences between whether or not a victim is injured are significant when the type of weapon is observed. For both firearm and blade weapon use applies that it more often leads to no victim injury. In absolute numbers victim injuries are most often caused by blade weapons, followed by firearms. In 76.8% of all cases of victim injury, a blade weapon or firearm is involved. These two types of weapon are also most often used, together they account for 91.3% of all cases of weapon-related violence. In relative numbers, the use of blunt instruments is associated with victim injury in a negative sense. Relatively spoken, blunt instruments are most often involved with victim injury. Blunt instruments are used in only 6.3% of all cases, whereas the share of these weapons in victim injury is as high as 18.6%. In 4 out of 5 cases where a blunt instrument is used, there is also victim injury occurring. In contrast, firearm use results in, relatively speaking, the least cases of victim injury. Firearms are used in 45.3% of all cases of weapon-related crimes, but only have a share of 31.8% in all cases of victim injury. There is a victim injured in only one in every five cases in which a firearm is used *($Chi^2 = 54.327$, $p < .001$).* This is a very strong relation *(Cramér's V = .343).* Table 13 shows the distribution of the types of weapon. The total research group is shown, as is the division between victim injury and no victim injury.

Table 13
Weapon type disaggregated for the amount of victim injury (N = 461)

	Total		**No victim injury**		**Victim injury**		**Chi^2 (df)**
	n	(%)	*n*	(%)	*n*	(%)	
Firearm	209	100%	168	80,4%	41	19,6%	54,327*** (3)
Blunt instrument	29	100%	5	17,2%	24	82,8%	
Blade weapon	212	100%	154	72,6%	58	27,4%	
Other weapon	11	100%	5	45,4%	6	54,6%	
Total	461	100%	332	72,0%	129	28.0%	

*p<.05, **p<.01, ***p<.001

5.7 Relation between victim resistance and victim injury

Besides the offender-, victim-, and situational characteristics that affect weapon use and the relation between the type of weapon and victim injury it is also important to examine the relation between the amount of victim resistance during armed violence and victim injury. In this section, the extent to which there is a link between the actions of the victim and

victim injuries is examined. The differences the occurrence or non-occurrence of victim injury are significant when looked at the actions of the victim. For none of the actions by the victim (fleeing, resisting or cooperating) applies that injury is occurring more often than non-injury. In absolute numbers, victim injury is most often inflicted when the victim cooperates with the offender, 63.7% of all victim injuries are characterized by an cooperative victim. Such action by the victim is also the most common, in 68.0% of all cases of weapon-related violence the victim cooperates with the offender. In relative numbers victim resistance stands out in a negative sense. Relatively spoken it is victim resistance which leads to victim injury most often. Victim resistance applies only 20.7% of all cases, while the proportion of victim resistance in victim injury is not less than 32.7%. If victims resist, this leads to victim injury in 4 out of 10 cases. In contrast, if the victim flees this leads to relatively less victim injury. In 11.3% of all weapon-related offenses victim the victim flees, while this particular action only has a share of 3.5% in all cases of victim injuries. Fleeing leads to victim injury in only 8 of the 100 cases *($Chi^2 = 19.011$, $p < .001$)*. This is a strong relation *(Cramér's V = .207)*. Table 14 shows the distribution of the types of victim action. The total research group is shown, as is the division between victim injury and no victim injury.

Table 14
Actions by the victim disaggregated for the amount of victim injury (N = 444)

	Total		**No victim injury**		**Victim injury**		**Chi² (df)**
	n	(%)	*n*	(%)	*n*	(%)	
Fleeing	50	100%	46	92,0%	4	8,0%	19.011*** (2)
Resisting	92	100%	55	59,8%	37	40,2%	
Cooperation	302	100%	230	76,2%	72	23,8%	
Total	444	100%	331	74,5%	113	25,5%	

*p<.05, **p<.01, ***p<.001

5.8 Multiple logistic regression on victim injury

5.8.1 Introduction

A multiple logistic regression is performed to determine the extent to which victim actions and weapon types can give a correct prediction for the probability of firearm use. This

logistic regression also includes the aforementioned offender-, victim-, and situational characteristics which showed that they differ significantly between firearm use and non-firearm use in. The parameters are shown in Table 15. Included are the corresponding Wald-statistics, which express the strength of the contribution of the parameter.

5.8.2 Analysis

Regarding the individual indicators it can be determined that the type of weapon that is used has an important role in victim injury. It appears that the use of a blunt instrument is the best choice for a reference category. The risk of victim injury when a blunt instrument is used in violent crime is (1./.084) = 11.9 times higher than when a firearm is used. The same applies when the use of blunt instruments is compared with the use of blade weapons. The risk of victim injury is (1./.096) = 10.4 times higher when blunt instruments are used than when blade weapons are used. The category of other types of weapons seems to have no significant predictive value regarding victim injury.

Hypothesis 10 is rejected

The actions of the victim also have a significant predictive value for victim injury. Cooperation has been chosen as reference category. This is because "cooperation" is the only resistance-free action within the actions by the victim. By referring to this particular action the best insight is given into whether a victim can better cooperate or resist the offender. Fleeing increases the risk of injury when compared to a cooperative victim. When the victim cooperates with the offender the risk of victim injury is (1./.244) = 4.10 times higher than when the victim flees for the offender. This is not the case if the victim resists the offender. If a victim resists the offender, than the risk of injury is almost 3 times higher than situations where the victim cooperates with the offender.

Hypotheses 11 is accepted

Whether offenders operate in a group form seems to be the only offender characteristic that is a significant predictor for victim injury. If there is a group of offenders, then the likelihood of victim injury is nearly 2.5 times greater than when a victim is opposing a

Table 15

Independent predictors of victim injury (n = 398, missing = 63 (Model E))

	Model A		Model B		Model C		Model D		Model E	
	Exp(B)	Wald	Exp(B)	Wald	Exp(B)	Wald	Exp(B)	Wald	Exp(B)	Wald
Weapon characteristics										
Weapons (ref: blunt instruments)	-	36,666	-	34,558	-	27,183	-	25,603	-	18,863
Firearm	0,051***	32,626	0,044***	32,739	0,52***	26,409	0,056***	24,729	0,084***	17,246
Blade weapon	0,078***	24,407	0,068***	24,802	0,081***	20,227	0,082***	19,728	0,096***	16,545
Others	0,250	3,195	0,154*	5,087	0,167*	3,875	0,174	3,571	0,206	2,858
Action characteristics victim										
Action victim (ref: cooperate)			-	15,466	-	14,972	-	15,363	-	19,898
Flee			0,254*	5,638	0,335	3,285	0,322	3,454	0,244*	5,250
Resist			2,120**	7,800	2,505**	9,805	2,569**	9,947	2,993***	12,427
Offender characteristics										
Presence male offender					1,855	0,505	1,709	0,374	1,743	0,373
Age (ref: < 18 years)					-	11,204	-	11,706	-	10,700
18-19 years					0,751	0,300	0,740	0,326	0,774	0,221
20-24 years					0,413*	3,989	0,380*	4,556	0,428	3,318
25-29 years					1,215	0,178	1,163	0,102	1,312	0,312
30-34 years					0,561	1,309	0,533	1,445	0,492	1,626
35-39 years					1,324	0,299	1,240	0,164	1,268	0,186
>40 years					1,185	0,088	1,135	0,047	0,909	0,025
Group					2,057*	5,955	2,111*	5,164	2,499*	6,334
Alcohol/Drugs					0,920	0,025	0,994	0,000	0,836	0,103
Victim characteristics										
Power Asymmetry (ref: Neutral P.A.)							-	2,842	-	2,090
Positive Power Asymmetry							0,631	0,599	0,725	0,269
Weak Positive Power Asymmetry							0,884	0,157	0,872	0,172
Weak Negative Power Asymmetry							0,493	2,389	0,568	1,471
Negative Power Asymmetry							1,051	0,004	1,508	0,241
Situational characteristics										
Relation offender/victim: (1 = strangers)									0,439*	4,199
Previous armed violence									1,719	0,732
Intervention possibilities (1 = absent)									2,836*	6,007
Nagelkerke R^2	.145		.204		.246		.255		.300	

* p < .05, ** p < .01, *** p < .001

single offender. Other offender characteristics show no significant predictive value regarding victim injury.

Two of the three situational characteristics, the relation between offender and victim and intervention opportunities for third parties, also appear to be independent predictors for victim injury in violent crimes. If the offender and victim are strangers to each other the risk of victim injury reduces with respect to situations where the offender and victim are acquainted with each other. In the latter situation victim injury is namely (1./.439) = 2.3 as large. Intervention possibilities for third parties are also influential with regard to the risk of victim injury. The chance of incurring victim injury in situations where intervention possibilities for third parties are absent is 2.8 times higher than in situations where intervention possibilities for third parties are present. Victim characteristics showed no significant predictive value with regard to victim injury. Based on the Nagelkerke scores it is also possible to state that victim characteristics add little value. Through the addition of power asymmetry an increase in explanatory value of only 1.1% is achieved. For all other characteristics this is at least 4%.

5.9 Conclusion

The results from chapter 4 say nothing about how weapon use and victim injury can be explained. The percentage of nightlife-related violence and the percentage of offenders under the influence of alcohol and/or drugs can be very low, but this says nothing about the impact of these factors on weapon use and injury. It could be that under these conditions injury is caused more often. The same is true for the other variables. The findings of this chapter are the basis for answering the second research question *'What factors explain firearm use and victim injury in Amsterdam-Amstelland?'.*

First, the factors that increase the likelihood of weapon use. Almost all independent variables that where selected in the theoretical framework show coherence with firearm use. Only ethnic origin showed no statistically significant division between firearm use and non-firearm use (H5). The multiple logistic regression of firearm use shows that seven of the eight variables that have a significant correlation with firearm use, also prove to be independent predictors for firearm use. Three are offender characteristics: age, number of

offenders, and alcohol and/or drug use. The power asymmetry between offender and victim is also an independent predictor. The remaining three independent predictors are situational characteristics: the relation between offender and victim, the degree of previous violence between offender and victim, and the amount of intervention possibilities for third parties. The gender of the offender has proven to be no independent predictor (H1). That there are seven independent predictors does not mean that all hypotheses that are related to these variables can be adopted. This only holds for four hypotheses:

- (H4) **The chance of weapon use increases when offenders operate in a group**
- (H6) **The chance of weapon use increases when the power asymmetry is more negative**
- (H7) **The chance of weapon use increases when offender and victim are strangers to each other**
- (H8) **The chance of weapon use increases when no previous weapon use has occurred between offender and victim**

For the remaining three hypotheses applies that the probability of firearm use is decreased by the hypothesized relation:

- (H2) The younger the offender the greater the chance of firearms = **The older the offender the greater the chance of firearms**
- (H3) Drug and/or alcohol use increase the risk of firearm use = **The risk of firearm use increases when no drugs and/or alcohol are used**
- (H9) The absence of opportunities for third party intervention increases the risk of firearms = **The presence of intervention opportunities for third parties increases the risk of firearms**

The hypotheses are rejected, but this does not mean that statements cannot be made about the supposed relation between the above independent and dependent variables. Table 16 provides a summary of the aforementioned conclusions.

Table 16
Summary I

Hypothesis	Does the variable from the hypothesis show a relation? (chi-square)	Is the variable from the hypothesis an independent predictor of fire arm use? (Logistic regression)	Is the hypothesis correct?
H1	Yes	No	No, not an independent predictor
H2	Yes	Yes	No, chance of weapon use is smaller
H3	Yes	Yes	No, chance of weapon use is smaller
H4	Yes	Yes	**Yes, chance of weapon use is higher**
H5	No	Inapplicable	No, there is no relation
H6	Yes	Yes	**Yes, chance of weapon use is higher**
H7	Yes	Yes	**Yes, chance of weapon use is higher**
H8	Yes	Yes	**Yes, chance of weapon use is higher**
H9	Yes	Yes	No, chance of weapon use is smaller

What remains are the factors that lead to an increased risk of victim injury. Both independent variables that were selected on the basis of the theoretical framework show coherence with victim injury. Both variables also prove to be independent predictors for firearm use. One of the hypotheses that are related to these variables is accepted:

- (H11) **Victim resistance increases the risk of victim injury**

For remaining hypothesis applies that the probability of firearm use is decreased by the hypothesized relation:

- (H10) The higher the lethality of a weapon, the higher the chance of injury = **The lower the lethality of the weapon, the higher the risk of injury**

The hypothesis is rejected, but this does not mean that statements cannot be made about the supposed relation between the above independent and dependent variables. Table 17 provides a summary of the aforementioned conclusions.

Table 17
Summary II

Hypothesis	Does the variable from the hypothesis show a relation? (chi-square)	Is the variable from the hypothesis an independent predictor of victim injury? (Logistic regression)	Is the hypothesis correct?
H10	Yes	Yes	No, chance of victim injury is smaller
H11	Yes	Yes	**Yes, chance of victim injury is higher**

The number of offenders, the relation between offender and victim, the amount of intervention opportunities for third parties also appear to be independent predictors of victim injury. The number of offenders shows similarities with regard to the impact on firearm use and victim injury. For victim injury it also applies that: **The chance of victim injury increases when offenders operate in a group**. The other two variables have an opposite effect on victim injury than on weapon use. **The absence of intervention opportunities for third parties increase the risk of victim injury**, while previously it showed that this would lead to a smaller chance of firearm use. The chance of firearm use increased as offenders and victims do not know each other, while the chance of victim injury is decreasing when this is the case. Therefore it can be concluded that **the chance of victim injury increases when offender and victim are acquainted**.

Chapter VI – Policy aimed at the reduction of weapon-related violence

> *"Safety is a basic right for all people in Amsterdam. Amsterdam should become safer through prevention and repression."* (Gemeente Amsterdam, 2006:1)

6.1 Introduction

In order to answer the research question '*What are the characteristics of the local safety policy regarding weapon-related violence in Amsterdam-Amstelland?*' it should be made clear how the government is trying to reduce weapon use and on which assumptions these choices are based. The underlying assumptions of the policies are the foundations for the hypotheses. This chapter will first examine the national policy aimed at reducing weapon use. The national policy has a large impact on the local policy. This implies that a description of only the local policy would lead to a distorted view. Subsequently, the local policies are addressed. This chapter will conclude with policies or advices specifically focused on the prevention of victim injury.

6.2 National policy

The government is explicitly focusing on the reduction of crime and disorder. Much of the current policy stems from the safety program *'Naar een veiliger samenleving'* (Towards a safer society)[12] (2002-2006). In November 2007, the Cabinet Balkenende-IV starts with the project *'Veiligheid begint bij Voorkomen'* (Safety starts with prevention)[13], the successor of the safety program. This project was completed in late April 2010. The *'Actieplan tegen geweld'* (Action plan against violence)[14] is the current foundation for addressing violence in the public and semi-public domain. This plan was designed at the time of the safety program 'Towards a safer society' and later intensified on a number of components in the project 'Safety starts with prevention'. Twenty projects to counteract the increase of violence in society were announced in this action plan (Rijken & De Vries, 2008). The type of violence addressed here is violence in general. Regarding weapon-related violence the reduction of firearm ownership in the Netherlands is a point of attention for successive

[12] TK 2002-2003, 28 684, nr. 1
[13] TK 2007-2008, 28 684, nr. 119
[14] TK 2005-2006, 28 684, nr. 65

governments. To achieve this various resources were deployed.[15] Hand in actions were held[16], maximum penalties were raised[17], brochures were distributed[18], teaching materials were developed[19], studies on the extent of gun ownership were accomplished[20], awareness campaigns were implemented[21], checklists were distributed[22] and the possibilities for frisking were broadened[23]. The most salient policy measures are the 'Project illegaal wapenbezit' (Project illegal weapon possession) which is part of the Action plan against violence; the total ban on stilettos, switchblades and balisongs; and (the extension of) frisking. The following sections will provide a more detailed view on the characteristics of these policies. The backgrounds of the policies, the policy aims and the policy targets are discussed.

6.2.1 Project illegal weapon possession

Countering the possession of weapons in the hospitality industry and educational institutions is one of the major priorities within the national safety policy. Twenty projects to counteract the increase of violence in society were announced in the 'Action plan against violence'. The Action Plan outlines concrete measures and actions to curb violence. These are aimed at the control of risk factors (alcohol, illegal possession of weapons), a more intensive approach in the (semi-)public domain (hospitality sector, educational institutions), a number of offender and victim-oriented measures and the creation of conditions for optimizing the approach of violence (cooperation, monitoring) (Lanting & Hoeymans, 2008). One of these measures is aimed at countering illegal possession of weapons. The 'Action plan against violence'[24] states that the chance of committing violence

[15] TK 2009-2010, 32 206, nr. 3
[16] For blunt instruments, blade weapons and thrust weapons 1999, for firearms in 2000
[17] In 2000
[18] *"Wapens zijn geen speeltjes"* (Weapons are not toys) (2002)
[19] *"Stop geweld op school"* (Stop violence at school) (2004)
[20] *"Vuurwapens in Nederland"* (Firearms in the Netherlands) (2002), *"Vuurwapengebruik, -bezit en -handel in Nederland 2001-2003"* (Firearm use, -possession and –trade in the Netherlands 2001-2003) (2005), *"Aard en omvang verkrijgbaarheid van verboden slag-, steek- en stootwapens in Nederland"* (Nature and extent of the availability of illegal blunt instruments, blade weapons and thrust weapons in the Netherlands) (2007)
[21] *"Loop jij wapenvrij?"*(Do you carry no weapons?) (2007), *"Ik draag geen wapen"* (I carry no weapons) (2007)
[22] For educational institutions and the hospitality sector in 2007
[23] In 2002 en 2005
[24] TK 2005-2006, 28 684, nr. 65

is considerably increased by the availability of weapons, especially in panic situations. In addition, the Action Plan suggests that a weapon possessor considers himself more confident, which makes it less likely that conflicts are to be appeased or evaded. The detection of weapons is therefore of great importance. In order to achieve this, several measures have been proposed.

The actions against gun ownership within the 'Project illegal possession of weapons' are focused on advancing weapon controls in educational institutions and in the hospitality industry. According to Rijken & De Vries (2008), this choice is based on research that the Justice Department has conducted into proven effective measures to tackle gun ownership in the Netherlands by a preventive approach. How this is supposed to happen is displayed rather limited in the 'Action plan against violence'. For both educational institutions as the hospitality industry a checklist was distributed. The checklist provides guidance for the introduction of controls on gun ownership in the hospitality industry and in educational institutions.[25] According to Rijken & De Vries (2008), the purpose of the checklists is to encourage that arrangements are made between educational institutions, municipalities and police and between the hospitality establishments, municipalities and police in order to fight weapon possession. Both the policy aims as the policy targets on which this policy measure applies have limited substantiation.

> *"In January 2008 two different checklists were distributed among the four groups between which cooperation is encouraged in order to fight weapon possession in schools and the hospitality sectors: educational institutions, hospitality establishments, municipalities and the police."* (Rijken & De Vries, 2008:1)

So, fighting weapon ownership is focused on educational institutions and the hospitality sector. It is in line with expectations that the government wants to control at places with the highest probability of intercepting violent weapons, and thus the largest decrease in violence in society. Here is specifically chosen for situational factors and not for offender

25 http://www.hetccv.nl/binaries/content/assets/ccv/dossiers/uitgaansgeweld/checklist_contr_wapenbzt_horeca.pdf

factors. In this case, personal characteristics will create a distorted picture. Not everyone under 30 is visiting hospitality establishments, and not everyone who visits a hospitality establishment is younger than 30 years. The same applies to educational institutions. Checks are focused on this location. For assessment of the policy it is important to check to what extent weapon use occurs at this particular type of location. When the age of the offender is examined, and it appears that young people tend to use firearms, this would still say nothing about how often weapon use occurs in educational institutions. Weapon controls on educational institutions are intended to reduce weapon use in these locations, not to reduce weapon use by young people in general. In addition, not every young person is a student, and not every student is under the age of 18 years.

There is no further subdivision of weapon types. Because this study only has access to weapons-related violence, it is not possible to make a comparison between the use of weapons and non-weapon use. To examine the policy assumptions, a comparison can be made on the basis of the 'harm potential'[26] of the weapon. In this way it is possible to examine whether deadlier weapons are used more in hospitality establishments than in non-hospitality establishments.[27] In this case firearms are compared with non-firearms. The same applies to education. The aforementioned has led to the following two assumptions:

H 12 – Relatively speaking, weapon use occurs more often in hospitality establishments than in non-hospitality establishments

H 13 – Relatively speaking, weapon use occurs more often in educational institutions than in non- educational institutions

6.2.2 Total ban on stilettos, switchblades and balisongs

Evaluation of the aforementioned measure 'Project illegal possession of weapons has shown that blunt instruments, blade weapons and thrust weapons were used in most cases of weapon-related incidents in and around hospitality establishments and educational

[26] See chapter three for further explanation
[27] That this has no adverse effects on research has been already discussed in chapter three.

institutions.[28] Partly because of this policymakers came to understand the necessity of a total ban on stilettos, switchblades and balisongs. Research[29] into the availability of banned blunt instruments, blade weapons and thrust weapons has shown a large availability of stilettos, switchblades and balisongs which are permitted within the 'Wet wapens en munitie' (Weapons and Ammunition Act).[30] Due their menacing appearance, portability and fast foldability these knives are easier to use for illicit purposes than other legal knives. These practical features and common availability ensure that these knives have a great attraction to young people. Several armed incidents are known where young offenders had access to legal switchblades.[31] These legal knives are very difficult to distinguish from illegal switchblades. This causes investigation officers to assess whether a knife is legal or illegal in the streets, at a daily base. So, there are two reasons for reducing the availability of these types of knives. Firstly, the total ban is aimed to reduce the number of blade weapon-related incidents. Second, the enforcement practices are getting simpler since there is no discussion possible about the extent to which the stilettos, switchblades and balisongs are allowed. In this case reducing weapon possession is focused on weapon characteristics, namely blade weapons. The attraction to young people that is ascribed to these weapons also ensures that a personal characteristic is addressed, namely age. It is in line with expectations that this age group prefers to use this type of weapon. The aforementioned has led to the following assumption:

H 14 – Relatively speaking, a blade weapon is used more often by members of the youngest age group than by members of other age groups

6.2.3 Frisking

In the previous paragraphs, frisking is already mentioned as a measure to reduce weapon ownership in the public domain. Frisking is the searching of a person in an assigned area without regard to whether the person in question is a suspect or not. This is in effect since September 15, 2002. Before that this form of proactive enforcement existed only at airports

[28] TK 2008-2009, 28 684, nr. 177
[29] Appendix to TK 2007-2008, 28 684, nr. 121
[30] This depends on four technical regulations based on which the blade of the knife is supposed to be measured to the millimeter.
[31] TK 2009-2010, 32 206, nr. 3

(Weapons and Ammuntion Act, article 52, paragraph 4). At that time it was stated that the investigative authorities had sufficient powers to combat firearms. To reduce the increasing weapon violence in society these powers needed to be extended to predetermined areas. According to Van der Torre & Ferwerda (2005) the most important and characteristic feature of frisking is that no underlying suspicion is needed prior to all this proactive enforcement. The research is not based on specific (criminal) behavior of the investigated persons. Individuals can be checked, because they are present in a certain place at a certain time, the safety risk areas (veiligheidsrisicogebied). The underlying objectives of frisking are: reducing weapon ownership, increasing the sense of security of visitors to the safety risk areas, and prevent people from carrying weapons to the safety risk areas (Kuppens et al., 2011).

The designation of a safety risk area is usually made on the basis of a weapon incident analysis carried out by the police. This designation includes an analysis of the registered weapon incidents, an analysis of structural weapon-related violence, the scores of the safety index, and an analysis of the safety policy that is already implemented in that area (Gemeente Amsterdam, 2012). Only the extent of weapon related violence is taken into account here, not the nature of weapon related violence. Assigning a safety risk area based on police figures has disadvantages. The danger of quantifying weapon incidents in advance is that the police records must reflect reality. According to Kuppens et al (2011) this is a unstable foundation, because frequently the nature and extent of the weapon incidents are not exactly known. The choice for only looking at the extent of the weapon-related violence can be attributed to the requirements by politicians and authorities imposed on frisking. In this context, Kuppens et al (2011) mention two requirements: high interception rates of weapons and selection based on a random method. The latter means that it is not allowed to submit specific groups to frisking, there should never be selected on the basis of origin, race or nationality. A more selective implementation of frisking will mean a greater tendency to label it as discriminatory. This would conflict with the prohibition of discrimination. In this case frisking will turn into ethnic profiling, which includes the risk that action is based on prejudice. Let alone that the effectiveness of ethnic profiling has never been proven (Kuppens et al, 2011).

> *"The word 'random' is adopted by virtually all administrative and police authorities. At policy level this is usually understood as that "everyone" is checked or that frisking is implemented 'without regard to the person'. However, random frisking encounters some implementation problems."*
> (Van der Torre & Ferwerda, 2005:117)

This assessment is not improving the efficiency of the measure. Since there cannot be selected everyone must be frisked. However, when looked at statistics on weapon-related violence, it is less meaningful to frisk certain groups compared to other groups. In a large and busy area this would mean a deliberate choice for an inefficient policy instrument.

> *"It requires little practical insight and empathy to see that this can negatively correlate with the effectiveness of the instrument."*
> (Kuppens et al, 2011:23)

According to Kuppens et al (2011) a random method is completely incompatible with police routine. 'Typifications which are based on intuition and experience cannot be used to intervene by police officers. They are, however, inherent to policing. This makes it impracticable for the police to not select at all.

The extension of frisking

Experience with frisking has shown that the existing procedures and processes should partly be improved in order to decisively use this policy instrument. On December 14, 2011, a bill containing some proposals for the expansion of frisking was submitted.

> *"This proposal is based on the consideration that, in order to increase safety in public spaces and in police cells and to combat violence against the police, it is desirable to provide the police more powers for the inspection of objects, vehicles and people."*[32]

At the time of writing this thesis, this bill is still being debated in the House of Representatives, which means that it is not yet in force. The explanation of the bill[33] contains both the proposed extensions of frisking as the rejected forms of extension. There

[32] http://www.parlementairemonitor.nl/9353000/1/j9vvij5epmj1ey0/viv9edd4gey2#p4
[33] TK 2011-2012, 33 112, nr. 3

are four proposals in the first category. 1. The designation of frisking in urgent situations based on an oral order of the Assistant Public Prosecutor, 2. Incidental frisking, 3. Frisking of transport, and 4. Frisking of arrested persons. The first two extensions are process measures and serve to increase the speed with which frisking can be passed on. On the one hand within an safety risk area, on the other hand to designate a temporary safety risk area. The last two proposals are intended to expand the possibilities of frisking for the police, especially for situations of everyday police work. On the one hand the frisking of the person that is being transported by the police, on the other hand of person who are already in a police cell. These measures serve primarily to make policing safer and occur after a suspect has been arrested. This means that these increases of frisking do not affect the focus on policy targets. Therefore they are irrelevant for this thesis.

In the category of rejected forms of expansion there is a proposal which seeks to establish a link between policy targets and policy. Despite the status of being rejected it will be eligible to research this proposed rejection, in order to verify whether rejecting this proposal was the correct decision. This concerns the 'legal anchoring of selection criteria for the purpose of frisking'. Certain properties and characteristics of unknown offenders should be used as possible selection criteria, in order to implement frisking more targeted. An offender profile based on police information or a profile based on modus operandi and the crime scene are examples of this. Selection criteria are permitted only when based on an objective and relevant justification. Ethnic profiling is perpendicular to this and is per se impermissible.

> *"Discrimination is making an unjust and unlawful distinction on grounds of characteristics that do not matter."*[34]

Race, ethnicity and religion are regarded as discriminatory characteristics. Other non-discriminatory selection criteria are permitted if they are objectively substantiated. These characteristics are not explained. As reason for rejection it is mentioned in the bill that although there is need for more guidance on what is and is not possible around frisking,

[34] Idem, p. 21

there still is no urgent need in naming criteria in the law.[35] A slightly odd substantiation since on the one hand criteria are regarded as useful for a more targeted application of frisking, while on the other hand are characterized as: resting on insufficient basis, not transparent and not verifiable.[36] As stated above, the policy instrument is not adapted to the nature of the weapon-related violence, but only on its size. There are both advantages and disadvantages associated with it. Discrimination is prevented, but this approach is not improving the efficiency. In short, it can be stated that the reduction of weapon possession in this case is to be achieved by focusing on the extent of weapon-related violence and not by focusing on the nature of weapon-related violence. So there are no specific target groups.

6.3 Local safety policy of Amsterdam-Amstelland

In the Regional Safety Plan Amsterdam-Amstelland 2007-2010/11 the top priorities within the safety policy are elaborated in the form of objectives of the national government, the police region Amsterdam-Amstelland and the Public Prosecution Service. The Regional Safety Plan should act as a framework for all parties while implementing the regional security. In summary, the Regional Safety plan is a joint policy strategy with objectives of the six municipalities in the region, the public prosecutor and the police. The multi-year policy plan (for the period from 2007 until 2011) of the police region Amsterdam-Amstelland, is integrated within this Regional Safety Plan.

Seven priorities are chosen: nuisance in public spaces, youth, repeating offenders, areas, serious crimes, priority crimes, regional pact agreements. However, with regard to reducing aspects of weapon-related violence (weapon use and victim injury) the words 'weapon' and 'injury' do not appear a single time in the program. This is remarkable because weapon possession in Amsterdam is the risk factor with the highest correlation with problematic behavior (Boutellier et al, 2008). Simultaneously, however, it is argued that the Amsterdam city council is practicing a weapon discouragement policy in order to combat the illegal possession of weapons since 1998.[37] In the past the municipality, in cooperation with the police and judiciary, undertook a number of actions to eliminate gun

[35] Idem, p. 22
[36] Idem
[37] http://www.eenveiligamsterdam.nl/publish/pages/315648/163.3b.10.doc

ownership in Amsterdam as well as possible. These actions include controls of weapons in educational institutions, placing safes for weapons in the hospitality sector[38], and the establishment of a local ban on knives. Since 2002 the emphasis is on frisking.[39]

These local policy are virtually identical to the national policy. Frisking within the local safety policy can be regarded as equivalent of frisking within the national policy, because national guidelines should not be deviated. The conditions of frisking are legally defined at the national level. In terms of policy targets, weapon controls on educational institutions and placing gun safes in the hospitality sector show many similarities with the 'Project illegal weapon possession'. The policy targets are the same, namely educational institutions and the hospitality sector [40], and the safety measures are implemented in the form of arms control.

The local ban on knives shows many similarities with the discussed ban on stilettos, switchblades and balisongs. Except for two differences. The first difference is that this concerns is a wider range of knives. For persons the possession of knives or other objects that may be used as a blade weapons is prohibited at all times, unless it has been packed in such a way that it cannot be utilized for actual use.[41] The second difference lies in the users that are associated with this type of weapon. In the comprehensive ban on stilettos, switchblades and balisongs it is the great attraction of these weapons on youth that is emphasized. The emphasis is on drug addicts within the local ban on knives. By their presence, they seriously disturb the public order in some areas. In the same regions "a large number of weapon-related incidents occur that are characterized by the use of knives and stabbing weapons".[42] A substantiation for any signs of a connection between the two characteristics is omitted. It is only stated that the two properties appear in a specific area. Therefore it is in line with expectations that drug and/or alcohol users prefer to use this type of weapon. The aforementioned has led to the following assumption:

[38] In some clubs catering safes are placed at the door, so visitors can hand in illegal substances and weapons when entering the building.
[39] http://www.eenveiligamsterdam.nl/thema's/thema's/overlast/wapenbezit/
[40] http://www.eenveiligamsterdam.nl/publish/pages/315648/163.3b.10.doc
[41] http://www.eenveiligamsterdam.nl/publish/pages/315742/162.3b.10.doc
[42] Idem

H 15 – Relatively speaking, a blade weapon is used more often by drug and/or alcohol users than by non-drug and/or alcohol users.

6.4 Prevention of victim injury

One of the goals of reducing weapon ownership in the 'Action plan against violence' is a reduction of the victimization of violence by 20% to 25% (Lanting & Hoeymans, 2008). There are no policies specifically aimed at this reduction, however there are some advices given by public authorities. It is not so much advice in order to prevent armed violence from happening, but an advice to victims who are already involved in a violent situation. This advice is about how to act in the right way in the right situation, so they can prevent injury from happening or limit the amount of injury that is inflicted by an offender. Policies that are aimed directly at the reduction of victim injury are missing. On the website of the police it is advised to cooperate with the offender with regard to various types of offenses. The basis of these advices remains unclear. With regard to (house) robberies it is advised to act in accordance with the R.A.R.O. principle (in Dutch: R.A.A.K. principe). This abbreviation stands for: *'The R.A.R.O. principle: R = remain calm, stay as calm as possible in all circumstances, even if a firearm is pointed at you. A = accept the situation, a merchant cannot withstand against a firearm/violence even if it is emotionally unacceptable that you money is stolen from you that easily, be wise and do not fight and give your money/jewelry/cigarettes etc. R = relinquish: relinquish the desired booty: the robber will disappear when he has his booty: his goal has been achieved. O = observe: try to remember as many as possible essential offender characteristics"* (Gemeente Amsterdam, 2011:4). The robber wants to be in control of the situation, and in order to achieve this he carries a weapon by which he can actively intervene (Gemeente Amsterdam, 2011). The R.A.R.O. principle is meant to convince people that their health and safety are more important than their possessions. Accepting to follow instructions from anyone who threatens with a firearm contradicts the sense of justice, however, in some cases this may cause the level of violence to remain low. Besides that, the possibility exists that unexpected actions by the victim surprise the offender. Desperate offenders lead to desperate deeds.[43]

[43] http://www.maxxecure.nl/index.php/artikelen/112-pak-de-overvaller-gebruik-je-verstand

The clearest advice is focused on how to act as a victim during street robbery: *"Do not resist the offender. Especially if the offender is armed. In that case there is an additional risk of injury."*[44] According to this advice, resistance will lead to a greater risk of victim injury. This is similar to resistance-injury hypothesis (H11). The advice that a victim should not resist during a weapon-related violent crime seems to be correct. However, the testing of Hypothesis 10 has showed that a lower harm potential of a weapon will increase the risk of victim injury. The advice applies to resistance during weapon-related violence. However, no distinction is made between different types of weapons, while this appears to be of interest. If one weapon increases the risk of victim injury more than any other weapon, it is questionable whether the advice that resistance should be avoided at all times is still correct. To examine this, a different connection needs to be considered, namely between the weapon types on the one hand and the sequence of resistance on the other hand.

6.5 Conclusion

The explanation of the policy in this chapter has formed a framework. Based on the factors that are of interest within the safety policy, a number of statements can be formulated with regard to weapon use and victim injury during weapon-related violence. These assumptions affect the choices that must be made during the data processing and play an important role in answering the research questions. The aforementioned hypotheses are based on the conceptual model of the national and local safety policy. The results of the testing of the hypotheses can be found in the next chapter. Besides that, the findings of this chapter are the basis for answering the third research question "*What are the characteristics of the local safety policy regarding weapon-related violence in Amsterdam-Amstelland?*"

The focus is on violence in general within the safety policy aimed at reducing violence in the public and semi-public domain. Policies that focus on weapon-related violence can therefore be regarded as scarce. In addition, the local safety policy cannot be dissociated from the national safety policy, because the local policy largely results from national policy. The concepts 'weapon' and 'injury' do not appear in the most important document of the

[44] http://politie.nl/midden-en_west-brabant/projecten/straatroof.asp

local safety policy. This is remarkable because weapon possession in Amsterdam is the risk factor with the highest correlation with problematic behavior.

The three most salient policy measures are the 'Project illegaal wapenbezit' (Project illegal weapon possession) part of the Action plan against violence; the total ban on stilettos, switchblades and balisongs; and (the extension of) frisking. The first national safety policy measure focuses on the following policy targets: educational institutions and hospitality sector. The second safety policy measure focuses on blade weapons and young offenders. It is the great attraction of these weapons on youth that is emphasized, together with enforcement practices that are getting more efficient since there is no discussion possible about the extent to which the stilettos, switchblades and balisongs are allowed. The local variation on this is the only one of the three that is substantially different from their national counterpart. The emphasis is on drug addicts within the local ban on knives. By their presence, they seriously disturb the public order in some areas. In the same regions a large number of weapon-related incidents occur that are characterized by the use of knives and stabbing weapons. Additional policy targets: drug and/or alcohol users. The third measure to reduce weapon violence in society is also the most discussed policy measure; frisking. This involves checking persons on weapon possession at a particular time in a particular place. At a certain place means that frisking is permitted only in a so-called safety risk area. The designation of a safety risk area is usually made on the basis of a weapon incident analysis carried out by the police. Only the extent of weapon related violence is taken into account here, not the nature of weapon related violence. The choice for only looking at the extent of the weapon-related violence can be attributed to the requirements by politicians and authorities imposed on frisking. Due the emphasis on random frisking it is not possible to designate specific policy targets with regard to this policy measure. Victim injury is the only aspect that is lacking in order to answer the third research question. This is not so much a policy measure, but an advice from the government on how to act as a victim once they have ended up in a given situation. Briefly the credo on how to act while being victimized is as follows: do not resist, this leads to a greater risk of injury, especially when weapons are used by the offender. Also here is not clear how, and on what basis, these advices have been established.

Chapter VII – Policy in practice (Bivariate analysis)

7.1 Introduction

In order to answer the fourth research question "*To what extent are the assumptions of the local safety policy in terms of weapon-related violence in Amsterdam-Amstelland correct?*" a comparison must be made between policy and practice. Whether the policies are properly adapted to practice can be answered in different ways. This possibility exists. It may occur that policy targets on which the policy is directed are similar to the characteristics that emerged from the theoretical framework. The characteristics of the theoretical framework have been tested for statistical significance in a previous chapter, which eliminates the need to do this again. If this is not the case, the relevant hypotheses will be tested in this section.

7.2 Weapon use in the hospitality sector

A connection between the hospitality establishments and weapon use is presumed by the government in order to substantiate weapon controls in the hospitality sector. Because this study only has access to weapons-related violence, it is not possible to make a comparison between weapon use and non-weapon use. Therefore firearm use will be compared with non-firearm use. Firearm use appears to be significantly distributed between hospitality establishments and non-hospitality establishments. The crosstab (Table 18) shows that a vast majority of the cases of weapon-related violence take place in a non-hospitality establishment (97.6% of all cases). The opposite is true for the relative numbers of firearms. Firearms are used in no less than 77.4% of all cases of weapon-related violence in hospitality establishments, while this occurs in only 43% of all cases of weapon-related violence in non-hospitality establishments. Relatively speaking, it can be concluded that a firearm is used more often during weapon-related violence in hospitality establishments than during weapon-related violence in non-hospitality establishments *(Chi^2 = 13,804, p < .001)*. This is a strong relation *(Cramér's V = .173)*. Table 18 shows the distribution of weapon-related violence in hospitality establishments and non-hospitality establishments. The total research group is shown, as is the division between firearm use (FAU) and non-firearm use (Non-FAU).

Table 18
Weapon-related violence in (non-)hospitality establishments disaggregated for non-firearm use (Non-FAU) and firearm use (FAU) (N=461)

	Total		**Non-FAU**		**FAU**		**Chi² (df)**
	n	(%)	*n*	(%)	*N*	(%)	
Non-hospitality sector	430	100%	245	57,0%	185	43,0%	13,804*** (1)
Hospitality sector	31	100%	7	22,6%	24	77,4%	
Total	461	100%	252	54,5%	209	45,5%	

*p<.05, **p<.01, ***p<.001

7.3 Weapon use in educational institutions

Besides the aforementioned relation between hospitality establishments and weapon use, it is also assumed that there is a connection between educational institutions and weapon use. In this case firearm use will be compared with non-firearm use. Educational and non-educational institutions appear to have no significant differences in the distribution between firearm use and non-firearm use. The crosstab (Table 19) shows that a vast majority of the cases of weapon-related violence occur in non-educational institutions (99.3% of all cases). Although the relative numbers describe that non-firearms are used more frequently in educational institutions (100% compared with 45.6% in non-educational institutions). This is entirely due to the very small number of weapon-related violence in educational institutions (three in total). Firearm use at educational institutions does not occur within the population of this research, which results in a biased representation of reality. The results of the chi square test confirm this, there is no statistical relation between educational institutions and weapon use *($Chi^2 = 2,504$, $p = .114$).*

Hypothesis 13 is rejected

Table 19 shows the distribution of weapon-related violence in educational institutions and non-educational institutions. The total research group is shown, as is the division between firearm use (FAU) and non-firearm use (Non-FAU).

Table 19
Weapon-related violence in (non-)educational institutions disaggregated for non-firearm use (Non-FAU) and firearm use (FAU) (N=461)

	Total		**Non-FAU**		**FAU**		**Chi² (df)**
	n	(%)	*n*	(%)	*N*	(%)	
Non-educational institution	458	100%	249	54,4%	209	45,6%	2,504 (1)
Educational institution	3	100%	3	100%	0	0,0%	
Total	461	100%	252	54,7%	209	45,3%	

*p<.05, **p<.01, ***p<.001

7.4. Multiple logistic regression with control variable

The previous section has showed that the hospitality sector variable differs significantly between firearm use and non-firearm use. This variable is added as a control variable to the multiple logistic regression from Table 10 (Section 5.6.1). The parameters are shown in Table 20. Included is the corresponding Wald-statistic, which expresses the strength of the contribution of the parameter.

7.4.1 Analysis

Regarding the individual indicators regarding the control variable it can be stated that hospitality establishments are no independent predictor of firearm use. So there is no question of a relation between hospitality establishments and firearms.

Hypothesis 12 is rejected

Compared to Table 12 almost all significant parameters remained the same. The only notable difference is that the addition of the control variable 'hospitality establishments' has ensured that the age group 25-29 years has become an independent predictor of firearm use. For offenders in the age category of 25-29 years, the odds ratio of firearm use/non-firearm increases by 247% compared to offenders younger than 18 years. In other words, adjusted for the other indicators, the probability that an offender aged 25-29 years will use a firearm, is about 1.5 times higher as the probability of firearm use by an offender younger than 18 years. So the risk of firearm use is higher among older offenders than among younger offenders. Based on the Nagelkerke scores it is also possible to state that

hospitality establishments add little explanatory value. Through the addition of this control variable an increase in explanatory value of only 0.3% is achieved (Nagelkerke R2 = .285, which was .282).

Table 20

Independent predictors of firearm use (n = 413, missing = 48)

	Model A	
	Exp(B)	Wald
Offender characteristics		
Presence male offender	5,265	2,095
Age (ref: < 18 years)	-	17,970
18-19 years	1,627	1,020
20-24 years	1,677	1,565
25-29 years	2,468*	3,939
30-34 years	5,378***	12,079
35-39 years	1,730	1,114
> 39 years	0,849	0,065
Group	2,661***	11,721
Alcohol/Drugs	0,288*	4,943
Victim characteristics		
Power Asymmetry (ref: Neutral P.A.)	-	13,632
Positive Power Asymmetry	0,714	0,407
Weak Positive Power Asymmetry	0,455**	7,931
Weak Negative Power Asymmetry	1,983	3,338
Negative Power Asymmetry	1,112	0,020
Situational characteristics		
Relation Offender/Victim (1 = strangers)	3,204**	8,989
Previous armed violence	3,914*	4,930
Intervention possibilities (1 = absent)	0,258***	20,189
Control variable		
Hospitality establishment	1,726	0,951
Nagelkerke R2	.285	

* p < .05, ** p < .01, *** p < .001

7.5 Young offenders and blade weapons

An important reason within the national security to ban stilettos, switchblades and balisongs is that young people have a great attraction to these weapon types. Compared with older age groups, it is therefore expected that young offenders use a blade weapon

more often than non-blade weapons. The different weapon types do appear to have a significant division between the age groups. The crosstab (Table 21) shows that, in absolute numbers, the majority of the cases of blade weapon-related violence are being committed by offenders within the age group of 20-24 years old (53 cases). As for the relative numbers, a blade weapon is used in 48.1% of all cases of weapon related violence. For offenders in the youngest age category this percentage is much higher, 56.6% of the offenders younger than 18 years are using a blade weapon. For offenders older than 34 years, these percentages are even higher. However, offenders within the age group of 18-34 years prefer to use a non-blade weapon. It can be concluded that young offenders prefer to use a blade weapon during the commission of weapon-related violence *(Chi^2 = 14,714, p < .05)*. This is a strong relation *(Cramér's V = .188)*. Table 21 shows the age categories of the oldest present offender disaggregated for non-blade weapon use (Non-BWU) and blade weapon use (BWU).

Table 21
Age categories of the oldest present offender disaggregated for non-blade weapon use (Non-BWU) and blade weapon use (BWU) (N=416)

	Total		**Non-BWU**		**BWU**		**Chi^2 (df)**
	n	(%)	*n*	(%)	*n*	(%)	
<18 years	46	100%	20	43,5%	26	56,5%	14,714* (6)
18-19 years	46	100%	30	65,2%	16	34,8%	
20-24 years	117	100%	64	54,7%	53	45,3%	
25-29 years	63	100%	39	61,9%	24	38,1%	
30-34 years	63	100%	33	52,4%	30	47,6%	
35-39 years	47	100%	18	38,3%	29	61,7%	
>39 years	34	100%	12	35,3%	22	64,7%	
Total	416	100%	216	51,9%	200	48,1%	

*p<.05, **p<.01, ***p<.001

7.5.1 Age as an independent predictor for blade weapon use

This study is not limited to a description of the strength of the relation, it is also intended to understand the extent to which age can give a correct prediction of the likelihood of blade weapon use. A multiple logistic regression is performed in order to establish this. Only the variable 'age of the offender' is taken into account in this case. As stated within the policy,

the practical features and easy availability ensure that young people are heavily attracted to these blade weapons. Therefore the youngest age group (<18 years) is chosen as the reference category. The parameters are shown in Table 22. Included are the corresponding Wald-statistics, which express the strength of the contribution of the parameter.

Table 22
Age of the oldest present offender as an independent predictor of blade weapon use (N = 416)

	Exp(B)	Wald
Offender characteristics		
Age (ref: < 18 years)	-	14,354
18-19 years	0,410*	4,307
20-24 years	0,637	1,654
25-29 years	0,473	3,591
30-34 years	0,699	0,841
35-39 years	1,239	1,239
> 39 years	1,410	1,410
Nagelkerke R2	.047	

* p < .05, ** p < .01, *** p < .001

The table shows that compared to the youngest age group, other age groups are not significantly less likely to use blade weapons. This applies only to offenders in the age category of 18-19 years. Table 17 already showed a correlation between the oldest age categories and a higher probability of blade weapon use. The results from the logistic regression also show a higher probability of blade weapon use for the oldest offenders, although these are not statistically significant. In order to provide a clearer picture than the previous results another logistic regression will be performed where the independent variable 'oldest present offender' is divided into two categories: younger than 30 years and 30 years or older. The parameters are shown in Table 23. Included are the corresponding Wald-statistics, which express the strength of the contribution of the parameter.

Table 23
Age category of the oldest present offender as an independent predictor of blade weapon use (N = 416)

	Exp(B)	Wald
Offender characteristics		
Age category (1 = 30 years or older)	1,653*	5,854
Nagelkerke R2	.019	

* p < .05, ** p < .01, *** p < .001

Age can be considered as an independent predictor of blade weapon use. For offenders aged 30 years or older the odds ratio of blade weapon use/non-blade weapon use increases by approximately 60% compared to offenders that are younger than 30 years. In other words, adjusted for the other indicators, the probability that an offender aged 30 years or older will use a blade weapon, is about 1.6 times higher as the probability of blade weapon use by an offender younger than 30 years. So, when the concept 'young offender' is broadened, it becomes clear that the probability of blade weapon use is higher among older offenders than among younger offenders.

Hypothesis 14 is rejected

7.6 Drug and/or alcohol use and blade weapon use

The most important assumption within the local safety policy to proceed to a total ban on blade weapons, is that a great number of incidents occur involving blade weapons in the areas which may also be characterized as areas with a large number of drug-related nuisance. This implies that offenders which are under the influence of drugs and/or alcohol use a blade weapon more frequently compared to non-intoxicated offenders. There is no substantiation whether there is an actual connection between the two characteristics. It is merely stated that these two properties occur in certain areas.

Whether or not an offender is under the influence of drugs and/or alcohol appears to have no significant differences in the distribution between blade weapon use and non-blade weapon use. Looking at the relative numbers, the crosstab (Table 24) shows that blade weapons are preferred by offenders who are under the influence of drugs and/or alcohol.

This weapon type is selected in 60% of cases, while this applies to only 47.3% of the offenders that are not under the influence of drugs and/or alcohol. That these relative numbers differ that much can be explained by the absolute numbers. Only a very small number of weapon-related offenses are committed by offenders who are under the influence of alcohol and/or drugs, namely 31 cases, which represents only 9% of the total number of cases of weapon-related violence. This has a distorting effect on the results. The results of the chi square test confirm this, there is no statistical relation between drug and/or alcohol use and blade weapon use *(Chi^2 = 1,806, p = .179).*

Hypothesis 15 is rejected

Table 24 shows the distribution of weapon-related violence subdivided by whether or not an offender is under the influence of drugs and/or alcohol. The total research group is shown, as is the division between firearm use (FAU) and non-firearm use (Non-FAU).

Table 24
The extent to which an offender is under influence of drugs and/or alcohol disaggregated for non-blade weapon use (Non-BWU) and blade weapon use (BWU) (N=415)

	Total		**Non-BWU**		**BWU**		**Chi^2 (df)**
	n	(%)	*n*	(%)	*N*	(%)	
No drug and/or alcohol use	385	100%	203	52,7%	182	47,3%	1,806 (1)
Drug and/or alcohol use	30	100%	12	40,0%	18	60,0%	
Total	415	100%	215	52,8%	200	47,2%	

*p<.05, **p<.01, ***p<.001

7.7 Weapons, victim resistance and victim injury

The advices on the websites of the police suggest that a relation is assumed between victim resistance and victim injury. Victim resistance would increase the chance of victim injury, especially when a weapon is involved. This general link between victim resistance and victim injury corresponds to hypothesis 11. So, the advice that it is better not to resist an offender during a weapon-related crime seems correct. However, in this case the outcomes of hypothesis 10 should not be overlooked. This advice applies to resistance during weapon-related violence and from the testing of hypothesis 10 it has emerged that a lower

harm potential of a weapon increases the risk of victim injury. In this case, no distinction is made between the different weapon types, something which is of importance. If one weapon type increases the risk of victim injury more than any other weapon type, it is questionable whether the advice that resistance should be avoided at all times is still correct. In order to answer this, a different connection needs to be considered, namely between the weapon types on the one hand and the sequence of victim resistance on the other hand. The most common weapon types will be disaggregated for this sequence of victim resistance in a crosstab. The different weapon types do appear to have a significant division between the different sequences of victim resistance and victim injury. A logistic regression analysis is not an option in this case. There is no dichotomous dependent variable, because the four different scenarios are the dependent variables. As shown in Table 25, it is possible to speak of a statistical relation between weapon types and the course of weapon-related violence *($Chi^2 = 64{,}057$, $p < .001$).* This is a very strong relation *(Cramér's V = .269)*.

Table 25

Weapon types disaggregated for the sequence of victim resistance and victim injury (N = 416)

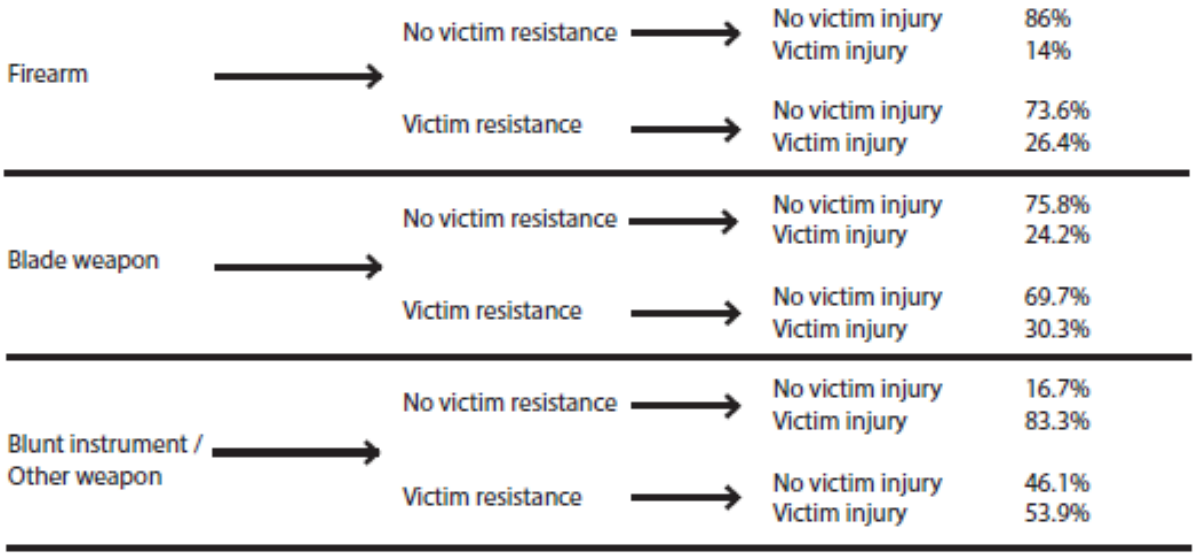
	Total		**No resistance/ No injury**		**No resistance/ Injury**		**Resistance/ No injury**		**Resistance/ Injury**		**Chi² (df)**
	n	(%)	*n*	(%)	*n*	(%)	*n*	(%)	*n*	(%)	
Firearm	203	100%	129	63,5%	21	10,3%	39	19,2%	14	6,9%	64,057***(6)
Blade weapon	204	100%	97	47,5%	31	15,2%	53	26,0%	23	11,3%	
Blunt instrument/Other	37	100%	4	10,8%	20	54,1%	6	16,2%	7	18,9%	
Totaal	444	100%	230	51,8%	72	16,2%	98	22,1%	44	9,9%	

*p<.05, **p<.01, ***p<.001

This, however, creates an incomplete impression, because victim injury is preceded by an act of the victim. Therefore it is not possible to simply draw conclusions from the fact that a certain category (in this case 'No resistance/No injury' or 'Resistance/No injury') is relatively the most common. In this way victim injuries which are caused by an act of the victim are disregarded, therefore it is not possible to compose the odds ratio of victim injury for each action by the victim. It is possible that incorrect conclusions are drawn. The injury ratio within an act by the victim should be regarded. 'No resistance/No injury'

should be set against 'No resistance/Injury', while 'Resistance/No injury' should be set against 'Resistance/Injury'. The effects of this can be seen in figure 3. This flow chart is based on the previous chi square test, in which the consequences of resistance/no resistance for injury/no injury are explained appear for each weapon type:

Figure 3: Effects of victim resistance on victim injury for each weapon type



From this diagram it can be concluded that if a victim is facing an offender that uses a firearm, the likelihood of victim injury is the lowest when he/she does not resist. The same applies to blade weapons, although in this case the differences between resistance/no resistance are much smaller. This does not apply to blunt instruments and other weapons. If a victim faces an offender that uses a blunt instrument/other weapon type, than the likelihood of victim injury is the highest when he/she does not resist. In this case the best option for the victim is to resist the offender, because the risk of injury after resistance (53.9%) is much lower than the risk of injury after non-resistance (83.3%). The previous assertion that victim resistance increases the risk of victim injury is correct (based on the testing of hypothesis 11, see section 5.9) should therefore be reversed. In order to minimize the amount of victim injury it is better to resist as a victim during weapon-related violence with certain weapon types.

Hypothesis 11 will therefore be rejected, in contrast to previous assertions

7.8 Conclusion

The assumptions of chapter 6 say nothing about the extent to which these prove to be correct in practice. The findings of this chapter are the basis for answering the fourth research question *'To what extent are the assumptions of the local safety policy, in terms of weapon-related violence in Amsterdam-Amstelland, correct?'.* First, the hypotheses about the locations 'hospitality sector' and 'education institutions' were tested. Only the first of these two independent variables, which are selected on the basis of the safety policy, shows a connection with firearms. The variable 'educational institution' appears to have no significant differences in the distribution between firearm use and non-firearm use (H13). Despite the fact that it has a significant correlation with firearm use, the multiple logistic regression of firearm use shows that the variable 'hospitality sector' is not an independent predictor for firearm use (H12). Table 26 shows the aforementioned.

Table 26
Summary III

Hypothesis	Does the variable from the hypothesis show a relation? (chi-square)	Is the variable from the hypothesis an independent predictor of fire arm use? (Logistic regression)	Is the hypothesis correct?
H12	Yes	No	No, not an independent predictor
H13	No	Inapplicable	No, there is no relation

Next are the hypotheses with regard to blade weapon use. On the basis of Chapter 6, two variables were selected that are assumed to influence blade weapon use. These are 'age of offender' and 'drug and/or alcohol use'. Again, only the first of these two independent variables shows a connection with blade weapon use. The variable 'drug and/or alcohol use' appears to have no significant differences in the distribution between blade weapon use and non-blade weapon use (H15). Next to the fact that it has a significant correlation with blade use, the multiple logistic regression of blade weapon use shows that the variable 'age of offender' is also an independent predictor for blade weapon use. Nevertheless, it is not possible to accept the hypothesis, because the logistic regression shows that the probability of blade weapon use decreases by the hypothesized relation:

- (H14) Juvenile offenders (<30 years) are more likely to use blade weapons = **Older offenders (30 years or older) are more likely to use blade weapons**

Therefore the hypothesis must be rejected. However, this does not detract from the fact that statements can be made about the supposed connection between the aforementioned independent and dependent variable. Table 27 shows the aforementioned:

Table 27
Summary IV

Hypothesis	Does the variable from the hypothesis show a relation? (chi-square)	Is the variable from the hypothesis an independent predictor of fire arm use? (Logistic regression)	Is the hypothesis correct?
H14	Yes	Yes	No, chance of victim injury is smaller
H15	No	Inapplicable	No, there is no relation

So far, the hypotheses regarding firearm use and blade weapon use. What remains are the advices that should lead to a reduction of victim injury. The police advices on how to act during weapon-related violence. The assumption that resistance during weapon-related violence leads to additional victim injury compared to situations without weapon use, corresponds to the relation that has been tested by means of hypothesis 11. However, this appears to be incorrect when other aspects are taken into account. Due to the outcomes of the testing of Hypothesis 10 a possible relation between the weapon types on the one hand and the sequence of victim resistance on the other hand needs to be tested. The chi square test shows that there is a relation between both variables. Targets are designated within the safety policy in order to reduce weapon-related violence and victim injury. In short, it can be stated that, in practice there appears to be no relation between these targets and weapon-related violence and victim injury. All presumed correlations can be rejected. Although one policy target seems to be an independent predictor of weapon-related violence, in fact, it works in the opposite direction. So, in this case the wrong policy target is being addressed. The advices to prevent victim injury from happening by means of non-resistance are correct with regard to firearms and blade weapons. This does not apply to situations in which the offender uses a blunt instrument. In these situations it is advisable to resist the offender. Because then, the risk of victim injury is at its lowest.

Chapter VIII – Conclusion, discussion and recommendations

What remains are the conclusion, the discussion and the recommendations. The conclusion consists of the answering of the central question by means of the findings from previous chapters. The interpretation of the most remarkable findings will be treated in the discussion section. This thesis will be concluded with practical recommendations and recommendations for further research.

8.1 Conclusion

The conclusions of the four preceding chapters form an answer to the central question. Before proceeding to answering the central question, it will be described once again:

Which factors lead to weapon use a victim injury during weapon-related violence in Amsterdam-Amstelland, and to what extent is the local safety policy attuned to these factors?

From the routine activity theory, multiple factors have emerged that may be able to increase the probability of weapon use and victim injury. Hypotheses are formed on the basis of these variables. The data collection for the purpose of testing these routine activity theory hypotheses resulted in a stereotyping of weapon use and victim injury in Amsterdam-Amstelland. This is stereotyping is drawn on the basis of the frequency of the characteristics of weapon-related violence. The actual testing of the hypotheses has shown that these characteristics do not dispose of an equal explanatory value for weapon use and victim injury.

First, it will be examined whether the tested independent predictors of firearm use and victim injury are actually addressed within the safety policy.

The following factors appear to contribute to an increased risk of firearm use:

- The number of offenders: The more offenders, the higher the probability of firearm use
- The age of the offender: The older the offender, the higher the probability of firearm use

- State of mind of the offender: The less drug and/or alcohol use, the higher the probability of firearm use
- The power difference between offender and victim: The stronger the victim with respect to the offender, the higher the probability of firearm use
- The relation between offender and victim: The less that offender and victim do know each other, the higher the probability of firearm use
- Previous violence: The less previous violence between offender and victim, the higher the probability of firearm use
- The extent to which third parties can intervene: The more possibilities for intervention by third parties, the higher the probability of firearm use

None of these independent predictors of firearm use are directly addressed within the safety policy. Regarding these factors, the safety policy is in its entirety not attuned to the factors that increase the risk of firearm use in practice.

The following factors appear to contribute to an increased risk of victim injury:

- The number of offenders: The more offenders, the higher the probability of victim injury
- The extent to which third parties can intervene: The fewer possibilities for intervention by third parties, the higher the probability of victim injury
- The relation between offender and victim: The more that offender and victim do know each other, the higher the probability of victim injury
- The attitude of the victim: The more resistance by the victim, the higher the probability of victim injury
- The harm potential of the weapon: The less dangerous the weapon, the higher the probability of victim injury

Only one of the independent predictors of victim injury during weapon-related violence is appropriately addressed by means of advices within the safety policy. The more resistance, the higher the probability of victim injury corresponds with the advice to refrain from resistance. Regarding these factors, the safety policy is only partially attuned to the factors that increase the risk of victim injury. At first this

advice appears to be correct. However, it is still disregarded that the outcomes appear to change when victim resistance and weapon use are linked in order to determine the probability of victim injury. This will be explained in the remainder of this section.

In so far the extent to which the independent predictors are addressed within the safety policy. What remains is the opposite, namely the extent to which the targets within the safety policy can also be considered as independent predictors of firearm use and victim injury in practice. Despite the pretended attention that is claimed to be given to weapon-related violence within the safety policy, it is remarkable that the terms 'weapon' and 'injuries' are very hard to find within the measures. A clear definition of the policy targets that are addressed within the existing measures is very rare. And even when these policy targets itself are described sufficiently, it is still hard to figure out how these policy targets were selected in the first place. Besides that, it is shown that the same policy assumptions do not occur in practice. Firearm use is not occurring significantly more often in educational institutions and the hospitality sector than outside these locations. Also, young offenders and persons under influence of drugs and/or alcohol do not make significantly more use of blade weapons. Advice with regard to resistance is only partially correct, because the harm potential of the specific weapon types is overlooked. This is an important aspect, since this is an advice regarding weapon-related violence. If the factors 'victim resistance' and 'weapon type' are combined, it can be stated that it is advisable to resist as a victim, when confronted with weapons with a low harm potential. The aforementioned is summarized in Table 28.

In conclusion, the factors that lead to firearm use and victim injury during weapon-related violence in Amsterdam-Amstelland have been examined. Only a single factor is directly addressed within the policy. It also appeared that only one of the policy targets that are addressed within the safety policy is actually an independent predictors of weapon use. On this basis it can be stated that the safety policy is not attuned to the decisive factors of weapon-related violence and that almost all the assumptions of the same safety policy are wrong.

Table 28
Concluding summary

Factor that explains weapon use [45]	In practice	Policy
Presence of at least one male offender	X	X
Age of the oldest offender	+	X
Drug and/or alcohol use by the offender	-	X
Number of offenders	+	X
Ethnicity of the offender	X	X
Power asymmetry	-	X
Relation between victim and offender	-	X
Previous violence between victim and offender	-	X
Intervention possibilities for third parties	+	X
Factor that explains victim injury	In practice	Advice
Number of offenders	+	X
Relation between victim and offender	+	X
Intervention possibilities for third parties	-	X
Victim resistance	+	+
Harm potential of the weapon	-	X
Harm potential of the weapon linked to victim resistance	-	X
Assumptions safety policy (assumed relation)	In practice	Policy
Hospitality establishments	X	+
Educational institutions	X	+
Young offender (with regard to increased blade weapon use)	-	+
Drug and/or alcohol use (with regard to increased blade weapon use)	X	+

8.2 Discussion

In this section some critical comments will be made on how this research has been elaborated. First, the research data. The first comment relates to the use of investigation files as a source of the data. Section 2.3.1 noted the disadvantages of the use of these sources. Especially the distorted image that is caused by the use of this data regarding the outcome of resistance by victims. This, however, does not mean that research should not be conducted on the basis of research. Not using investigation files at all means that much data will be lost and that it is not possible to research certain offenses.

[45] x = inapplicable, + = increase of the factor leads to an increase of weapon use/victim injury, - = increase of the factor leads to a decrease of weapon use/victim injury

Second, the theoretical substantiation that is used for this research. The routine activity theory serves as the framework of this research, and some critical comments can be made on this theory. Little account is taken of the behavior of the offenders, the theory is criticized for a lack of falsifiability, and limitations are specified with regard to the empirical research by means of which this theory is tested (Wittebrood, 2006:66). On the other hand there are the advantages of the use of this theory as mentioned in Chapter 3. The routine activity theory can be considered as very useful for this research as is proven by the hypotheses which are formed on the basis of this theory.

However, not all hypotheses could be accepted, in particular the hypotheses regarding the offender characteristics. Possible explanations for this are the conflicting perspectives and previous findings on which the five hypotheses for the offender characteristics are based (see chapter 3). In cases where the probability of weapon use is lower, the opposite assumptions from the physical vulnerability perspective are in fact accepted. Other variables cannot be regarded as an independent predictor. Gender is an example of this, and can be explained from the small number of weapon-related offenses where no male offender is present. It is such a negligible number that the explanatory value of this variable is inadequate.

Other variables, such as ethnicity, appear to not even be related to weapon use. This is due to the fact that persons of western and non-western origin have a substantially identical distribution between firearm use and non-firearm use. The most remarkable result is that the presence of intervention possibilities for third parties leads to an increased risk of firearm use. This does not reflect the probability of detection perspective. More intervention possibilities for third parties mean an increased probability of being detected. This should lead to a deterrent effect on offenders and express itself through the use of weapons with a lower lethality. However, the opposite appears to be true. The increased risk of being caught does not cause offenders to refrain from the use of even deadlier weapons. One possible explanation is that in all these situations account is taken with the many intervention possibilities for third parties. These potential intervening parties can then best be confronted with weapons with a higher harm potential, given the deterrent effect these weapons.

One of the hypotheses drawn from the literature in order to answer the questions regarding victim injury was also rejected. It concerns the relationship between weapon use and victim injury. Chapter 3 explains that two kinds of relationships exist between weapon use and victim injury: a negative relationship and a positive relationship. For this review, we have chosen a negative relationship, because this was more in line with expectations on the basis of the literature. However, the opposite is proven: the less dangerous the weapon, the higher the risk of victim injury. Afterwards it can be established that it would have been better to test the relationship between weapon use and victim injury on the basis of the aforementioned positive relationship. The results of the testing of the hypotheses, that where derived from the advices of the government, supports this as well.

What remains are the results of the testing of the hypotheses based on the safety policy. Educational institutions appear to have no relation with firearm use, there is no evidence of significantly more or less firearm use at these locations than in other locations. This does apply to hospitality establishments, but nevertheless these locations prove to be no independent predictor of firearm use. This does not mean that the weapon controls which are implemented should be abolished, there is no data available in this study in order to come to such statements. It is true that there is no relation between the intended policy targets and weapon use, which makes it uncertain whether these policy targets are accomplished by means of such controls.

This discussion will be concluded with the hypotheses related to blade weapon use. The supposed relation between youth and blade weapon use does not exist. It turns out that the older offenders are more likely to use blade weapon. Offenders under the influence of drugs and/or alcohol do not appear to use blade weapons more often than people who are not under influence. It is therefore advisable to reverse the ban on blade weapons? No, but the assumptions on which it is based are wrong. This makes it questionable whether the right policy targets are being achieved.

8.3 Recommendations

As indicated in the first chapter, the research objective can be summarized as follows: “Examine which factors offer an explanation for arms-related violence and injuries and

assessing the extent to which the local safety policy are attuned to these factors. And to assess the extent to which the assumptions within the safety policy correspond to the empirical findings. So, ultimately, based on these findings, recommendations are made to improve the local safety policy." The factors were tested, as are the policy assumptions. What remains are the recommendations. These are divided between practical implications from this study and recommendations for further research.

8.3.1 Practical implications

This thesis examines the factors that cause firearm use. In order to make recommendations that could lead to an improvement in the approach to reduce these weapons. It can be concluded that all the factors in this study that have emerged as predictors of firearm use are not directly addressed within the safety policy. Table 25 clearly summarizes these factors and their influence.

Weapon use

It is recommendable to perform a more focused control. Frisking is based on a quantitative assessment. Within this thesis it became clear that the frequency of factors and the actual influence of these same factors may lie far apart. Assigning an area can be based on frequency, but there should also exist a possibility of selection based on causes of weapon use within this area. Otherwise, the selection will still be based on quantity data.

Recommendation I: Increase the scientific substantiation of (possible) discriminatory selection criteria

Although it is not allowed to select on the tested variables sex, age and ethnicity according to legislation that criminalizes discrimination, it is nevertheless important to examine these characteristics of weapon-related violence. As previously stated, discrimination is seen as an unjustified and unlawful distinction on the basis of characteristics that do not matter. However, if it turns out that a relation exists between violence and a characteristic and that this characteristic can be seen as an independent predictor, it can certainly be considered as a characteristic that matters. A justified and lawful, because scientifically substantiated, selection can take place within the safety policy measure on frisking. This also means less

unnecessary invasion of the privacy of groups that have a much lower chance of firearm use. Men are much more likely to switch to firearm use, though it does not appear to be an independent prognostic factor. A possible explanation for the latter is that at least one male offender is present in 97.6% of the cases; the limited number of women may lead to a distorted view. Selecting mainly men for frisking will reduce unnecessary searches of women. The same can be stated with regard to age. 30-34 year olds have a 5.4 times higher risk of firearm use. Again, a more targeted form of frisking can prevent the needless searching of groups with a slight chance of firearm use. Although non-Western offenders do not use a firearm more often than western offenders, and ethnicity is not an independent predictor for firearm use, an offender non-Western is involved in as many as 86% of the cases of weapon-related violence. This is a result that justifies further research.

Two offender characteristics do not fall into the category of discriminatory selection criteria. These are drugs and/or alcohol use and in acting in a group.

Recommendation II: No selection on drugs and/or alcohol use

Offenders under the influence of drugs and/or alcohol appear to use a firearm less often compared to offenders which are not intoxicated. With regard to blade weapon use it can be stated that these are more widely used among this group of offenders. The latter, however, is not a statistically significant relationship. In general, drug and/or alcohol users are only slightly represented in terms of weapon-related violence, only in 7.2% of the cases an offender in such a condition is present. Selection that is based on this offender characteristic brings a great risk of inefficiency and ineffectiveness with it.

Recommendation III: Focus on people who hang out in groups

The amount of offenders, in this thesis described as operating in a group, is an independent predictor of firearm use and victim injury. The risk of firearm use for this category is 2.7 times higher compared to offenders who act alone. The likelihood of victim injury increases by almost 150% as offenders act in group form. This can be regarded as a justification for the selection of persons that hang out in groups.

Power asymmetry, the relationship between offender and victim, and the occurrence of previous violence between offender and victim are factors on which selection is not possible. However, all three characteristics appear to be independent predictors of firearm use, making it undesirable to make no further recommendations based on these results.

Recommendation IV: Process the aforementioned factors that show a relation between offender and victim in information on weapon-related violence

The results show that the likelihood of firearm use increases when an offender is weaker compared to the victim. Selection based on so-called weak person is impracticable. Besides that is the weakness of people within this research is determined on the basis of some of the aforementioned discriminatory selection criteria. This does not mean that no recommendations can be made based on this factor. Information can play a significant role with regard to advice, information sessions and trainings. If potential victims are more aware of the fact the probability of firearm use is higher when they are approached by a weak-looking offender, then this can be better anticipated. The same applies to the relationship between offender and victim, and the extent of previous violence between offender and victim. Potential and actual victims of domestic violence may be considered as persons who are interested in the these two aspects.

Victim injury

The advice by the government on how to act as a victim during weapon-related violence is too general. Victim resistance and the harm potential of the weapon both seem to be related to victim injury, but cannot be seen separately when advice is given on how to act as a victim during weapon-related violence. Weapon-related violence consists of an action by the victim and the presence of a weapon, which together form the main contribution to a particular risk of victim injury.

This study has shown that the advices on how to act as victims during the occurrence of weapon-related violence are incorrect. It is therefore recommended to adjust these advices, because there are definitely some situations where resistance is the better option for a victim. The risk of victim injury is in fact much lower in these cases.

Recommendation V: Adjust the advice on resistance during weapon-related violence

If a victim gets into a situation in which the offender uses a blunt instrument, it is recommendable to resist the offender, because in that case the risk of victim injury is at its lowest. This should be adjusted, in the interest of potential victims. For firearm use and blade weapon use the advice of the police can be maintained. What remains are the factors which have emerged from this study as independent predictors of injury victims. It concerns the number of offenders, the relationship between offender and victim, and intervention possibilities for third parties. The risk of victim injury increases when offenders operate in a group. The same applies to situations where the offender and victim know each other. In contrast, the risk of victim injury decreases when third parties have the opportunity to intervene. How these characteristics influence the effects of resistance during weapon-related violence is unclear. Further research on this subject is therefore desirable.

Assumptions of the safety policy

The government focuses on different locations with to weapon control. Hospitality establishments are one of these types of locations. Here, a firearm is used relatively often during weapon-related violence. The total number of weapon-related violence in hospitality establishments is too small to speak of an independent predictor of firearm use. This is applies even more for weapon use in educational institutions. Within the research population there is virtually no weapon-related violence in these locations. On the basis of this study it is not possible to judge whether this is due to the policy measures, or that these numbers would still be as low without these measures. It can only be stated that the assumption, that firearms are frequently used in these locations, is not correct. This does not mean that it should be recommended to stop these controls, because they fulfill an important function. The smuggling of weapons into these locations is in fact greatly hampered. The same applies for the ban on blade weapons in general and the ban on stilettos in particular. The assumptions are wrong, young offenders appear to make use of blade weapons less frequently and there seems to be no relation between drug use and

blade weapon use. However, this does not imply that it is advisable to reverse the ban. It is just the substantiation of the policy that is not correct.

8.3.2 Recommendations for further research

It should be added that the results apply to the situation as it occurs in the police region Amsterdam-Amstelland. The data which has been used is derived from this police district. Because it is difficult to compare this region with other regions, it is recommended to carry out similar research in other police districts, in order to verify whether the findings of this paper do also apply to other police regions. As a major tourist attraction, Amsterdam has very different properties compared to other cities, and even more so compared to rural regions. In addition, further research into factors that lead to the weapon use and weapon-related injuries in violent crime is also of scientific importance. As already stated in Chapter 1, there is a scarcity of empirical tests of explanations for weapon use. There is also little understanding of the impact that these weapons have on the probability that the victim is injured. A contribution to this can be provided by examining the explanatory factors of weapon use and victim injury from a different theoretical perspective. That this scarcity was slightly decreased due to this thesis, does not affect the desirability of further research.

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Appendix I: Check list

Variable	Position	Label	Measurement level
Number	1		Scale
Dos_nr	2	File number	Ordinal
Region	3	Police region	Nominal
Incident	4	Type incident	Nominal
Offense	5	Type offense	Nominal
Location	6	Location	Nominal
Leeft_dad	7	Age offender	Scale
Etn_dad	8	Ethnicity offender	Nominal
Gesl_dad	9	Gender offender	Nominal
Drugsalc_dad	10	Drug- en alcohol use offender	Nominal
Antec_dad	11	Antecedents offender	Nominal
Leeft_slach	12	Age victim	Scale
Etn_slach	13	Ethnicity victim	Nominal
Gesl_slach	14	Gender victim	Nominal
Drugsalc_slach	15	Drug- and alcohol use victim	Nominal
Antec_slach	16	Antecedents victim	Nominal
Relatie_dad_slach	17	Relation offender(s) - victim(s)	Nominal
Eerder_geweld	18	Previous violence between offender and victim	Nominal
Aantal_wap_aanwezig	19	Number of weapons present at crime scene	Scale
Soort_wap_aanwezig	20	Type of weapon present at crime scene	Nominal
Aantal_wap_gebruikt	21	Number of weapons that are actual use	Scale
Soort_wap_gebruikt	22	Type of weapon that is actual used	Nominal
Aard_gebruik	23	Nature of weapon use	Nominal

Herk_wapen	24	Origin of weapon	Nominal
Keuze_wapen	25	Nature of weapon choice	Nominal
Keuze_wapengebruik	26	Nature of weapon use	Nominal
Motief_wapengebruik	27	Motif for weapon use	Nominal
Achterl_wapen	28	Weapon left behind on crime scene	Nominal
Special details	29	*< Describe any particular details of the incident, that may be of interest for this study >*	Nominal

Offense	1	F522 Assault
	2	F526 Incest
	3	F523 Other sexual offenses
	4	F527 Sexual abuse of children
	5	F521 Rape
	6	F540 Homicide / murder
	7	F542 Other offenses against life
	8	F12 Overt violence against persons
	9	F530 Threat
	10	F550 Simple assault
	11	E16 Quarrel
	12	E10 Shooting
	13	E15 Stabbing
	14	E11 Fighting
	15	F551 Aggravated assault
	16	B70 Street robbery
	17	B72 Robbery at home
	18	B74 Raid on money institution / runner
	19	B73 Raid on other object

Offense (continued)	20	A82 Blackmail / extortion
	21	B95 Other (simple) thefts with violence
	22	B50 Shoplifting with violence

Variable Values		
Value		**Label**
Region	1	Amsterdam-Amstelland
	2	Noord- en Oost-Gelderland
Incident	1	Deadly violence with firearm
	2	Violence without injury with firearm
	3	Violence without injury with firearm
	4	Deadly violence with other type of shooting device
	5	Violence with injury with other type of shooting device
	6	Violence without injury with other type of shooting device
	7	Deadly violence with blade weapon
	8	Violence with injury with blade weapon
	9	Violence without injury with blade weapon
	10	Deadly violence with blunt instrument
	11	Violence with injury with blunt instrument
	12	Violence without injury with blunt instrument
	13	Deadly violence with other type of weapon
	14	Violence with injury with other type of weapon
	15	Violence without injury with other type of weapon
Location	1	At home of the offender
	2	At home of the victim

Location (continued)	3	In another house
	4	In the café, bar, disco and restaurant
	5	In the street
	6	On the train station, metro station, bus stop, tram stop
	7	In train, metro, bus, tram
	8	In a car
	9	At work
	10	In school
	11	In store, department store, shopping mall
	12	Sports ground, sports hall, dressing room
	13	Park, parking, beach
	14	Hotel
Ethnicity offender	1	Dutch
	2	Surinamese
	3	Antillean
	4	Turkish
	5	Moroccan
	6	Otherwise
	7	Unknown
Gender offender	1	Male
	2	Female
Drug/alcohol offender	1	Yes
	2	No
	?	?
Antecedents offender	1	Yes
	2	No
	3	Unknown

Ethnicity victim	1	Dutch
	2	Surinamese
	3	Antillean
	4	Turkish
	5	Moroccan
	6	Otherwise
	7	Unknown
Gender victim	1	Male
	2	Female
Drug/alcohol victim	1	Yes
	2	No
	3	Unknown
Antecedents victim	1	Yes
	2	No
	3	Unknown
Relation offender victim	1	Partners
	2	Ex-partners
	3	Parent-child
	4	Relatives
	5	Neighbors
	6	Work-related
	7	Otherwise known
	8	Unknown
Previous violence	1	Yes, with weapon
	2	Yes, without weapon
	3	No
	4	Unknown

Nature of possession	1	Illegal
	2	Offender has permission to use weapon
	3	Third party has permission to use weapon
	4	Unknown
Nature of weapon use	1	Threaten
	2	Shooting
	3	Stabbing
	4	Beating
	5	Other
Origin of weapon	1	Brought to crime scene by offender
	2	Brought to crime scene by victim
	3	Brought to crime scene by third party
	4	Already present at crime scene
Choice weapon	1	Deliberately
	2	Impulsive
Choice weapon use	1	Deliberately
	2	Impulsive
Motif weapon choice	1	Self-protection
	2	Coercion
	3	Inflict injury
	4	Accident
	5	Otherwise
	6	Unknown
Weapon left behind	1	Yes
	2	No
	3	Unknown