

**AN ANALYSIS OF THE USE OF FINGERPRINTS TO IDENTIFY A MURDER  
SUSPECT**

by

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**FEBRUARY 2021**

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### **An analysis of the use of fingerprints to identify a murder suspect**

I declare that the above dissertation is my own work and that all the sources that I have used for quoted have been indicated and acknowledged by means of complete references.

I further declare that I submitted the dissertation to originally checking software and that it falls within the accepted requirements for originality.

I further declare that I have not previously submitted the work, or part of it, for investigation at Unisa for another qualification or at any other higher education institution.



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**SIGNATURE**

14 February 2021

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**DATE**

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## ABSTRACT

The purpose of the examination is to determine how fingerprints could be used in the identification of a murder suspect, focusing on detectives and fingerprint experts at Klerksdorp Police Service situated in North West region. A qualitative research approach was embraced, in which literature review, archives and interviews were utilized in substantiating the research findings. Interviews were conducted with detectives and fingerprint experts who are inter alia responsible for murder crime scenes, in the attempt to solicit fingerprints for the purpose of identification of suspects.

This study discussed a number of key theoretical ideas namely, criminal investigation, fingerprint identification, suspect, murder and identification. The study established that criminal investigation is the way toward finding, obtaining, gathering, planning, identification, also introducing prima facie proof to figure out what occurred and who is criminally liable for the criminal act. This study seeks to help with the contribution on how fingerprints could be used in the identification of a murder suspect.

The findings of this research study indicated that the majority participants had an understanding about the use of fingerprints to identify a murder suspect. However, different versions were furnished by the participants with regards to the research questions, which were contrary to the versions of the authors.

This research study made recommendations that extensive training to given to the investigators on the concepts of the research questions. Furthermore, that top management encourage investigators at lower levels, who in most cases probe murder cases, to enrol with higher educational institutions, offering formal courses that deals with how to solve murder cases. By doing so, investigators will be informed of the latest methods to solve murder cases using fingerprints.

## **KEY CONCEPTS**

Criminal investigation; fingerprint identification; suspect; murder; identification

## CERTIFICATE BY EDITOR

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#### **TO WHOM IT MAY CONCERN**

This certificate serves to confirm that I have edited MG Dlepu's dissertation entitled, **AN ANALYSIS OF THE USE OF FINGERPRINTS TO IDENTIFY A MURDER SUSPECT**

I found the work easy and intriguing to read. Much of my editing basically dealt with obstructionist technical aspects of language, which could have otherwise compromised smooth reading as well as the sense of the information being conveyed. I hope that the work will be found to be of an acceptable standard. I am a member of Professional Editors' Guild.

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## ABBREVIATIONS AND ACRONYMS

<b>ACE-V</b>	Analyse, Compare, Evaluate and Verify
<b>AFIS</b>	Automated Fingerprint Identification System
<b>CAPT.</b>	Captain
<b>LIEUT</b>	Lieutenant
<b>COL.</b>	Colonel
<b>CRC</b>	Criminal Record Centre
<b>CR &amp; CSM</b>	Criminal Record and Crime Scene Management
<b>CRIM</b>	Criminal Record System
<b>CSI</b>	Crime Scene Investigator
<b>DLS</b>	Digital Lift Scanner
<b>FIPS</b>	Fingerprint Identification Profile System
<b>FS</b>	Forensic Services
<b>HANIS</b>	Home Affairs National Identification System
<b>IAFIS</b>	Integrated Automated Fingerprint Identification System
<b>IAI</b>	International Association of Identification
<b>IO</b>	Investigating Officer
<b>LCRC</b>	Local Criminal Record Centre
<b>NFA</b>	National Fingerprint Agencies
<b>SAPS</b>	South African Police Service
<b>SAPSCRC</b>	South African Police Service Criminal Record Centre
<b>UNISA</b>	University of South Africa
<b>RSA</b>	Republic of South Africa

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# **CHAPTER ONE**

## **GENERAL ORIENTATION**

### **1.1 INTRODUCTION**

The crime of murder is increasing at an alarming rate in South Africa (SA). These crimes, inter alia, are murder wherein the suspects are not brought to book, owing to the lack of prima facie evidence. It is, therefore, imperative that each method accessible to the South African Police Service (SAPS) be used to solve murder crimes, by identifying suspects. One of the methods that can be utilised is fingerprints to link a murder suspect. Fingerprint identification is unique mark designs in form of arched, looped or whorled which can be used to an individual's identification. When a fingerprint has been lifted from a crime scene, whether chemically developed, rolled in ink or digitally scanned, the fingerprint patterns are analysed for unique features that will lead to the identification of an individual.

This section addresses the general orientation, problem statement, aims of the research, objectives of the research, purpose of the research study, research question, key theoretical concepts in respect of criminal investigation, fingerprint identification, suspect, murder and identification, value of the research, preliminary literature review, research methodology in respect of research design and research approach, target population and sampling, data collection in respect of interviews, literature study and documents, data analysis, measures to ensure trustworthiness in qualitative research in respect of credibility, transferability, dependability and conformability, ethical considerations, and the research structure.

### **1.2 PROBLEM STATEMENT**

Leedy and Ormrod (2010:44) view the the problem statement as the axis around which the whole study effort revolves. Serious and violent crimes in respect of murder reach epidemic proportions in South Africa, wherein the victims are brutally murdered (Statistics South Africa, 2016). The researcher found that during the period of 1 April 2015 to 31 March 2016, murder cases at Klerksdorp Policing area is by all accounts expanding and turning into an enormous issue,

since murder suspects could not be recognised and connected to murder cases (Statistics South Africa, 2017).

These murder cases were reported and criminal investigations were probed (Statistics South Africa, 2017). However, the researcher found that the majority of these cases were not even referred to courts of law for criminal prosecutions owing to the lack of prima facie evidence in that no suspects could be identified and linked to the murder cases (Statistics South Africa, 2016). Hence, this has huge negative implications on the criminal justice system, since the crime pertaining to murder is daily increasing and the broader public is perpetually losing confidence in the criminal justice system to eradicate serious crimes in respect of murder cases against human beings. The lack of insufficient evidence in murder cases makes it difficult to identify a murder suspect and link the suspect to the murder case (Becker & Dutelle, 2013:145). According to Orthmann and Hess (2013:127), investigating officers may utilize fingerprints solicited from a crime scene to link and identify a murder suspect.

In spite of the fact that, SAPS has implemented interventions and strategies of training investigators to educate them about the importance of using fingerprints to identify a murder suspect. However, it seems as if there is still a challenge in terms of the practical application thereof, which leads that the criminal justice system is unable to discharge its constitutional mandate in eradicating crime. According to Osterburg and Ward (2014:44), even if criminals do not always leave behind fingerprints at murder crime scenes, however, investigation for fingerprints at murder crime scenes should always be conducted. When fingerprints are retrieved from a murder crime scene, it leads police to the positive identification of a murder suspect (Turvey & Crowder, 2017:165). Therefore, fingerprints are an imperative method of gathering evidence during the investigation of murder cases. As a source of gathering physical evidence, it is extremely imperative for investigators to make use of fingerprints to identify a murder suspect.

The main reason which led to this research is the huge percentage of murder cases which were reported as closed at Klerksdorp Police Station because

murder suspects could not be identified and linked to the murder cases. Therefore, the researcher is embarking on this study to show to the commander and investigators of Klerksdorp Police Station the importance of using fingerprints to identify murder suspects. Hence, the researcher himself is an investigator who is quite conversant with the chain of evidence in respect of murder cases. Fingerprints are extremely valuable in murder investigations cases since it is able to identify suspect which serves as physical evidence (Orthmann & Hess, 2013:145).

Kumar (2011:45) stresses that the detailing of a research problem is the most imperative aspect of the study and the nature of the whole task relies upon it. This study used literature review as the methodology to address the research aim and questions.

### **1.3 AIMS OF THE RESEARCH**

According to Bak (2004:14), a research aim is a broad statement of a desired outcome, or the general intention of the research which paint a picture of the research project. Similar to the destination of a journey, a research should have a destination or an aim; the aim must be clear, concise and measurable. Furthermore, the aim of the research serves as a yardstick for determining whether the research has achieved what it was meant to achieve (Bak, 2004:16).

Leedy and Ormrod (2013:48) concede that subsequent to identifying the research problem, the aim of the study ought to be deliberately expressed with the goal that it speaks to the objectives of the study. The aim of the research should mirror an expansive explanation from the research concerning the objective of the study (Denscombe, 2012:48).

The aim of this study is to analyse the use of fingerprints in the identification of a murder suspect.

#### **1.4 OBJECTIVES OF THE RESEARCH**

According to Welman, Kruger & Mitchell (2005:194), a researcher must divulge the objectives of the study project. Lichtman (2014:35) concedes that the objectives of the research are to come up with solutions to the stated problems. Similarly, Ritchie, Lewis, Nichollis and Ormston (2014:194) concur that the objectives of the research intends coming up with solutions to the problems identified.

The objectives of this study are:

- To determine and understand the legislative framework governing the obtaining and use of fingerprints to identify a murder suspect.
- To determine the procedures used to identify a murder suspect when using fingerprints.
- To determine the best practices by using fingerprints to identify a murder suspect.
- To make recommendations that will assist the SAPS to improve the methods of the use of fingerprints in the identification of a murder suspect.

#### **1.5 PURPOSE OF THE RESEARCH STUDY**

According to Denscombe (2012:127), the purpose also indicates the reason why research is being conducted, is among others to educate the subjects of the study in helping the population that is under research. There are many purposes for doing research, such as evaluation, study, application, and empowerment. Hence, a study can have more than one of the above purposes (Denscombe, 2012:127-128).

The motivation behind study in criminal equity measure is to distinguish and clarify (Babbie, 2010:92 and Berg, 2004:85). The researcher evaluated the use of fingerprints to identify a murder, with the goal of weighing up its qualities and shortcomings and thinking about how this technique can be improved (Denscombe, 2012:129).

Emanating from Denscombe (2012:127), the purpose for this study is to:

- Evaluate: The researcher interviewed fingerprints experts at Klerksdorp SAPS to solicit their opinions about the use of fingerprints in the identification of a murder suspect.
- Explore: The researcher explored literature and conducted interviews with fingerprints experts at Klerksdorp SAPS to gather latest data about the use of fingerprints in the identification of a murder suspect.
- Develop good practice: Out of the meetings with the fingerprint experts, literature and documents the researcher proposed steps for good practice to improve the use of fingerprints as identification techniques.
- Empowerment: It is the researcher's intentions to write articles and present training to police officials and members of the public to educate them about the use of fingerprints in the identification of a murder suspect.

## **1.6 RESEARCH QUESTION**

According to Leedy & Ormrod (2013:39), a study question is classified as a board question at the commencement phase of any study. However, Creswell (2014:85) asserts that in a qualitative research, the researcher formulates the research questions, not objectives or hypotheses, though quantitative study questions ask about the connection between factors which the researcher want to investigate.

Leedy & Ormrod (2010:56) indicate that research questions are formulated to establish new facts and are an excellent way to determine which methods are going to be used to collect data. According to De Vos, Strydom, Fouche & Delport (2011:90), all that we do in the investigation cycle will be pointed towards addressing the study questions.

The research question for this study is:

- How can fingerprints be used in the identification of a murder suspect?

## **1.7 KEY THEORETICAL CONCEPTS**

The specification of conceptual definitions does two imperative aspects, namely, it serves as a specific working definition we present so that readers will

understand exactly what we mean by a concept, and it also focus on our observational strategy (Maxfield & Barbie, 2005:120).

In defining a terminology, the researcher constructs the terminology mean whatever he or she prefer it to mean inside the setting of the research problem (Leedy & Ormrod, 2010:59). In the same vein, Denscombe (2012:185) concurs that key hypothetical ideas are ideas that catch the attention of what study is all about. The following theoretical concepts are addressed by this study:

#### 1.7.1 Criminal investigation:

A criminal investigation is the way towards finding, gathering, soliciting, distinguishing and introducing at first sight proof to figure out what happened and who is criminally liable for the criminal transgression (Cooper & Cooper, 2013:383).

#### 1.7.2 Fingerprint identification:

Fingerprint identification is unique mark designs named angled, circled or whorled, and fingerprints are positive evidence of a person's identity. When a print has been caught, regardless of whether synthetically created, overflowed with ink or carefully filtered, the unique finger impression designs are investigated for remarkable highlights that will prompt in recognizing one person (Turvey & Crowder, 2017:126).

#### 1.7.3 Suspect:

A suspect is an individual who is allegedly associated with carrying out a criminal offence prior to initiating a criminal prosecution against him or her (Graves, 2014:96).

#### 1.7.4 Murder:

Becker and Dutelle (2018:202) define murder as the unlawful and purposeful causing of the demise of someone else.

#### 1.7.5 Identification:

Most of actual proof which is detected at the crime scenes can be recognised. This implies that the objects or items retrieved at the crime scene share a typical source (Viljoen, 2012:453).

### **1.8 VALUE OF THE RESEARCH**

Denscombe (2012:143) contends that a study ought to be beneficial, present functional needs and ought to add to the improvement of existing data. The researcher is strongly of the opinion that the final product of this study will be worthwhile to the academic community, South African population, prospective students and or University of South Africa (Unisa) and SAPS and the entire criminal justice system.

The researcher is therefore, of the opinion that the final product of this study will add value to the following population namely:

- The academic community could profit from this investigation in that it could be utilized in future studies.
- The South African population could profit from this study in that it could add to an expansion in the capture and conviction of culprits with regards to future murder cases.
- Prospective students and or Unisa could also benefit from this study and its results, in that the information will be available to Unisa and the academic fraternity. Furthermore, this study could also be used as improvement and as a source of reference to understudies and future researchers who wish to research about the use of fingerprints in the identification of a murder suspect.
- SAPS and the entire criminal justice system could likewise profit from this research and its outcomes, since this study could be utilized in the near future to educate all the applicable role-players within the criminal justice system, on how fingerprints could be utilized in the identification of a murder suspect.

### **1.9 PRELIMINARY LITERATURE REVIEW**

Literature review focuses more in deciphering theoretical and methodological background of the subject (Creswell, 2009:27). To summarise, literature review is significant for the accompanying reasons, to put the investigation in its unique

circumstance, to gain more knowledge on the topic under investigation; to demonstrate proficiency and let the scientific community and peer researchers understand what the researcher wants to challenge or contribute towards the use of fingerprints to identify a murder suspect. Moreover, it enables readers and critics to review the sources to convince them of the propositions and analysis the researcher is providing (Creswell, 2013:85).

A literature review permits the researcher to get a feeling about the title under investigation or to be researched (Flick, 2011:89). Accordingly, the researcher will search for similarities and differences, strengths, weaknesses and possibly radical new areas (Denscombe, 2012:63). With qualitative research, the literature review gives a foundation and inspiration to a study issue of the investigation. Creswell (2014:45) is also of the view that the discoveries of a subjective report are contrasted and existing literature review as a component of a writing control post collection of the data.

An in-depth study familiarises the researcher with the investigation which has been conducted in a certain field as well as with the existing developments on the same subject or field. A research study with relevant literature is an essential feature of any study (Kumar, 2005:80-82). Various sources applicable to this research project were consulted, which included books, articles, case studies, and publications on the website, SAPS annual plans, internet articles, newspaper articles and previous academic studies in respect of how fingerprints could be used in the identification of a murder suspect.

SAPS annual plans, books, journals, articles, case studies and previous academic studies were consulted in search for data in respect of the research title, problem and aim. Hence, local and international sources were also consulted to compare and to construct arguments. In finding literature with the same title or topic, the researcher searched for previous academic research studies, journals and articles. However, no literature was found after embarking on the said process with the same title as there is known about the use of fingerprints to identify a murder suspect. In the absence of literature with the same title, the research title of this study was divided into concepts and

information was collected according to the concepts, whereby local and international sources were consulted and studied as a method of data collection. Most importantly, all these sources are referenced accordingly under the list of references.

According to Osterburg and Ward (2014:44), even if fingerprints are not always left behind by criminals at murder crime scenes, however, investigation for fingerprints at murder crime scenes should always be conducted. When fingerprints are retrieved from a murder crime scene, it leads police to the positive recognizable proof of a murder suspect (Turvey & Crowder, 2017:165). Therefore, from the viewpoints of the theses authors, it is evident that fingerprints are an imperative method of gathering evidence during the identification of a murder case.

## **1.10 RESEARCH METHODOLOGY**

### **1.10.1 Research design**

Kumar (2005:78) contends that a study design is an in-depth plan of how the researcher aims to accomplish his or her research, to answer questions validly, objectively and accurately. Creswell (2014:17) explains that is an arrangement of how to direct study, which includes the crossing point of reasoning, systems of request and explicit strategies. The researcher worked inside the structure of the observational plan.

An empirical design was utilized in this study as the focus was on human behaviour as stipulated by (Lichtman, 2014:140). Denscombe (2012:118) depicts observational investigation as escaping the seat, going out to the workplace and deliberately searching for data out there. In experimental investigation, it is important to get at realities direct, from their source, and effectively to approach doing certain things to animate the creation of wanted data (Flick, 2011:123).

This study has undertaken an empirical study since the researcher utilised unstructured interviews to obtain information, by way of interviewing a sample group of fingerprint experts. A study design is also classified as a ground-

breaking strategy that gives a structure to gather and examine information (Gray, 2014:70). The setting in which and reason for which the assortment of information occurred ought to be plainly spelled. It is seen that portrayals of a research design and information assortment be incorporated (De Vos et al., 2011:228). Subjective research depends on the presumption that a legitimate comprehension can be increased through amassed information obtained by a researcher (De Vos et al., 2011:365).

The design of this study consist of a literature study about the research title in respect of an analysis of the use of fingerprints in the identification of a murder suspect. Hence, the researcher chose to follow the empirical design in respect of this study. The main reason why the researcher chose the empirical design is because of his expertise in the field of investigations especially when it comes to identification of suspects. According to Lichtman (2014:141), observational investigation is the creation of information depending on experience of the researcher.

The observational plan for this study included a top to bottom literature review and also the expertise of the researcher as an investigator, in order to address the research problem. Denscombe (2012:6) contends that experimental studies include the considering of escaping the seat, leaving the workplace and with a useful purpose gathers relevant information. An exact study configuration was applied by this investigation. Hence, the choice to utilize the experimental investigation fit this study. Experimental studies are normally subjective in nature and its aims are to give a top to bottom portrayal of little cases (Denscombe, 2012:7).

Creswell (2008:10) and Bhattacharjee (2012:35) contend that a study configuration is an outline for observational studies pointed towards addressing explicit research inquiries of testing explicit theory and indicate in any event three cycles, which are the information assortment measure, the instrument advancement measure and the inspecting cycle.

### 1.10.2 Research approach

Yin (2011:7) asserts that qualitative research approaches tend to be used because of its relevance to different disciplines and professions. Qualitative research was examined in regard of the study objectives and study question. In addition, qualitative research will in general be exploratory in nature while quantitative study will in general be graphic and causal in nature Yin (2011:8).

According to Cibangu (2010:96), qualitative researchers seek out and immerse themselves into the real, uncontrolled, crude and non-manipulated world of humans to derive and interpret the hidden patterns theories. Denscombe (2012:115) contends that qualitative approach accommodates flexibility and adaptability within any study. The researcher chose the qualitative research since this study approach allows for a systematic gathering of the participants' opinions.

Leedy and Ormrod (2010:155) contend that the advantage of any qualitative research is that the researcher will gain insights about the population and their behaviours. The researcher embarked on an in-depth journey, looking at local and international books, case studies, articles, and previous academic studies in respect to the research title. As part of the qualitative approach, the researcher used case dockets involving murder cases at Klerksdorp Police Station. Hence, these case dockets showed where the problem transpired involving murder cases.

## **1.11 TARGET POPULATION AND SAMPLING**

### 1.11.1 Target population

Singleton & Straits (2010:116) define a population as the total number of potential units for the investigation. Bouma and Ling (2010:98) contend that the population alludes to the investigation object which might be people, gatherings, associations, human items and functions. Target population consists of the set of people to which the researcher needs to sum up their findings (Vithal & Jansen, 2010:176).

The population includes the complete gathering of all units of the study in which the researcher wants to impact. The target population for this study consist of fingerprints experts who are dealing with murder cases at Klerksdorp Police Station. The main reason for the selection of the said individuals is that the researcher seeks to address the study aims and question by collecting systematic useful data that will add value.

The target population for this study are fingerprints experts at Klerksdorp Police Station who attend to murder crime scenes. The researcher chose this particular location, since it was practical in light of the fact that the researcher lives in Klerksdorp and since it was where the research problem has transpired.

#### 1.11.2 Sampling

Denscombe (2012:178) and Creswell (2014:145) concur that the term sample refers to the choice of components from a population which is utilized to offer expressions about the entire population. Sampling suggests the concurrent presence of a group of people (Punch, 2011:162).

Although the sample of this study was initially 30 fingerprints experts at Klerksdorp Police Station who are investigating murder cases. However, owing to the unforeseen natural disaster in relation to coronavirus, the number was reduced to 15 fingerprints experts with consultation and approval of my supervisor and Unisa. These 15 fingerprints experts are viewed as specialists owing as far as anyone is concerned and experience increased throughout a broad timeframe of more than five years working experience. The researcher utilised a non-likelihood test, as less time and monetary costs are expected to do the study. The researcher concurs with Punch (2011:162) and O'Reilly and Kiyimba (2015:82) who contend that the benefit of non-likelihood testing is not so much muddled, but rather more efficient to utilize.

#### **1.12 DATA COLLECTION**

Creswell (2014:150) defines the term data collection as facts and statistics solicited for reference or analysis. According to Punch (2014:187), information is not the supreme reality that underlies all the wonders researchers watch. Or

maybe information is an indication of that reality. The researcher examined different information sources trying to validate the study findings by locating the information sources (Gray, 2014:95). Trying to expand the dependability of this study, the researcher utilized three methods for information gathering to validate the findings of this study. Moreover, the researcher joined and investigated information gathered from meetings, literature review and reports to approve the discoveries. The researcher utilized the below-mentioned methods in collecting information, as proposed by (Creswell, 2014:186).

### 1.12.1 Interviews

In gathering information that would assist addressing the research question, the researcher used interviews with a sample group of fingerprints experts. According to Leedy and Ormrod (2013:112), an interview is a meeting wherein all members of a sample group are posed a standard rundown of questions from a formerly gathered meeting plan. It is said that this method, improves the quality of the research. In an interview, the researcher poses the standard questions to all the sample group.

It is important to embark on a preliminary probe or study to establish if the questions attached to the study are relevant and intact (Gray, 2014:95). Leedy and Ormrod (2013:154-157) table the below-mentioned proposals when interviewing a sample:

- Identify some questions in advance.  
Meeting plans were arranged for the interviews and contained open-finished questions in relation to the study concepts.
- Solicit documentary approval.  
Written permission was requested and obtained from the National Head Office of SAPS, to interview a sample group of fingerprint experts of Klerksdorp SAPS.
- Data gathered from interviewees is recorded as received from them.  
Data received from interviewees was recorded as received from them. The researcher didn't manufacture any data solicited from the sample group of fingerprint experts.

- Try not to place words in interviewees' mouths.

The researcher allowed the interviewees to communicate by expressing their own opinions in their own specific manner and didn't attempt to meddle with the responses of the participants.

- Record interviewees' responses verbatim.

The answers of the interviewees were verbatim recorded, and the researcher respected their responses.

The researcher adopted an objective and professional approach throughout the interviewing process on all the interviewees. In that the researcher made the interviewees to feel at ease and to express their own opinions with regards to the questions posed to them.

#### 1.12.2 Literature study

Creswell (2014:158) contends that literature review is utilized during soliciting of data. The researcher embarked on a literature in soliciting answers in relation to the study questions. The researcher utilized online sources trying to gather literature that was applicable from previous and current writers. Shockingly, no literature about the research problem was retrieved. The researcher, therefore had then to separate the title into relevant concepts in addressing the study title. Furthermore, the researcher obtained applicable information from the sources from the sources and interpret their content.

#### 1.12.3 Documents

According to Creswell (2014:194), documents can be classified as wellsprings of data, for example, paper, creation recommendations, updates, minutes of gatherings, etc. that are likely already in use at an organisation. In this study, the documents were interpreted from different authors which deals with the identification of suspects and usage of fingerprints during murder cases. Different documents that of sources from various authors were examined with regards to the examination question to separate the necessary data that would offer responses to the study concepts. The researcher utilized all the relevant

documents that were gathered during this study and the data is accordingly recognized by means of the reference list.

### **1.13 DATA ANALYSIS**

Denscombe (2012:50) mentions that data analysis entails separating information into lesser units to uncover their trademark components and structure. The interpretation of data should be beyond descriptions since the researcher is analysing, and translating data (Gray, 2014:257). Gray (2014:258) contends information interpretation is the way toward bringing understanding and be able to translate information gathered during a study. The researcher embarked on a qualitative data analysis by means of Gray's seven-step process (Gray, 2014:258-262).

These seven steps are as follows:

- Get a feeling of the entirety;
- Choose one document from a prescribed interview, peruse it carefully and interpret its meaning;
- Construct lists of titles that emerge and combine similar titles together;
- Code similar data to see whether new classifications and codes develop;
- Find descriptive words and categories by grouping them together;
- Make an extreme decision and subsequently ensure that all data is in alphabetical order,
- Assemble the data material belonging to each category in one place and perform preliminary interpretation.

### **1.14 MEASURES TO ENSURE TRUSTWORTHINESS IN QUALITATIVE RESEARCH**

Saunders, Lewis and Thornhill (2012:35-36) argue that researchers figured terminologies in obliging with dependability and legitimacy. Despite this, the above measures are two entities with different requirements. In ensuring validity during the data gathering, the researcher visited libraries and also consulted internet sources to look for local and international literature with regards to the research title.

Leedy and Ormrod (2013:103-104) further contends that paying little mind to the nature of study chosen, the researcher should address validity of the examination to keep the examination from being irrelevant. To guarantee accuracy what's more reliability in qualitative research, explicit procedures ought to be routed to meet the accompanying standards, being validity, adaptability, trustworthiness and conformability (Gray, 2014:185).

#### 1.14.1 Credibility

Credibility alludes to the trust in the reality of the information and translations thereof (Leedy & Ormrod, 2013:345). Gray (2014:184) posits that the qualitative research draws near, dependability is improved if not ensured by utilizing numerous wellsprings of information obtaining. According to Babbie and Mouton (2011:294-295), to guarantee validity, the accompanying key angles ought to be asked while assessing a research study:

- Whether the researcher has familiarity with the title under study and whether the data are sufficient?
- Whether the researcher has constructed interpretation and incorporation of information?
- Whether any other research gathered by the data of the researcher, is the same as its interpretations or concur with the researcher's observations?

This study adopted a qualitative approach wherein the researcher solicited credible different sources to present a true and accurate picture, in addressing the study problem and study concepts.

#### 1.14.2 Transferability

Transferability means that the hypothetical information acquired from qualitative research ought to be applied to other comparable people, gatherings or circumstances (Liamputtong, 2013:26). Will similar techniques utilized by various researchers as well as at various occasions produce similar outcomes? This is the prerequisite wherein the use of a substantial estimating instrument to various

gatherings under various situations should prompt a similar perception (Babbie & Mouton, 2011:320). This research study used comprehensive information to communicate the research findings and further expressed the responses of the participants in respect of the interview questions, by providing verbatim quotations. In doing so, this narrative permits readers to make decisions with regards to the transferability of the findings.

According to Ritchie et al. (2014:295), transferability refers to the knowledge of the researcher in ensuring that his or her study, is not having similar content with study projects, but be able to set up some type of association between the current study and previous examinations. This is a problem area in qualitative research considerations, henceforth, the subjective researcher should take uncommon note of this region (Schurink, Fouché & De Vos, 2014:420). The theoretical knowledge retrieved and obtained by this research study is clearly referenced and can be used by future researchers in the field of criminal justice and SAPS in reference to the research problem.

#### 1.14.3 Dependability

Steadfastness of subjective research depends on a legitimate and all around recorded study (Gray, 2014:25). Hence, this implies that the study approach utilized should be well and expansively archived. Leedy and Ormrod (2013:295) postulate that dependability refers to the researcher's ability to furnish information to the reader that the research process has been logical, traceable, and well documented. Lichtman (2014:178) refers to reliability as the dependability of information after sometime and conditions. The researcher sustained consistency during this study and also ensured that the objective and the direction of the research is kept in line throughout the study.

#### 1.14.4 Conformability

Leedy and Ormrod (2013:310) state that conformability is the criterion about building up that the information speaks to the data given by the sample or population, and that the analysis of the said information is not designed by the researcher. Similarity alludes to the thoughts that the information and analysis of the study is not simply creative mind. Hence, it is all about connecting the findings

and interpretation of data in a manner that can be understood by other researchers (Liamputtong, 2013:194). To guarantee similarity, the prerequisite for straightforwardness is met, primary sources of original transcripts should be clearly referenced accordingly.

### **1.15 ETHICAL CONSIDERATIONS**

Liamputtong (2013:190) argues that moral contemplations in study indicates doing what is ethically and lawfully right when directing study considerations. The researcher complied with ethical standards and requirements, as pointed out by (Leedy & Ormrod, 2013:104). Leedy and Ormrod (2013:105) argue that there are norms to adhere to fulfil ethical considerations. The researcher comprehends the significance of morals in this study and has acclimatized himself with the Guidelines for Ethics in Research at Unisa. These guidelines address the following:

- Basic principles for research;
- Relationship and researchers and participants;
- Informed consent;
- Privacy, anonymity and confidentiality; and
- International collaborative research involving human participants.

- **Protection from harm:**

No harm was caused during this research study, hence, the said research project was based on literature review and all the sources were well acknowledged and no damage was done to authors' previous work.

- **Right to privacy and confidentiality:**

The researcher upheld the rule of privacy and confidentiality of all the information collected during this study.

- **Voluntary, informed participation and obtaining prior consent:**

The researcher is fully aware as to what is expected from a researcher when conducting interviews with participants. Hence, all the data used throughout this research project were obtained legally and ethically.

- **Professional codes of ethics:**

As a Unisa student, the researcher is well familiar with the professional codes of ethics which are expected from a student at this level. The researcher,

therefore, did not compromise the Guidelines for Ethics in Research at Unisa and the researcher as per the required timeframe shall safely store all the information collected by this research study. The researcher is also fully aware that this research study is the property of Unisa, subsequent to its submission.

The researcher should take caution about standing agreements in knowing acceptable and unacceptable conduct when embarking on qualitative research . Leedy and Ormrod (2013:107) .Ethical obligations require that the researcher should guarantee that the data gathered is figured unmistakably, that counterfeiting ought to not be submitted at whenever and that secrecy and classification ought to be maintained (Babbie & Mouton, 2011:125).

## **1.16 RESEARCH STRUCTURE**

The chapters of this study have been arranged as follows:

- **Chapter One: General orientation**

This chapter discusses the general orientation, problem statement, aims of the research, objectives of the research, purpose of the research study, research question, key theoretical concepts in respect of criminal investigation, fingerprint identification, suspect, murder and identification, value of the research, preliminary literature review, research methodology in respect of research design and research approach, target population and sampling, data collection in respect of interviews, literature study and documents, data analysis, measures to ensure trustworthiness in qualitative research in respect of credibility, transferability, dependability and conformability, ethical considerations, and the research structure.

- **Chapter Two: Criminal investigation**

This chapter discusses the meaning of criminal investigation, the objectives of criminal investigation, purpose of criminal investigation, explanation of a crime scene, different types of crime scenes, explanation of identification, different

identification categories, individualisation, differences between identification and individualisation, and explanation of Locard's principle.

- **Chapter Three: The use of fingerprints to identify a murder suspect**

This chapter discusses the explanation of a fingerprint, different types of fingerprints, how a fingerprint could be lifted from a crime scene, explanation of a suspect. It also discusses procedures used to identify a suspect when using fingerprints, best practices on the identification of a suspect by using fingerprints, explanation of murder, elements of murder, and value of using fingerprints to identify a murder suspect.

- **Chapter Four: Findings and recommendations**

This chapter discusses the researcher's accurate findings, conclusions and meaningful recommendations.

### **1.17 SUMMARY**

This chapter introduced and discussed the general orientation, problem statement, aims of the research, objectives of the research, purpose of the research study, research question, key theoretical concepts in respect of criminal investigation, fingerprint identification, suspect, murder and identification, value of the research, preliminary literature review, research methodology in respect of research design and research approach.

Furthermore, this chapter also introduced and discussed target population and sampling, data collection in respect of interviews, literature study and documents, data analysis, measures to ensure trustworthiness in qualitative research in respect of credibility, transferability, dependability and conformability, ethical considerations, and the research structure.

## **CHAPTER TWO**

### **CRIMINAL INVESTIGATION**

#### **2.1 INTRODUCTION**

Department of Justice (DJC), 1996:1-3) together with the South African Police Service (SAPS), 1995:2-40 and Department of Justice (DJC), 1977:1-3) give effect to the SAPS to investigate crimes which include among others murder against human beings. The same legal documents further give effect to SAPS to arrest any person who is in breach of the provisions of the Department of Justice (DJC), 1977:1-3) in respect of the crime of murder. SAPS, are constituted to eradicate crime and make arrests. SAPS officials should understand their legal obligation in respect of prevention, combating and investigating crime which may eventually lead to the arrest of suspects.

It is imperative that police officials know and understand the practical application of the chain of evidence. The practical application of criminal investigation plays an important role solving crime such as murder. The Department of Justice (DJC), 1977:1-3) regulates, inter alia, how police officials should lift fingerprints and arrest suspects.

Therefore, the researcher embarks on this research study to show to the investigators of Klerksdorp SAPS, how fingerprints could be used to identify a murder suspect. In this chapter, the researcher addresses the following concepts which are applicable to the research question, the meaning of criminal investigation, objectives of criminal investigation, purpose of criminal investigation, explanation of a crime scene, different types of a crime scene, explanation of identification, different identification categories, individualisation, differences between identification and individualisation, and explanation of Locard's principle.

#### **2.2 CRIMINAL INVESTIGATION**

Petrisor (2014:11) defines criminal investigation as a fact finding process. In addition, the author contends that a criminal investigation serves to link all

people, objects or items to the crime under probed. Criminal investigation refers to the systemically obtaining of criminal activities. The focus should always be on determining the facts and the focus should not be on the suspect but on the entire crime (Petrisor, 2014:12).

Criminal investigation is the process of discovering, collecting, preparing, identifying, and presenting evidence to determine what transpired, and who is responsible for the crime (Newburn, Williamson & Wright, 2017:199). Houck (2015:325) classifies a criminal investigation as an in-depth search of facts. Criminal investigation is more than the processing or documentation of a crime scene, and it is not merely the soliciting or protecting of physical evidence. It is the first and most crucial step in any criminal investigation of a possible criminal act (Houck, 2015:326).

Criminal investigation is the collection of information and evidence for identification, apprehension and conviction of suspected offenders (Franck & Franck, 2013:18). They also contend that a detective who probes a crime should first establish if a crime was indeed committed. The detective should then identify witnesses, obtain statements, solicit evidence and follow up all clues to identify and apprehend the suspect. The investigation should be carried out in such a way that the suspect can be positively prosecuted in a court of law (Franck & Franck, 2013:19).

According to Skelton (2011:124), a criminal investigation is a systematic thinking and reasoning process. The author further contends that criminal investigation is a process wherein the detective gathers documents, evidence and reviews the facts, analysing every little detail of the crime scene carefully and systematically. It is a process of establishing which apparent facts are real facts, which facts are irrelevant to the crime and how the facts are interrelated (Skelton, 2011:124).

In reply to the question – What is the meaning of criminal investigation?

The participants responded as follows:

- Seven participants: Criminal investigation is the systematic search for physical evidence and other information to determine what happened at a

crime scene and through scientific and systematic analysis building of a profile of the possible perpetrator.

- Three participants: Criminal investigation is collection of evidence / information about a certain crime.
- Three participants: Criminal investigation is an applied science involving the study of facts that are then used to apprise criminal trails that include searching, interviews, interrogations, evidence collection and preservation and various methods of investigation.
- One participant: When a crime of any nature is committed, an investigation follows to trace the perpetrator and bring him or her to a court of law.
- One participant: Criminal investigation is to prove to the community that when a crime happened, SAPS will investigate it.

The majority of the participants' viewpoints above indicate that they have an understanding of the meaning of criminal investigation, although their responses above are having different versions. The majority of the participants' viewpoints do bear a different version to that of the different authors in the literature above. However, in view of the points supra, the researcher is of the opinion that when looking at the definition of criminal investigation, there are not much differences between the viewpoints of the participants and that of the authors.

Hence, the researcher is of the opinion that criminal investigation is a structured search for the truth aimed at solving a crime. For example, after the death of the late Reeva Steenkamp, the police conducted a criminal investigation searching for evidence that led to the death of Reeva Steenkamp, and subsequently, Oscar Pistorius stood trial after being identified as a suspect that killed the late Reeva Steenkamp, emanating from a criminal investigation.

### **2.3 OBJECTIVES OF CRIMINAL INVESTIGATION**

According to Strom and Hickman (2015:201-203) & Skelton (2011:125), the objectives of a criminal investigation are:

- **Identification of the crime:** it is also known as situation identification, whereby it is ascertained whether a crime has been committed, and initial observations at the crime scene are noted.
- **Gathering of evidence:** this begins at the crime scene, whereby the observations of witnesses are documented and other physical clues and evidence are gathered.
- **Individualisation of the criminal:** this entails linking the suspect with the crime, through applicable evidence to justify an arrest.
- **Arrest of the criminal:** this transpires upon positive individualisation and identification of the suspect, linking the suspect to the committed crime.
- **Recovery of stolen property:** this is in order to return it to the victim and to present the recovered property as evidence during the trial.
- **Involvement in the prosecution process:** this is whereby the investigator presents the collected evidence and ensures that witnesses are present at court.

The objectives of a criminal investigation are as follows,

- crime detection;
- locating and identifying the suspect (before a crime scene can be processed, individual perpetrators must be removed from the premises because they pose a danger to the police, investigators, and others);
- locating, recoding, and processing evidence while observing all constitutional considerations;
- arresting the suspect while observing all constitutional considerations;
- recovering property;
- preparing for trial, including completing accurate documentation; and
- convicting the defendant by testifying and assisting in the presentation of legally obtained evidence and statements (Milne, 2013:67).

Katz and Halamek (2016:47) and Bowen (2010:123) corroborate that the objectives of a criminal investigation are to establish that a crime has actually been committed, identify and apprehend the suspects, recover the stolen property, and bring the culprit before the court to account for any charge.

In reply to the question – What are the objectives of criminal investigation? The participants responded as follows:

- Ten participants: The objectives of criminal investigation are reconstruction of the incident, determination of the sequence of events, determination of the method of committing crime, disclosure of motive, revealing what they might have done and finding the real evidence of the crime.
- Three participants: To search and identify physical evidence at a crime scene and collect it.
- One participant: To gather evidence against a suspect for court purposes.
- One participant: It is the investigation done by the SAPS itself.

The majority of the participants' viewpoints above indicate that they have an understanding of the objectives of criminal investigation, although their responses are having different versions. The majority of the participants' viewpoints do bear a different version to that of the different authors in the literature above. However, in view of the points supra, the researcher argues that the viewpoints of the majority participants are not much of a difference to that of the literature collected from the different authors.

Hence, the researcher posits that the objectives of a criminal investigation, inter alia, are to establish that a crime has been committed, that solving each case depends on the nature of each case and further that a criminal investigation is accomplished by collecting all accurate evidence/information available with regards to a specific act or crime.

## **2.4 PURPOSE OF CRIMINAL INVESTIGATION**

Van Der Merwe (2011:208) and Stephenson and Gilbert (2013:147) corroborate that the purpose of criminal investigation is to prevent crime. Van Der Merwe (2011:208) contends that criminal investigation uses three kinds of measures to achieve its purpose, namely:

- **Reactive measures:** to follow up on the criminal activities that have previously transpired;

- **Proactive measures:** to monitor crimes as they transpire; and
- **Preventive measures:** to prevent or curb the commission of crimes.

Subsequent to crimes that have been committed, police members respond to and follow-up on the links to establish what transpired. The proactive measures are then activated and put in place to mitigate the situation and monitor crimes as they transpire in an attempt, along with preventive measures, to prevent or curb future commission of crimes (Van Der Merwe, 2011:208).

Rejali (2017:65) contends that the ultimate purpose of criminal investigation is the prevention of crime. According to Horswell (2014:4), the purpose of criminal investigation is to eradicate and prevent crime.

In reply to the question – What is the purpose of criminal investigation? The participants responded as follows:

- Nine participants: The purpose of criminal investigation is to collect information or evidence about a certain crime in order to identify the suspect, apprehend the suspect and provide evidence to support a conviction in court.
- Three participants: To answer as completely as possible what occurred in what order and to ultimately link a perpetrator to a crime scene by individualisation, for example fingerprints found at a crime scene.
- One participant: To bring the suspect before court.
- One participant: To determine who is the guilty party that has committed a crime.
- One participant: To determine if a crime was committed.

The participants' viewpoints above indicate that they have an understanding of the purpose of criminal investigation, although their responses above are having different versions. The participants' viewpoints do bear a different version to that of the different authors in the literature cited above.

However, in view of the points supra, the researcher contends that there are not much differences between the viewpoints of the participants and that of the authors. Hence, the researcher is of the opinion that a criminal investigation cannot be conducted without having a purpose or aim of end result.

## **2.5 EXPLANATION OF A CRIME SCENE**

Petrisor (2014:81) asserts that a crime scene is a location where a suspected criminal act has transpired. Processing the crime scene is normally one of the most important steps of the investigation. At the crime scene, the detective focuses on the search for physical evidence. All crime scenes contain some physical evidence. This may be visible to the naked eye or may be microscopic.

According to Houck (2015:327), a crime scene encompasses all areas over which individuals in the crime, the criminal, the victim, and eyewitness move during the commission of a crime. Usually, it is one readily defined area of limited size, but sometimes it comprises several sites Houck (2015:327).

Rejali (2017:66) contends that a crime scene starts where the perpetrator initiated the action of the crime and follows through to the escape route and places where the perpetrator may have got rid of any evidence. This serves as the initial point of a criminal investigation and contains evidence that links the suspect with a particular crime. Skelton (2011:129) accentuates that a crime scene is used to describe any location in which a significant activity in relation to a crime took place. He also concedes that a crime scene can be any of the underneath (Skelton, 2011:129).

- place used to plan the crime;
- place where encounters between a victim and perpetrator transpired;
- place where the perpetrator lodged an attack on the victim;
- place where the perpetrator detained the victim; and
- place used to destroy evidence linking the perpetrator to the crime.

In reply to the question – What is the meaning of a crime scene? The participants responded as follows:

- Fourteen participants: It is a place where an alleged offence took place and it includes the place where potential items of evidence may be found.
- One participant: It is a place where a crime was committed and where physical evidence can be found to link a perpetrator to a scene, and it can also be the body of a victim in the cause of sexual related scenes.

The participants' viewpoints above indicate that they have an understanding and know the meaning of a crime scene; hence, there are no differences in their responses. The participants' viewpoints do bear a different version to that of the different authors in the literature above. However, in view of the points supra, the researcher argues that there are not much differences between the viewpoints of the participants and that of the authors.

Hence, the researcher is of the opinion that a crime scene is any place where a criminal offence has transpired or any other place where evidence linked to the crime scene is found. For example, the house of Oscar Pistorius where he shot dead the late Reeva Steenkamp was declared and is until date the crime scene where Oscar Pistorius murdered Reeva Steenkamp.

## **2.6 DIFFERENT TYPES OF CRIME SCENES**

Van Der Merwe (2011:209) and Houck (2015:328) contend that a crime scene is anything, place or location under probed. It entails a location where a criminal act transpired or another location in which the perpetrator may have had contact with the victim, leaving behind evidence that can be analysed and examined for leads.

According to Petrisor (2011:19), the crime scenes can naturally be classified in two types, namely, primary crime scenes and secondary crime scenes. Milne (2013:71) concedes that there can be many crime scenes or locations where a murder case occurred. These places or locations include the following:

- place where the victim was approached by the perpetrator;
- place where the victim was attacked by the perpetrator;
- place where the victim's body was disposed of by the perpetrator; and

- place where the perpetrator fled after the crime and arrested by the police (Milne, 2013:71).

### 2.6.1 Primary crime scene

The concept primary scene is often used to refer to where the original or first act transpired (Milne, 2013:72). The primary crime scene is an area, place or location where the incident transpired, or where the majority or a high concentration of physical evidence will be found, for example, where the body of a deceased person is found (Bowen, 2010:127).

Stephensen and Gilbert (2013:149) contend that a primary crime scene is the location where the initial crime was committed. The said crime scene according to the authors is where the first criminal act transpired and the commencement phase of the criminal investigation. In a case of murder of a person, the primary crime scene would be where the lifeless body of the victim was found (Stephensen & Gilbert, 2013:149).

### 2.6.2 Secondary crime scene

Milne (2013:73) contends that a secondary crime scene is any other location(s) or place which is not the same as the primary scene. According to them, it is a location related to the crime, but not where the actual crime took place. In this regard, the secondary scene is a different place or location where physical evidence pertaining to the crime is found (Milne, 2013:74).

According to Stephensen and Gilbert (2013:150), the concept of a secondary crime scene can be explained by means of the following example, when the perpetrator utilises his or her vehicle to transport the lifeless body of the murder victim after killing the victim, at the victim's house to another location where the murder did not take place. The intent is to hide the body of the murder victim, the latter place or location where the body of the deceased person is hidden is regarded as the secondary crime scene. The secondary crime scene must be linked to the primary crime scene to solicit physical evidence (Stephensen & Gilbert, 2013:150).

Bowen (2010:128) concedes that any crime scene that is not a primary crime scene is a subsequent crime scene, and is regarded as a secondary crime scene. A secondary crime scene is a place or location where physical evidence relating to the crime is found. The physical evidence will usually be removed from the primary crime scene, and disposed of at another place or location (Bowen, 2010:129).

In reply to the question with regards to different crime scenes, the participants responded as follows:

- Ten participants indicated that different crime scenes consist of active and inactive crime scenes.
- Three participants indicated that different crime scenes consist of indoor and outdoor crime scenes.
- One participant indicated that different crime scenes consist of serious crime scene, trio scene, woman and children related scene and other scenes.
- One participant indicated that different crime scenes consist of murder, housebreaking and theft, inquest and culpable homicide.

The majority of the participants' viewpoints above indicate that they have an understanding of the different crime scenes, although the responses above of the participants are having different versions. The majority of the participants' viewpoints do bear a different version to that of the different authors in the literature above. However, in view of the points supra, the researcher argues that when looking at the viewpoints of the majority participants, there are not much difference between theirs and that of the authors.

Hence, the researcher contends that the different crime scenes consist of primary crime scenes, secondary crime scenes, active and inactive crime scenes, and indoor and outdoor crime scenes. For example, with regards to a primary crime scene and secondary crime scene, for argument sake let us say that person A was shot and killed by person B at FNB soccer stadium and subsequently person B removed the lifeless body of person A from FNB soccer stadium and dumped

it at Orlando soccer stadium. Therefore, FNB soccer stadium is the primary crime scene and Orlando soccer stadium is the secondary crime scene.

## **2.7 EXPLANATION OF IDENTIFICATION**

Identification is a comparison process which uses the class characteristics of a standard object to compare it with the evidential item collected from the crime scene (Ubelaker, 2015: 253). Katz and Halamek (2016:25) and Barkan and Bryjak (2011:250) corroborate that identification commences when the facts relating to the crime are being evaluated, in terms of the required elements of crime, to establish its unlawfulness. Identification plays an important role during the process of investigation; hence, various identification methods will lead to individualisation.

Spencer and Spencer (2013:129) contend that identification is based on the theory that everything in the universe is unique in the sense that it has distinctive individual and class characteristics. An object can be identical only with itself, never with anything else. Identification is merely a pre-requisite of individualisation. This means that one cannot only identify an object for what it is, without comparing it with other samples of known origin to determine its individuality (Spencer & Spencer, 2013:130).

Petrisor (2011:25) contends that identification means that items that share a common source can be classified and grouped together with all other items having the same characteristics. Identity is based on the theory that everything in the universe is unique as determined by its distinctive individual characteristics (Houck, 2015:346).

According to Skelton (2011:146), an identification can take of plenty forms, such as physical evidence from the scene; for example, property taken from the victim and hair of the victim; physical identification can be unreliable when the perpetrator is unknown to the victim. Identification is a term in criminalistics and describes the classification process wherein an entity is placed in a predefined, limited or restricted class (Rejali, 2017:77).

In reply to the question with regards to the meaning of identification, the participants responded as follows:

- Four participants: When the ridge characteristics of two fingerprints are the same regarding the place, position, ridge counting, size of the print, and if it is the same fingerprint.
- Three participants: The identification of finger, palm and footprints are accomplished through analysis and comparison of the ridge features of one print with those of another by identifying and linking through ridge tracing and counting.
- Three participants: Comparison of the ridge features of one print with those of another by starting at a specific ridge features and tracing and counting to a following one until at least seven features are found that correspond concerning the type, size, direction, place, and position.
- Four participants: Identification is the process where evidence is being described, for example a piece of skin, a fingerprint, possible blood, sweat and bones.
- One participant: Identification entails the act of identifying a person or an object, it is further a classification system when objects with similar characteristics are classified into one category or class and a name is given to each category.

The majority of the participants' viewpoints above indicate that they have an understanding with regards to the meaning of identification, although the responses above of the participants have different versions. The majority of the participants' viewpoints do bear a different version to that of the different authors in the literature above. However, in view of the points supra, the researcher is of the opinion that when it comes to the meaning of identification, looking at the viewpoints of the majority participants, there are not much differences between theirs and that of the authors.

Hence, the researcher argues that identification is one of the most important stages during a criminal investigation. Therefore, the investigator should be able to positively identify the suspect who has committed the crime. For example, the

trace of fingerprints at a crime scene leads to the positive identification of a suspect which links a human being to the crime scene.

## **2.8 DIFFERENT IDENTIFICATION CATEGORIES**

According to scholars, there are different identification categories. These different identification categories consist, inter alia, of fingerprint identification, situation identification, witness identification, victim identification, origin identification, action identification and culprit identification (Boezaart, 2009:350; Buckles, 2017:120). Franck and Franck (2013:28-30) concede and explain the different identification categories as follow, namely, situation identification, witness identification, victim identification, origin identification, action identification, and culprit identification.

### **2.8.1 Fingerprint identification**

Boezaart (2009:351) contends latent fingerprints recovered from a crime scene are compared by fingerprint experts to locate similar points of identification. The suspect's prints might have been obtained in past arrests. The investigator, when arresting the suspect, should take a proper set of fingerprints from the suspect and forward them to the Local Criminal Record Centre for safekeeping and comparison. Fingerprint identification relies on the premise that detail contained in the friction ridges is unique and unchanging (Buckles, 2017:121).

The fingerprint is the pillar of modern criminal identification. There are three kinds of crime scene prints, namely:

- visible prints which are made by fingers touching a surface after the ridges have been in contact with a coloured material such as blood, paint and grease or ink;
- plastic prints which are ridge impressions left on a soft material, such as putty, wax, soap or dust; and
- true latent or invisible prints, which are impressions caused by the transfer of body perspiration or oils present on finger ridges, to the surface of an object (Buckles, 2017:122).

### 2.8.2 Situation identification

The detective utilises her or his experience pertaining to the crime, in deducting what occurred (Franck & Franck, 2013:29).

### 2.8.3 Witness identification

According to Buckles (2017:122), when a witness concedes that he or she has seen the perpetrator, the witness must be afforded to give an explanation of the events. The following underneath information pertaining to the identification of the perpetrator should be systematically solicited from the witness:

- The name of the perpetrator;
- The race of the perpetrator;
- The gender of the perpetrator;
- The suggested age of the perpetrator;
- The height and weight of the perpetrator;
- The colour of hair and eyes of the perpetrator;
- The complexion of the perpetrator; and
- The clothes worn by the perpetrator (Buckles, 2017:122).

### 2.8.4 Victim identification

Usually, the identification is based on appearance. It is the duty of the detective officer to ensure that measures are taken to identify the victims at the scene of crime (Franck & Franck, 2013:29).

### 2.8.5 Origin identification

A control sample is needed to establish the originality of the imprints. This is done by systematically analysing organic and inorganic solids and fluids of the object in comparison with the control sample. The detective officers are duty bound to see to it that physical evidence is safeguarded against contamination until further processing by experts (Boezaart, 2009:352).

### 2.8.6 Action identification

According to Buckles (2017:123), action identification refers to the identification of human acts that are directly related to the crime or form its central element. This category is applicable for crimes such as murder and house breaking. Upon arrival at the scene of crime, the detective officer must be able to identify the human act and rule out natural causes (Buckles, 2017:123).

### 2.8.7 Culprit identification

Culprit identification involves proving that the suspect was positively identified in relation to the crime under probed (Franck & Franck, 2013:30).

In reply to the question with regards to the different identification categories, the participants responded as follows:

- Nine participants: Indicated the different identification categories as visual identification, scientific forms of identification, DNA analysis, fingerprints dental identification and post-mortem identification.
- Three participants: Fingerprint identification and DNA identification.
- Two participants: Indicated the different identification categories as ridge counting, ridge tracing, permanent scars, temporary scars, and skin diseases.
- One participant: Indicated the different identification categories as pointing out, identification parade and missing or unknown persons by mortuary or database.

The participants' viewpoints above indicate their knowledge with regards the different identification categories, although a few of the participants mentioned fingerprints identification and DNA identification. From the viewpoints of the participants, there is a huge difference between them when it comes to the different identification categories. Only 13 participants mentioned one identification category which is fingerprints identification that is also mentioned by different authors in the literature above. From the points above, the researcher finds favour with the deductions of the different authors when it comes to the different identification categories, since they are applicable to the research study.

## **2.9 INDIVIDUALISATION**

According to Petrisor (2011:45), individualisation is when deductions are made that a particular object or sample is unique, even in the event of identical twins. Individualisation means that a piece of evidence comes from a unique source and can be shown to be directly associated with a specific individual source (Petrisor, 2011:46).

Houck (2015:238) contends that individualisation commences at the crime scene and ends with the presentation of evidence and positive identification of the victim's identity, and also to link the perpetrator to the crime scene by virtue of fingerprints. According to Skelton (2011:145), individualisation is the action of establishing the quality of being the only one of its kind of an object through an investigation.

Individualisation refers to features that make one object different from all objects that are similar to it. With regards to the identification of identical twins, fingerprint comparisons and DNA profiles are the most likely to determine individualisation, and therefore, the identity of a person, even if they are identical twins (Milne, 2013:108). A person's fingerprints are unique, and no person's fingerprints even if they are identical twins, are the same (Milne, 2013:109).

According to Bowen (2010:156), individualisation is unique to forensic science and it refers to an act of showing that a particular object is unique, even among members of the same class. It may also refer to the demonstration that a questioned piece of evidence from a crime scene and a similar known sample of evidence have a common origin (Bowen, 2010:156).

In reply to the question what is the meaning of individualisation, the participants responded as follows:

- Eleven participants: It is the identification of different types of physical evidence, for example blood, fingerprints, hair and semen, therefore, linking the perpetrator to the crime scene.
- Two participants: Indicated that individualisation is investigating one thing.

- One participant: Individualisation aims to individualise the crime as an act of a particular person or persons.
- One participant: Indicated that individualisation distinguishes a person from everybody else.

The viewpoints of the participants above indicate that they have an understanding with regards to the meaning of individualisation although the responses of the participants are having different versions. The majority of the participants' viewpoints refute that of the different authors in the literature above. However, in view of the points supra, the researcher is of the opinion that when it comes to the meaning of individualisation, there are not much differences between the viewpoints of the participants the different authors.

## **2.10 DIFFERENCES BETWEEN IDENTIFICATION AND INDIVIDUALISATION**

Rejali (2017:124) contends that it is imperative to know and understand that there is a huge difference between the concepts of identification and individualisation. In identification, items share a common source whereas in individualisation, a particular object is unique, even among members of the same class (Rejali, 2017:124). According to Petrisor (2011:189), with identification it could be established that a piece of object comes from a certain vehicle. However, there are many pieces of object comprising the vehicle, whereas in individualisation, each pattern is unique and so is each individual's fingerprints (Petrisor, 2011:199).

Horswell (2014:28) contends that with identification it can be established that blood found at a crime scene is from a human being, as opposed to an animal, whereas with individualisation the blood can be used for DNA profiles and it can determine individuality, meaning the identity of a particular individual (Horswell, 2014:29). Ubelaker (2015:178) accentuates that the process of identification of any item is one of determining the fact that it belongs to a large group or class, whereas with individuality or uniqueness, it is the process of valuables that construct one thing different from all the others that are similar to it. Identification of a person starts with using figures such as age, weight, height and gender to

include or eliminate someone, whereas individualisation uses fingerprints in identifying individuals (Buckles, 2017:208).

In reply to the question what are the differences between identification and individualisation, the participants responded as follows:

- Eleven participants: Identification and individualisation in criminalistics are two immutable concepts. The one follows the other and they are complementary to each other.
- Two participants: The difference is when one compares two fingerprints and identify them.
- One participant: In identification, one trace/mark as having originated from an individual and individualisation states that a certain individual is a source of fingerprint or blood (DNA).
- One participant: In identification, it is to merely identify physical evidence for the type it is for example, blood, hair, semen and fingerprints and individualisation is to link it and match it to a particular person.

The viewpoints of the participants above indicate that they have an understanding between the differences of identification and individualisation, although the responses above of the participants have different versions. The majority of the participants' viewpoints do bear a different version to that of the different authors in the literature above. However, in view of the points supra, the researcher argues that there are not much differences between the viewpoints of the participants and the authors when it comes to the differences between identification and individualisation.

## **2.11 EXPLANATION OF LOCARD'S PRINCIPLE**

The Locard's principle is the central point where each contact is analysed, where the transfer of mutual traces takes place, when two or more items come into contact with each other. Practically, there is always a clear contact at each crime scene, and the detective therefore, needs to be privy as to which methods need to be used in detecting such contact (Stephensen & Gilbert, 2013:106).

According to Strom and Hickman (2015:167), the Locard's principle, also known as the contact theory, is when there is a reciprocal transfer of traces whenever more than two items or persons come into contact with each other. Locard's principle means that criminals or perpetrators always leave traces or evidence of themselves at a crime scene and on the victim, of which the criminals or perpetrators take away with them evidence that was at the crime scene (Strom & Hickman, 2015:168).

Milne (2013:149) concedes that when a person touches another person or location, certain small and seemingly insignificant changes transpire. In particular, small items such as hairs and microscopic debris are left behind by the person or picked up, from the contact with the environment without changing it in some small manner or by adding to it or taking something away from it (Milne, 2013:149). He further contends that this concept or process of transfer is labelled as the Locard's principle, and is the foundation to trace physical evidence (Milne, 2013:150).

According to Boezaart (2009:154), the Locard's principle indicates the truth or existence that evidence remain behind by dual or more objects in contact and the theory is known as the transfer of evidence, of which the Locard's principle is important because it presents links to detectives with regards to suspects. The Locard's principle is therefore, one of the commencement phases of a criminal investigation, since it presents detectives with clues, in being able to identify a suspect (Boezaart, 2009:155).

The participants responded as follows, when replying to the question as to what is the meaning of the Locard's principle.

- Ten participants: The Locard's principle is based on the assumption that when two objects come into contact with each other, a mutual transfer of physical traces or marks will occur.
- Two participants: One always leaves something behind when one is at a certain place.

- One participant: It is where one object touches another object and it leaves a trace on it.
- One participant: Any object or surface one touches, one leaves a trace or mark for possible identification.
- One participant: Every contact leaves a trace, where two objects come into contact with each other they will leave particles of each other on each other.

The viewpoints of the participants above indicate that they have an understanding as to what is the meaning of the Locard's principle. Hence, their different responses are similar to each other. Furthermore, when comparing the viewpoints of the participants with that of the different authors in the literature above. The researcher is of the opinion that the viewpoints are not much different from each other, since similar versions exist among the participants and the different authors.

## **2.12 SUMMARY**

This chapter systematically discussed the meaning of criminal investigation, objectives of criminal investigation, purpose of criminal investigation, explanation of a crime scene, different types of a crime scene, explanation of identification, different identification categories, individualisation, differences between identification and individualisation, and explanation meaning of Locard's principle.

Criminal investigation is the process of discovering, collecting, preparing, identifying and presenting evidence to determine what transpired, and who is responsible for the crime. Criminal investigation is also the methodical search of the truth in order to solve a crime that has transpired. Furthermore, criminal investigation is more than the processing or documentation of a crime scene, and it is not merely the soliciting or protecting of physical evidence. It is the first and most crucial step in any criminal investigation of a possible criminal act.

The objectives of a criminal investigation are to detect crime; locating and identifying the suspect (before a crime scene can be processed, individual

perpetrators must be removed from the premises because they pose a danger to the police, investigators, and others); locating, recoding, and processing evidence while observing all constitutional considerations. It also includes arresting the suspect while observing all constitutional considerations; recovering property; preparing for trial, including completing accurate documentation; and convicting the defendant by testifying and assisting in the presentation of legally obtained evidence and statements.

Among others, the purpose of criminal investigation is to prevent crime, of which criminal investigation uses three kinds of measures to achieve its purpose, namely:

- **Reactive measures:** to follow up on the criminal activities that have previously transpired;
- **Proactive measures:** to monitor crimes as they transpire; and
- **Preventive measures:** to prevent or curb the commission of crimes.

Subsequently to crimes that have been committed, police members respond to and follow up on the links to establish what transpired. A crime scene is a location where a suspected criminal act has transpired, of which processing the crime scene is normally one of the most important steps of the investigation. At the crime scene, the detective focuses on the search for physical evidence. All crime scenes contain some physical evidence. This may be visible to the naked eye or may be microscopic. Crime scenes can naturally be classified in two types, namely, primary crime scene and secondary crime scene.

Identification is a comparison process which uses the class characteristics of a standard object to compare it with the evidential item collected from the crime scene. The different identification categories consist inter alia of fingerprint identification, situation identification, witness identification, victim identification, origin identification, action identification, and culprit identification.

Individualisation is the ability to indicate that a particular object or sample is unique, even in the event of identical twins. Individualisation means that a piece

of evidence comes from a unique source and can be shown to be directly associated with a specific individual source. There is a huge difference between the concepts of identification and individualisation. In identification, items share a common source whereas in individualisation, a particular object is unique, even among members of the same class.

Among others, the Locard's principle is the central point where each contact is analysed, where the transfer of mutual traces takes place, when two or more items come into contact with each other. Practically, there is always a clear contact at each crime scene, and the detective therefore, needs to be privy as to which methods need to be used in detecting such contact.

## **CHAPTER THREE**

### **THE USE OF FINGERPRINTS TO IDENTIFY A MURDER SUSPECT**

#### **3.1 INTRODUCTION**

Fingerprints lifted at a crime scene are arguably the most important disputable piece of proof retrieved from a place where a criminal transgression occurred in the identification of a suspect. More importantly, fingerprints left at a murder crime scene makes it very easy for police to identify a suspect or perpetrator. Because of its uniqueness, patterns are a solid piece of proof when presented before a court of law, in the identification of a murder suspect.

It is, therefore, of utmost importance for detectives when arriving at murder crime scenes to ensure that the crime scene is not contaminated to commence the searching of fingerprints, which shall subsequently assist in the identifying of a suspect, through positive identification of fingerprints. Since the crime of murder is so severe and violent in nature, wherein victims are brutally murdered on a daily basis, therefore, the police should make use of all tools at their disposal to eradicate murder crimes, by ensuring the suspects or perpetrators are positively identified, brought before a court of law, and eventually removed from society by imposing heavy sentences to them.

Therefore, for the police to ensure that this happen, they should know how to identify a murder suspect through the use fingerprints. The Criminal Procedure Act 51 of 1977 regulates, inter alia, how police should lift fingerprints and arrest suspects. This chapter, reflected on the below-mentioned focus areas which are applicable to the research question:

- explanation of a fingerprint;
- different types of fingerprints;
- how a fingerprint could be lifted from a crime scene;
- explanation of a suspect;
- procedures used to identify a suspect when using fingerprints;
- best practices on the identification of a suspect by using fingerprints;
- explanation of murder, elements of murder; and

- the value of using fingerprints to identify a murder suspect.

### **3.2 EXPLANATION OF A FINGERPRINT**

According to Palmiotto (2013:31), a fingerprint consists of the imprint of the friction ridge skin of the end joint of each finger, which is taken from cuticle-to-cuticle. The skin covering the anterior surface of the human hand is different in texture and appearance than the skin that covers the body of the human-being. A fingerprint is the reproduction of the ridge area of the first or nail joint of the finger in any manner, whatever it includes the ridge area of the remaining joint of the finger (Palmiotto, 2013:32).

Ubelaker (2015:244) contends that a fingerprint is an individual's characteristic and that no two separate fingerprints of two different human beings have yet been found to possess identical characteristics. Similarly, Palmiotto (2013:33) and Osterburg and Ward (2010:259) concur that fingerprints and palms of hands of human beings have friction ridges skin, which composed of complex patterns of hills (ridges) and valleys (furrows) designed for gripping.

Once a fingerprint has been captured, whether chemically developed, rolled in ink or digitally scanned, the fingerprint patterns are analysed for unique features that will lead to the identification of an individual. Fingerprint patterns are classified as arched, looped or whorled, and fingerprints are positive evidence of an individual's identity (Osterburg & Ward, 2010:261).

The participants responded as follows, when replying to the question as to what is the meaning of a fingerprint:

- Twelve participants: Fingerprint is an impression or a mark made on surface by a person's fingerprint, able to be used for identifying individuals from unique pattern of whorls and lines on fingerprints.
- One participant: Fingerprint is the reproduction of the ridge surface of the first point of fingers.
- One participant: It is an impression left by the friction ridges of a human finger.

- One participant: It is the first section of the finger, left on a surface and it contains frictions and sweat.

The viewpoints of the participants above indicate that they have an understanding about the meaning of a fingerprint, although their explanations are not the same. However, their different responses are similar to each other. Furthermore, when comparing the viewpoints of the participants with that of the different authors in the literature above. The researcher argues that the viewpoints of the participants are not much different from that of the different authors. Hence, the researcher contends that fingerprints are having unique features which lead to identification of an individual. For example, fingerprint is a method of positive evidence of an individual's identity.

### **3.3 DIFFERENT TYPES OF FINGERPRINTS**

According to Becker and Dutelle (2018:215), fingerprint patterns consist of arches, loops and whorls. Arches consisting of plain arches and tented arches, loop patterns are ulnar, double or radial loops and whorl patterns take different forms such as plain, double loop, central pocket loop, and accidentals.

#### **3.3.1 Arches**

In addition to above, an arch pattern consists of the parallel flow of ridges from one side of the finger to the other without any turning back. The arch pattern may take the form of plain/flat or tented-shape arches. Hence, in arch patterns there are no cores or deltas (Becker & Dutelle, 2018:216).

#### **3.3.2 Loops**

According to Palmiotto (2013:36), in a loop pattern at least one of the ridges should make an independent backward turn; there should be one delta and one core and at least one count between the delta and core. Loop patterns are divided into ulner and radial. In the ulner loop pattern, ridges flow in the direction of the ulner bone of the forearm in the case of the right-hand finger, towards the right little finger. For the left hand, ridges flow towards the left little finger. While a radial loop is the opposite of the ulner, ridges flow in the direction of the radius bone of the forearm. For the right hand, the ridges flow towards the left; for the left hand, the ridges flow to the right thumb (Palmiotto, 2013:37).

### 3.3.3 Whorls

In addition to the above, there are two or more deltas and one or more cores in each whorl pattern. In whorl patterns, at least one ridge turns until one full circuit is completed (Palmiotto, 2013:37).

The participants responded as follows, when replying to the question as to what are the different types of fingerprints:

- All 15 participants: Indicated that the different types of fingerprints are arches, loops and whorls.

The viewpoints of the participants above indicate that they have an understanding and know the different types of fingerprints. Their viewpoints are the same in that the different types of fingerprints are arches, loops and whorls. Hence, their viewpoints are similar to the viewpoints of the different authors in the literature above. The researcher is satisfied with the viewpoints of all the participants and that of the different authors.

### **3.4 HOW A FINGERPRINT COULD BE LIFTED FROM A CRIME SCENE**

According to Becker and Dutelle (2018:219), hard surfaces often show fingerprints when dusted with a very fine powder. Fingerprint powder is very messy, therefore, a detective should start out dusting a microscope slide to get the technique down and then move on to dusting other surfaces on the crime scene. Different features of the fingerprint are significant in the classification and the individualisation of a human being.

Identification deals with ridge characteristics, ridge line patterns, line ridge deviation details and individual characteristics of fingerprints. Identification should at all times be made by a final visual comparison of suspects and scene prints' ridge characteristics and that only the ridge features can impart individuality to a positive fingerprint lifted from a crime scene (Becker & Dutelle, 2018:220).

According to Osterburg and Ward (2010:266), a microscope slide, fingerprint powder and fingerprint brush are used to search and lift fingerprints at a crime scene. The microscope is used on the area of the crime scene and the microscope should be set on a piece of paper before dusting for easier clean up. Subsequently, fingerprint powder should be sprinkled a little bit on the microscope slide, then gently swipe off the excess powder with the soft fingerprint brush to leave the fingerprint intact. Once a fingerprint is lifted from a crime scene by means of tape lifter and determined to be suitable for comparison, subsequently, it is then compared to known fingerprints (Osterburg & Ward, 2014:267).

Palmiotto (2013:39) concedes that after lifting a fingerprint from the crime scene, it is then scrutinised for any discernible class characteristics to eliminate comparison fingerprints that are not of the same pattern type. Thereafter, the next step is to find a cluster of individual characteristics, two or three points (ridge characteristics).

When replying to the question, how a fingerprint could be lifted from a crime scene, the participants responded as follows:

- Twelve participants: One of the most common methods for discovering and collecting latent fingerprints from the crime scene is by dusting a smooth or nonporous surface with fingerprint powder.
- Two participants: Indicated by means of folien tape when it is developed by powder and photography.
- One participant: Indicated by means of scotch tape and photography.

The viewpoints of the participants above indicate that they have an understanding and expertise to lift fingerprints from a crime scene. Their different responses are similar to each other. Furthermore, when comparing the viewpoints of the participants with that of the different authors in the literature above. The researcher postulates that the viewpoints of the participants are not much different from that of the different authors.

### **3.5 EXPLANATION OF A SUSPECT**

Monckton-Smith, Adams, Hart and Webb (2013:150) assert that a suspect is a person considered to be directly or indirectly connected with a crime, either by an overt act or by planning and or directing it. According to Leo (2012:376), a suspect is a person who has committed a crime, but is not yet positively linked to a particular crime, identified, and can be unknown during the criminal investigation. A suspect is suspected of being a person who has committed a certain crime but owing to insufficient evidence, is yet to be charged for the crime committed (Peterson & Kopishke, 2010:137).

Viljoen (2012:146) contends that a person can, before a prosecution has been initiated, be considered a suspect when reasonable suspicion exists that he or she is guilty of having committed a criminal offence. When a suspect is detained in police custody, he or she should be charged within 48 hours and brought before a court of law or released if not positively linked with a particular crime (Viljoen, 2012:146).

Viljoen (2012:147) further contends that in terms of Section 35 of the Constitution of the Republic of South Africa (Act 108 of 1996), the following rights are afforded to a suspect:

- The right to remain silent and not to give a statement on arrest;
- The right not to make a confession that can be used in evidence against him or her;
- The right to apply for bail and to be brought to court within 48 hours;
- The right to be represented by a lawyer;
- The right to be treated with respect and dignity; and
- The right not to be tortured (Viljoen, 2012:147).

When replying to the question, what is the meaning of a suspect, the participants responded as follows:

- Fourteen participants: Indicated that a suspect is a person who is suspected to have committed a crime.

- One participant: Mentioned that a suspect is a person who is believed to be guilty of an offence.

The viewpoints of the 14 participants above indicate that they have an understanding and know the meaning of a suspect. However, one participant is not much convincing because of its definition attached to a suspect. Furthermore, when comparing the viewpoints of the fourteen participants with that of the different authors in the literature above. The researcher argues that the viewpoints of the participants and the different authors are similar to each other when defining a suspect.

Hence, the researcher contends that a suspect is any person who is suspected or alleged to have committed a criminal offence or linked to a crime and who has not been found guilty yet of a criminal offence. For example, after Oscar Pistorius shot and killed the late Reeva Steenkamp, he was identified as a suspect and subsequently arrested and charged for alleged murder on Reeva Steenkamp.

### **3.6 PROCEDURES USED TO IDENTIFY A SUSPECT WHEN USING FINGERPRINTS**

Palmiotto (2013:148) contends that fingerprints are a method to link a suspect with a crime scene. Fingerprints in blood will almost certainly be encountered when processing violent murder crime scenes and the safety of the fingerprint analyst and other personnel must be addressed before attempting any of the processing methods. After proper safety measures have been employed, blood fingerprints can be used to identify the sources of the fingerprint (Palmiotto, 2013:149).

According to Viljoen (2012:154), the Automated Fingerprint Identification System (AFIS) was initially set up in South Africa in 2002. The latent prints are scanned into the AFIS, wherein the system will automatically search through the database to check for possible links. A fingerprint expert carries out the loading of information into the AFIS. The fingerprint expert ensures that good quality information is loaded into the AFIS.

The AFIS gives the fingerprint expert a possible match, which is able to link a suspect to a crime scene through fingerprints. The fingerprint expert compares the fingerprints that appear on the system through ridge tracing and or ridge counting or both until seven identical points are marked to prevent incorrect identification. In the event the fingerprints are incorrectly captured on the AFIS, it is expected to be detected and rectified during quality control checking and verifications by other fingerprint experts (Viljoen, 2012:155).

According to McKeown (2012:187), fingerprints when scanned into the AFIS because of the many fingerprints stored in the database, have a higher possibility of identifying a suspect through fingerprints.

When replying to the question, what are the procedures used to identify a suspect when using fingerprints, the participants responded as follows:

- Six participants: Mentioned that in the past in South Africa before the AFIS the latent fingerprint was searched through the fingerprints that were in the files (manual comparison).
- Four participants: Indicated that fingerprints found at crime scenes are loaded into the AFIS to identify a positive match.
- Three participants: Mentioned that experts use the general pattern type (loop, whorl and arch) to make initial comparisons and include or exclude a known fingerprint from further investigation.
- One participant: Mentioned that after the fingerprint is retrieved at a place where a criminal transgression transpired, it is loaded into AFIS, and when there is a link an ID docket is opened.
- One participant: Indicated that it can be done through manual search on SAPS 192 and collection from the suspect.

The viewpoints of the participants above indicate that they have an understanding and know the procedures used to identify a suspect when using fingerprints, although their explanations are not the same but they presented different procedures that are used to identify a suspect when using fingerprints. Furthermore, when comparing the viewpoints of the participants with that of the

different authors in the literature above, the researcher deduces that the viewpoints of the participants and that of the different authors corroborate each other.

### **3.7 BEST PRACTICES ON THE IDENTIFICATION OF A SUSPECT BY USING FINGERPRINTS**

According to Becker and Dutelle (2018:226), crime scene investigators are required by protocols to ensure that their equipment is safe guarded, which they use at the crime scenes. Crime scene, evidence contamination and destruction controls are the hierarchal order and timing of various crime scene processing methodologies (Becker & Dutelle, 2018:226).

Palmiotto (2013:197) concedes that owing to the nature of fingerprints powders becoming aerosolised when processing the physical crime scene or individual items of evidence, the powder inadvertently spread throughout the crime scene, therefore, potentially contaminating other locations and evidence found at the crime scene. It is best practice to document and collect all proof found at the crime scene that can be altered, contaminated, damaged or destroyed by being exposed to the fingerprint powders, before processing the physical scene for fingerprints. Therefore, searching the place where the crime happened for fingerprints is one of the last tasks performed at the crime scene (Palmiotto, 2013:198).

According to Buckles (2017:185), the same guidelines must be followed for the latent fingerprints, when utilising liquid chemical reagents such as ninhydrin, for fingerprints on wallpaper. Crime scene investigators are able to develop quality fingerprints with spray fingerprint powders, without ever having to use a fingerprint powder application brush (Buckles, 2017:185).

McKeown (2012:189) contends that when latent prints are found by the AFIS, the system functions by producing a list of responses to crime scenes by searching in a pecking order, with the best possible match response first. The exemplar sets scanning of fingerprints into the AFIS is important. Therefore, as best practice,

the suspect list must be maintained and the fingerprint bureau must be updated on a daily basis (McKoewn, 2012:189).

When replying to the question, what are the best practices when fingerprints are used to identify a suspect, the participants responded as follows:

- Twelve participants: Articulated that all documents/evidence used should have a date when it was lifted and submitted to the LCRC, by recording at the reverse side and documents must be co-signed.
- One participant: Stated that the compilation of a court chart whereby the suspect's fingerprint is photographed and a photograph of the crime scene print are pasted next to each other and similar prints are marked out.
- One participant: Indicated that first one has to inspect the crime scene for fingerprints, cordon off the crime scene and use fingerprint powder to develop the fingerprint.
- One participant: Mentioned that one must ensure that good quality of fingerprints are scanned into database to ensure that latent prints from the crime scene are linked or found.

The viewpoints of the participants above indicate that they have an understanding and know the best practices when fingerprints are used to identify a suspect. Although their explanations are not the same but they presented different best practices when fingerprints are used to identify a suspect. Furthermore, when comparing the viewpoints of the participants with that of the different authors in the literature above, the researcher deduces that the viewpoints of the participants and that of the different authors corroborate each other when coming to the best practices when fingerprints are used to identify a suspect.

### **3.8 EXPLANATION OF MURDER**

According to Dutelle and Becker (2018:202), murder is the unlawful and intentional causing of the death of another person. Similarly, Viljoen (2012:523) describes murder as the unlawful and intentional causing of the death of another person.

Palmiotto (2013:176) agrees with Hickey (2013:33) that murder is the unlawful killing of another person. Murder is the unlawful killing of another person, and is punishable by law (McKeown, 2012:265).

When replying to the question, what is the meaning of murder, the participants responded as follows:

- Twelve participants: Articulated that murder is the unlawful and intentional killing of another person.
- One participant: Mentioned that murder is the unlawful and intentional causing of the death of another person without justification or valid excuse.
- One participant: Indicated that when a person takes the life of another by any means of unlawful and intentional.
- One participant: Stated that murder is defined as an event in which a person kills two or more, or one at one time and place.

From the viewpoints of the 12 participants above, it is evident that the participants have an understanding and know the meaning of murder. However, the other respective three participants could not properly explain the meaning of murder. Furthermore, when comparing the viewpoints of the participants with that of the different authors in the literature above. The researcher deduces that the viewpoints of the participants and that of the different authors are similar to each other. Hence, the researcher is privy to the meaning of murder. For example, when a person caused the death of another person by shooting him or her with the intention to cause death, therefore, the person who killed the other person has committed murder.

### **3.9 ELEMENTS OF MURDER**

Viljoen (2012:524) contends that murder is a crime that consists of the elements of crime, namely criminal act/conduct, unlawfulness and intention. The author further contends before a person is guilty on the crime of murder, sufficient evidence beyond reasonable doubt should be produced to the court of law in

respect of criminal act/conduct, unlawfulness and intention by the accused person (Viljoen, 2012:524).

### 3.9.1 Criminal Act / Conduct

According to Viljoen (2012:524), most jurisdictions define the criminal act element of murder as conduct that causes the victim's death. The criminal act could be carried out with a weapon, a vehicle, poison or the defendant's bare hands. Like all criminal acts, the conduct must be undertaken voluntarily and cannot be the result of a failure to act, unless a duty to act is created by common law or statute (Viljoen, 2012:524).

### 3.9.2 Unlawfulness

The killing of another person will not constitute murder if a ground of justification, such as private defence or official capacity justified the conduct. However, it is imperative to note that consent is no justification for murder. The killing of a person will amount to murder even though that person consented to being killed (Viljoen, 2012:525).

### 3.9.3 Intention

Viljoen (2012:526) contends that it is the criminal intent element that basically separates murder from culpable homicide/manslaughter. The difference between murder and homicide/manslaughter is that murder requires intent and homicide/manslaughter requires negligence. The concept of intention in South African law has gradually been extended to cover not just deliberate, but also foreseen conduct. *Dolus eventualis* or legal intention exists where the accused does not mean for the unlawful act to happen, but foresees the possibility that it could happen, and proceeds with his or her conduct anyway. The concept is easily demonstrated if person A sets fire to a building, foreseeing the possibility that someone might be in that building, and someone in the building is burned to death. The law then recognises that person A intended the death of that person, by foreseeing the possibility of death (Viljoen, 2012:526).

When replying to the question, what are the elements of the crime of murder, the participants responded as follows:

- Eleven participants: Articulated that the elements of the crime of murder are unlawfulness and criminal act.
- One participant: Mentioned that the elements of the crime of murder are act, intention and causation.
- One participant: Indicated that the elements are the unlawful killing of another human being with premeditation.
- One participant: Stated that the elements of the crime of murder are unlawful and intention.
- One participant: Mentioned that the elements of the crime of murder are act, unlawful and intentional.

From the viewpoints of the participants above, it is evident that the participants have an understanding as to what are the elements of the crime of murder, although they did not define or explain the elements of the crime of murder in full. Furthermore, when comparing the viewpoints of the participants with that of the different authors in the literature above, the researcher argues that the viewpoints of the participants and that of the different authors corroborate are similar to each other. Hence, the researcher is clear with regards to the elements of the crime of murder in that the researcher satisfied himself with the explanations of the different authors above when coming to the elements of the crime of murder.

### **3.10 VALUE OF USING FINGERPRINTS TO IDENTIFY A MURDER SUSPECT**

According to Peterson and Kopishke (2010:157), fingerprints lifted from a crime scene can lead to the positive identification of a suspect, linking the suspect to the murder crime scene. It is, therefore, imperative to comb the entire murder crime scene so that fingerprints can be lifted from the murder crime scene (Peterson & Kopishke, 2010:157).

When fingerprints are lifted from the murder crime scene and loaded into the AFIS, it can positively identify the suspect through fingerprints which were lifted at the murder crime scene (Viljoen, 2012:234).

Leo (2012:166) contends when fingerprints are lifted from a murder crime scene, it can lead to the positive identification of the suspect. According to Becker and Dutelle (2013:199), it is important to always search for fingerprints at a murder crime scene because when fingerprints are lifted from the crime scene possibilities are high in connecting a culprit to murder.

When replying to the question, what is the value of using fingerprints to identify a murder suspect, the participants responded as follows:

- Eleven participants: Articulated that fingerprints are valuable for its purpose of identifying suspects and solving crimes in law enforcement.
- One participant: Mentioned that fingerprints are unique and permanent.
- One participant: It is not possible for two persons to have the same fingerprints; God has made us to be unique.
- One participant: Stated that fingerprints are crucial and very important because in most cases, suspects are linked with fingerprints where there is no DNA.
- One participant: Indicated that it is highly valuable in using latent prints found at a crime scene since it places a person at the crime scene.

From the viewpoints of the participants above, it is evident that the participants have an understanding and know the value of using fingerprints to identify a murder suspect. However, their viewpoints are not the same. Furthermore, when comparing the viewpoints of the participants with that of the different authors in the literature above, the researcher posits that fingerprints are extremely valuable since it can easily identify a murder suspect, by linking the suspect to the crime of murder, by doing so it solves plenty of murder cases. For example, human beings are having unique fingerprints. Therefore, when fingerprints are found at murder crime scenes, they link and identify a murder suspect.

### **3.11 SUMMARY**

In this chapter, the researcher systematically discussed the explanation of a fingerprint, different types of fingerprints, how a fingerprint could be lifted from a crime scene, explanation of a suspect, procedures used to identify a suspect when using fingerprints, best practices on the identification of a suspect by using fingerprints, explanation of murder, elements of murder and the value of using fingerprints to identify a murder suspect.

A fingerprint consists of the imprint of the friction ridge skin of the end joint of each finger, which is taken from cuticle-to-cuticle. The skin covering the anterior surface of the human hand is different in texture and appearance than the skin that covers the body of the human being. A fingerprint is the reproduction of the ridge area of the first or nail joint of the finger in any manner, whatever it includes the ridge area of the remaining joint of the finger.

The different types of fingerprints consist of arches, loops and whorls. Arches consisting of plain arches and tented arches, loop patterns are ulnar, double or radial loops and whorl patterns take different forms such as plain, double loop, central pocket loop, and accidentals.

A fingerprint is lifted from a crime scene by using a microscope slide, fingerprint powder and fingerprint brush. The microscope is used on the area of the crime scene. The microscope should be set on a piece of paper before dusting, for easier clean up. Subsequently, fingerprint powder should be sprinkled a little bit on the microscope slide, then gently swipe off the excess powder with the soft fingerprint brush to leave the fingerprint intact. Once, a fingerprint is lifted from a crime scene by means of tape lifter and determined to be suitable for comparison, subsequently, it is then compared to known fingerprints.

The procedures used to identify a suspect when using fingerprints, are among others, the latent prints are scanned into the AFIS, wherein the system will automatically search through the database to check for possible links. A fingerprint expert carries out the loading of information into the AFIS. The fingerprint expert ensures that good quality information is loaded into the AFIS.

The best practices when fingerprints are used to identify a suspect are among others, when latent prints are found by the AFIS, the system function by producing a list of responses to crime scenes by searching in a pecking order, with the best possible match response first. The exemplar sets scanning of fingerprints into the Automated Fingerprint Identification System is important. Therefore, as a best practice, the suspect list must be maintained and the fingerprint bureau must be updated on a daily basis.

Murder is a crime that consists of the elements of crime, namely criminal act/conduct, unlawfulness and intention. In order to make a pronouncement of murder to a person, sufficient evidence beyond reasonable doubt should be produced to the court of law in respect of criminal act/conduct, unlawfulness and intention by the accused person. The value of using fingerprints to identify a murder suspect is when fingerprints are lifted from a murder crime scene it can lead to the positive identification of the suspect. Therefore, it is important to always search for fingerprints at a murder crime scene because when fingerprints are lifted from the crime scene, possibilities are high to identify and link a suspect to the crime of murder.

## **CHAPTER FOUR**

### **FINDINGS AND RECOMMENDATIONS**

#### **4.1 INTRODUCTION**

In this final chapter, the researcher summarized the findings of this research project and came up with applicable recommendations, in line with the data solicited by this research study. The aim of this research project was to analyse the use of fingerprints in the identification of a murder suspect. Hence, in order to give effect in addressing this aim, the following question was asked:

- How can fingerprints be used to identify a murder suspect?

The objectives of this research project were as follows:

- To determine and understand the legislative framework governing the obtaining and use of fingerprints to identify a murder suspect.
- To determine the procedures used to identify a murder suspect when using fingerprints.
- To determine the best practices by using fingerprints to identify a murder suspect.
- To make applicable recommendations that will assist the SAPS to improve the methods of the use of fingerprints in the identification of a murder suspect.

In seeking to address the research aim and objectives of this research project, the researcher solicited data through literature and interviewing fingerprints experts from Klerksdorp Police Service. An interview schedule applicable to the research aim, research question and objectives of the research study was used to solicit information from the participants.

Subsequently, the researcher analysed the data solicited from literature and the responses of the participants, which eventually led to the findings and recommendations addressed by this chapter.

## 4.2 FINDINGS

The findings attached to this chapter derives from information solicited from literature and responses obtained through interviews with participants:

### 4.2.1 Findings on Research Question: How can fingerprints be used to identify a murder suspect?

#### 4.2.1.1 Criminal investigation

- Criminal investigation is the process of discovering, collecting, preparing, identifying and presenting evidence to determine what transpired, and who is responsible for the crime. Criminal investigation is also the methodical search of the truth in order to solve a crime that has transpired. Furthermore, criminal investigation is more than the processing or documentation of a crime scene, and it is not merely the soliciting or protecting of physical evidence. It is the first and most crucial step in any criminal investigation of a possible criminal act.
- The majority of the participants' viewpoints indicate that they understand the meaning of criminal investigation, although their responses are having different versions. The majority of the participants' viewpoints do bear a different version to that of the different authors in the literature. However, based on the viewpoints of the participants and the different authors, the researcher when looking at the definition of criminal investigation, concluded that there are not much differences between the viewpoints of the participants and that of the authors.

#### 4.2.1.2 Objectives of criminal investigation

- The objectives of a criminal investigation are to detect crime; locating and identifying the suspect (before a crime scene can be processed, individual perpetrators must be removed from the premises because they pose a danger to the police, investigators, and others); locating, recoding, and processing evidence while observing all constitutional considerations; arresting the suspect while observing all constitutional considerations; recovering property;

preparing for trial, including completing accurate documentation; and convicting the defendant by testifying and assisting in the presentation of legally obtained evidence and statements.

- The majority of the participants' viewpoints, indicate that they understand the objectives of criminal investigation, although their responses are having different versions. The majority of the participants' viewpoints do bear a different version to that of the different authors in the literature. However, based on the viewpoints of the participants and the different authors, the researcher when looking at what are the objectives of criminal investigation concluded that there are not much differences between the viewpoints of the participants and that of the authors.

#### 4.2.1.3 Purpose of criminal investigation

- Among others, the purpose of criminal investigation is to prevent crime, of which criminal investigation uses three kinds of measures to achieve its purpose, namely:
- **Reactive measures:** to follow up on the criminal activities that have previously transpired;
- **Proactive measures:** to monitor crimes as they transpire; and
- **Preventive measures:** to prevent or curb the commission of crimes.

Subsequently to crimes that have been committed, police members respond to and follow-up on the links to establish what transpired.

- The participants' viewpoints indicate that they have an understanding of the purpose of criminal investigation, although their responses are having different versions. The participants' viewpoints do bear a different version to that of the different authors in the literature. However, based on the viewpoints of the participants and the different authors, the researcher when looking at the purpose of criminal investigation, concluded that there are not much differences between the viewpoints of the participants and that of the authors.

#### 4.2.1.4 Explanation of a crime scene

- A crime scene is a location where a suspected criminal act has transpired, of which processing the crime scene is normally one of the most imperative steps of the investigation. At the crime scene, the detective focuses on the search for physical evidence. All crime scenes contain some physical evidence. This may be visible to the naked eye or may be microscopic.
- The participants' viewpoints indicate that they understand and know the meaning of a crime scene; hence, there are no differences in their responses. However, the participants' viewpoints do bear a different version to that of the different authors in the literature. However, based on the viewpoints of the participants and the different authors, the researcher when looking at the meaning of a crime scene, concluded that there are not much differences between the viewpoints of the participants and that of the authors.

#### 4.2.1.5 Different types of a crime scene

- Crime scenes can naturally be classified in two types, namely, primary crime scene and secondary crime scene.
- The majority of the participants' viewpoints indicate that they understand the different crime scenes, although the responses of the participants had different versions. The majority of the participants' viewpoints contradict that of the different authors in the literature above. However, based on the viewpoints of the participants and the different authors, the researcher when looking at the different crime scenes concluded that the explanations of the different authors are more satisfactory.

#### 4.2.1.6 Explanation of identification

- Identification is a comparison process which uses the class characteristics of a standard object to compare it with the evidential item collected from the crime scene.

- The majority of the participants' viewpoints indicate that they understand the meaning of identification. Nevertheless, the responses of the participants were different. The majority of the participants' viewpoints do bear a different version to that of the different authors in the literature. However, based on the viewpoints of the participants and the different authors, the researcher when looking at the meaning of identification concluded that there are not much differences between the viewpoints of the participants and that of the authors.

#### 4.2.1.7 Different identification categories

- The different identification categories consist inter alia of fingerprint identification, situation identification, witness identification, victim identification, origin identification, action identification, and culprit identification.
- The participants' viewpoints indicate that the majority of participants do not understand the different identification categories. Nevertheless, a few of the participants mentioned fingerprints identification and DNA identification. Only thirteen of the fifteen participants mentioned one identification category which is fingerprints identification that is also mentioned by different authors in the literature. Therefore, based on the viewpoints of the participants and the different authors, the researcher when looking at the different identification categories is satisfied with different authors' views.

#### 4.2.1.8 Individualisation

- Individualisation is the ability to indicate that a particular object or sample is unique, even in the event of identical twins. Individualisation means that a piece of evidence comes from a unique source and can be shown to be directly associated with a specific individual source.
- The viewpoints of the participants indicate that they understand the meaning of individualisation, although their responses are different. The majority of the participants' viewpoints do bear a different version to that of the different

authors in the literature. However, based on the viewpoints of the participants and the different authors, the researcher when looking at the definition of individualisation, concluded that there are not much differences between the viewpoints of the participants and that of the authors.

#### 4.2.1.9 Differences between identification and individualisation

- There is a huge difference between the concepts of identification and individualisation. In identification, items share a common source, whereas in individualisation, a particular object is unique, even among members of the same class.
- The viewpoints of the participants indicate that they understand the differences between identification and individualisation. However, the responses of the participants are different. The majority of the participants' viewpoints contradict that of the different authors in the literature. However, based on the viewpoints of the participants and the different authors, the researcher when looking at the differences between identification and individualisation, concluded that there are not much differences between the viewpoints of the participants and the different authors.

#### 4.2.1.10 Explanation of Locard's principle

Among others, the Locard's principle is the central point where each contact is analysed, where the transfer of mutual traces takes place, when two or more items come into contact with each other. Practically, there is always a clear contact at each crime scene, and the detective therefore, needs to be privy as to which methods need to be used in detecting such contact.

- The viewpoints of the participants indicate that they understand the meaning of the Locard's principle. Hence, their different responses are similar to each other. Furthermore, when comparing the viewpoints of the participants with that of the different authors in the literature, the researcher concluded that similar versions exist between the participants and the different authors.

#### 4.2.1.11 Explanation of a fingerprint

- A fingerprint is the imprint of the friction ridge skin of the end joint of each finger, which is taken from cuticle-to-cuticle. The skin covering the anterior surface of the human hand is different in texture and appearance than the skin that covers the body of the human being. A fingerprint is the reproduction of the ridge area of the first or nail joint of the finger in any manner; it includes the ridge area of the remaining joint of the finger.
- The viewpoints of the participants indicate that they understand the meaning of a fingerprint, although their explanations or viewpoints are not the same. However, their different responses are similar to each other. Therefore, when comparing the viewpoints of the participants with that of the different authors, the researcher concluded that there is not much difference between the participants and the different authors.

#### 4.2.1.12 Different types of fingerprints

- The different types of fingerprints consist of arches, loops and whorls. Arches consisting of plain arches and tented arches, loop patterns are ulnar, double or radial loops and whorl patterns take different forms such as plain, double loop, central pocket loop, and accidentals.
- The viewpoints of the participants indicate that they understand and know the different types of fingerprints. Their viewpoints are the same in that the different types of fingerprints are arches, loops and whorls. Therefore, when comparing the viewpoints of the participants with that of the different authors, the researcher concluded that there are no differences between the participants and the different authors.

#### 4.2.1.13 How a fingerprint could be lifted from a crime scene

- A fingerprint is lifted from a crime scene by using a microscope slide, fingerprint powder and fingerprint brush. The microscope is used on the area of the crime scene. The microscope should be set on a piece of paper before dusting, for easier clean up. Subsequent, fingerprint powder should be

sprinkled a little bit on the microscope slide, then gently swipe off the excess powder with the soft fingerprint brush, to leave the fingerprint intact. Once, a fingerprint is lifted from a crime scene by means of tape lifter and determined to be suitable for comparison, subsequently, it is then compared to known fingerprints.

- The viewpoints of the participants indicate that they understand and know how to lift fingerprints from a crime scene. Their different responses are similar to each other. When comparing the viewpoints of the participants with that of the different authors in the literature, the researcher concluded that the viewpoints of the participants are not much different from that of the different authors.

#### 4.2.1.14 Explanation of a suspect

- A suspect is a person considered to be directly or indirectly connected with a crime, either by an overt act or by planning and or directing it.
- The viewpoints of the fourteen participants indicate that they have an understanding and know the meaning of a suspect. However, the one participant's viewpoint is not much convincing because of its definition attached to a suspect. When comparing the viewpoints of the fourteen participants, the researcher concluded that their viewpoints and that of the different authors are similar to each other when defining a suspect.

#### 4.2.1.15 Procedures used to identify a suspect when using fingerprints

- The procedures used to identify a suspect when using fingerprints, are among others, the latent prints are scanned into the AFIS, wherein the system will automatically search through the database to check for possible links. A fingerprint expert carries out the loading of information into the AFIS. More importantly, the fingerprint expert ensures that good quality information is loaded into the AFIS.

- The viewpoints of the participants indicate that they understand and know the procedures used to identify a suspect when using fingerprints. Although their explanations are not the same, they presented different procedures that are used to identify a suspect when using fingerprints.

#### 4.2.1.16 Best practices on the identification of a suspect by using fingerprints

- The best practices when fingerprints are used to identify a suspect are among others, when latent prints are found by the AFIS, the system function by producing a list of responses to crime scenes by searching in a pecking order with the best possible match response first. The exemplar sets scanning of fingerprints into the AFIS as important. Therefore, as best practice, the suspect list must be maintained and the fingerprint bureau must be updated on a daily basis.
- The viewpoints of the participants indicate that they have an understanding and know the best practices when fingerprints are used to identify a suspect. Although their explanations are not the same, they presented different best practices when fingerprints are used to identify a suspect.

#### 4.2.1.17 Explanation of murder

- Murder is the unlawful and intentional causing of the death of another person and is punishable by law.
- From the viewpoints of the twelve participants, it is evident that the participants have an understanding and know the meaning of murder. Nevertheless, the other respective three participants couldn't properly explain the meaning of murder in their respective viewpoints.

#### 4.2.1.18 Elements of murder

- Murder is a crime that consists of the elements of crime, namely, criminal act/conduct, unlawfulness and intention. In order for a court of law to find a person guilty on the crime of murder, sufficient evidence beyond reasonable

doubt should be produced to the court of law, in respect of criminal act/conduct, unlawfulness and intention by the accused person.

- From the viewpoints of the participants, it is evident that the participants have an understanding as to what are the elements of the crime of murder. Although, they did not define or explain the elements of the crime of murder in full.

#### 4.2.1.19 Value of using fingerprints to identify a murder suspect

- The value of using fingerprints to identify a murder suspect is when fingerprints are lifted from a murder crime scene, it can lead to the positive identification of the suspect. It is important to always search for fingerprints at a murder crime scene because when fingerprints are lifted from the crime scene, possibilities are high to identify and link a suspect to the crime of murder.
- From the viewpoints of the participants, it is evident that the participants understand and know the value of using fingerprints to identify a murder suspect, although their viewpoints are not the same.

### **4.3 RECOMMENDATIONS**

Recommendations are essential after a problem area through a research project has been undertaken. The researcher therefore, deemed it appropriate to effect recommendations in this chapter. The recommendations effected in this chapter are based on the data solicited by this research study, which eventually led to findings. Hence, the researcher effects the recommendations. Not all concepts were comprehensively addressed by this research study. Hence, those concepts that were not fully addressed, further academic research is required to address those concepts. Therefore, the researcher would like to effect the following recommendations in respect of the research question:

#### 4.3.1 Recommendations for Research Question: How can fingerprints be used to identify a murder suspect?

It is highly recommended that extensive training be given to investigators on the following areas namely:

- criminal investigation;
- objectives of criminal investigation;
- purpose of criminal investigation;
- meaning of a crime scene;
- different types of a crime scene;
- meaning of identification;
- different identification categories;
- meaning of individualisation;
- differences between identification and individualisation;
- meaning of Locard's principle;
- meaning of a fingerprint;
- different types of fingerprints;
- how fingerprints could be lifted from crime scenes;
- meaning of a suspect;
- procedures used to identify a suspect when using fingerprints;
- best practices on the identification of a suspect by using fingerprints;
- meaning of murder;
- elements of murder and
- the value of using fingerprints to identify a murder suspect; and also

The importance of these above areas should be discussed during all briefing parades and sessions with police officials. It is also highly recommended that top management encourage investigators at lower levels who in most cases probe murder cases, to enrol with higher educational institutions, offering formal education that deals with how to solve murder cases. By doing so, investigators will be informed of the latest ways to solve murder cases by linking and identifying murder suspects.

#### **4.4 CONCLUSION**

The importance of the use of fingerprints to identify a murder suspect will always play an imperative role when it comes to solving murder cases. Hence, this shall also lead to the positive identification of a suspect and successful prosecution of an accused person in a court of law. Fingerprints lifted at murder crime scenes are essential during the investigation phase, since it leads to the positive identification of a suspect.

When fingerprints are found and lifted at a murder crime scene, they can serve as physical evidence which is extremely hard to dispute in a court of law. Furthermore, when presented in a court of law, it has a probative value which leads to the successful conviction of an accused person. In addressing the research question, this research study touched and answered the following concepts by means of literature review and data solicited through interviews with participants.

These concepts are meaning of criminal investigation, objectives of criminal investigation, purpose of criminal investigation, explanation of a crime scene, different types of crime scenes, explanation of identification, different identification categories, individualisation, differences between identification and individualisation. They also include explanation of Locard's principle, explanation of a fingerprint, different types of fingerprints, how a fingerprint could be lifted from a crime scene, explanation of a suspect, procedures used to identify a suspect when using fingerprints, best practices when fingerprints are used to identify a suspect, explanation of murder, elements of murder and the value of using fingerprints to identify a murder suspect.

This research study also submitted accurate findings and objective recommendations in chapter four of this research study in order to bring an effective solution to the research problem and also in assisting the criminal justice system in dealing with murder cases, be it during the investigation phase thereof and even when such cases are placed before courts of law. If the recommendations of this research study are instituted, it could also see a rise in the conviction rates, since murder suspects shall be identified, be taken to courts

of law to stand trial and be found guilty of murder. Moreover, this shall resuscitate the public's confidence in the criminal justice system in dealing with murder cases.

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## ANNEXURE A: SAPS PERMISSION LETTER

SUID-AFRIKAANSE POLISIEDIENS  SOUTH AFRICAN POLICE SERVICE

**Privaatsak/Private Bag X 94**

Verwysing/Reference:	3/34/2
Navrae/Enquiries:	Lt Col Joubert AC Thenga
Telefoon/Telephone:	(012) 393 3118
Email Address:	JoubertG@saps.gov.za

THE HEAD: RESEARCH  
SOUTH AFRICAN POLICE SERVICE  
PRETORIA  
0001

The Provincial Commissioner  
**NORTH WEST**

**PERMISSION TO CONDUCT RESEARCH IN SAPS: AN ANALYSIS OF THE USE OF FINGERPRINTS TO IDENTIFY A MURDER SUSPECT: UNIVERSITY OF SOUTH AFRICA: MASTERS DEGREE: RESEARCHER: MG DLEPU**

1. The above subject matter refers.
2. The researcher, Mr MG Dlepu, is conducting a study: An analysis of the use of fingerprints to identify a murder suspect, with the aim *to determine how fingerprints could be used in the identification of a murder suspect.*
3. The researcher is requesting permission to interview thirty (30) detectives and fingerprints experts at Klerksdorp police station.
4. The proposal was perused according to National Instruction 1 of 2006. This office recommends that permission be granted for the research study, subject to the final approval and further arrangements by the office of the Provincial Commissioner: North West.
5. We hereby request the final approval by your office if you concur with our recommendation. Your office is also at liberty to set terms and conditions to the researcher to ensure that compliance standards are adhered to during the research process and that research has impact to the organisation.
6. If approval is granted by your office, this office will obtain a signed undertaking from researcher prior to the commencement of the research which will include your terms and conditions if there are any and the following:
  - 6.1. The research will be conducted at his/her exclusive cost.
  - 6.2. The researcher will conduct the research without the disruption of the duties of members of the Service and where it is necessary for the research goals,

**PERMISSION TO CONDUCT RESEARCH IN SAPS: AN ANALYSIS OF THE USE OF FINGERPRINTS TO IDENTIFY A MURDER SUSPECT: UNIVERSITY OF SOUTH AFRICA: MASTERS DEGREE: RESEARCHER: MG DLEPU**

research procedures or research instruments to disrupt the duties of a member, prior arrangements must be made with the commander of such member.

- 6.3 The researcher should bear in mind that participation in the interviews must be on a voluntary basis.
- 6.4 The information will at all times be treated as strictly confidential.
- 6.5 The researcher will provide an annotated copy of the research work to the Service.
- 6.6 The researcher will ensure that research report / publication complies with all conditions for the approval of research.
7. If approval is granted by your office, for smooth coordination of research process between your office and the researcher, the following information is kindly requested to be forwarded to our office:
  - **Contact person:** Rank, Initials and Surname.
  - **Contact details:** Office telephone number and email address.
8. A copy of the approval (if granted) and signed undertaking as per paragraph 6 supra to be provided to this office within 21 days after receipt of this letter.
9. Your cooperation will be highly appreciated.



**MAJOR GENERAL**  
**THE HEAD: RESEARCH**  
**DR PR VUMA**

**DATE:** 2020-02-18

## ANNEXURE B: SAPS ETHICAL CLEARANCE

*South African Police Service*



*Suid-Afrikaanse Polisie*

Privaatsak Private Bag X94	Pretoria 0001	Faks No. Fax No.	(012) 334 3518
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Your reference/U verwysing:

My reference/My verwysing: 3/34/2

THE HEAD: RESEARCH  
SOUTH AFRICAN POLICE SERVICE  
PRETORIA  
0001

Enquiries/Navrae: Lt Col Joubert  
AC Thenga  
Tel: (012) 393 3118  
Email: JoubertG@saps.gov.za

Mr MG Dlepu  
UNIVERSITY OF SOUTH AFRICA

**APPROVED**

**RE: PERMISSION TO CONDUCT RESEARCH IN SAPS: AN ANALYSIS OF THE USE OF FINGERPRINTS TO IDENTIFY A MURDER SUSPECT: UNIVERSITY OF SOUTH AFRICA: MASTERS DEGREE: RESEARCHER: MG DLEPU**

The above subject matter refers.

You are hereby granted approval for your research study on the above mentioned topic in terms of National Instruction 1 of 2006.

Further arrangements regarding the research study may be made with the following office:

The Provincial Commissioner: North West:

- **Contact Person:** Col MP Mapolesa
- **Contact Details:** 076 376 5561
- **Email Address:** MapolesaP@saps.gov.za
  
- **Contact Person:** Capt MJ Makhoenyane
- **Contact Details:** (018) 285 8021
- **Email Address:** MokhoenyaneM@saps.gov.za

Kindly adhere to paragraph 6 of our attached letter signed on the **2020-02-18** with the same above reference number.

  
THE HEAD: RESEARCH  
DR PR VUMA

MAJOR GENERAL

DATE: 2020-03-24

## ANNEXURE C: UNISA ETHICAL CLEARANCE



### UNISA 2020 ETHICS REVIEW COMMITTEE

Date: 2020:06:01

ERC Reference No. : ST38  
Name : MG Dlepu

Dear Mzwamakhaya Godfrey Dlepu

**Decision: Ethics Approval from  
2020:06:01 to 2023:06:01**

**Researcher:** Mzwamakhaya Godfrey Dlepu

**Supervisor:** Dr Nick Olivier

*An Analysis of the use of Fingerprints to Identify a Murder Suspect*

**Qualification:** Master of Arts: Criminal Justice

Thank you for the application for research ethics clearance by the Unisa 2020 Ethics Review Committee for the above mentioned research. Ethics approval is granted for 3 years.

*The **Low risk application** was **reviewed** by the CLAW Ethics Review Committee on 1 June 2020 in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.*

The proposed research may now commence with the provisions that:

- 1. The researcher will ensure that the research project adheres to the relevant guidelines set out in the Unisa Covid-19 position statement on research ethics attached.**
2. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.



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[www.unisa.ac.za](http://www.unisa.ac.za)

3. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the CLAW Committee.
4. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
5. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing, accompanied by a progress report.
6. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
7. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data require additional ethics clearance.
8. No field work activities may continue after the expiry date **2023:06:01**. Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

*Note:*

*The reference number ST 38-2020 should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.*

Yours sincerely,



Prof T Budhram  
Chair of CLAW ERC  
E-mail: [budhrt@unisa.ac.za](mailto:budhrt@unisa.ac.za)  
Tel: (012) 433-9462



Prof M Basdeo  
Executive Dean : CLAW  
E-mail: [MBasdeo@unisa.ac.za](mailto:MBasdeo@unisa.ac.za)  
Tel: (012) 429-8603

## **ANNEXURE D: INTERVIEWS SCHEDULE**

**TITLE: AN ANALYSIS OF THE USE OF FINGERPRINTS TO IDENTIFY A MURDER SUSPECT**

**AIM: TO ANALYSE THE USE OF FINGERPRINTS IN THE IDENTIFICATION OF A MURDER SUSPECT**

### **RESEARCH QUESTIONS:**

- How can fingerprints be used to identify a murder suspect?

You are kindly requested to answer the following questions in this interview schedule for the researcher. The questions, responses and the results will be revealed. Privacy shall be maintained throughout the research study; hence, participants to the research will remain anonymous. The researcher will ensure that participants are treated equally throughout the research study regardless of their socio-economic status. The information given will be treated with confidentiality and no other person will have access to the interview data.

The information you shall provide will be used only in the research study in respect of Master of Arts in Criminal Justice degree, titled "***An analysis of the use of fingerprints to identify a murder suspect***" registered with the University of South Africa. The analysed and processed data will be published in a research report at the end of the research project.

Your answers will be noted by the interviewer himself, on paper and by dictaphone. Should any question be unclear, please ask the researcher (interviewer) for clarification. Only one answer per question is required. When answering the questions, it is very imperative to give your own opinions or views. Written permission has already been obtained from the South African Police Service in advance, for the interview to be conducted.

## PARTICIPANT

I hereby give permission to be interviewed and that information supplied by me can be used in this research.

YES / NO

### SECTION A: PERSONAL DATA

A1. In which unit of the South African Police Service are you working?

A2. How long have you been working with fingerprints?

1 – 5 yrs	5 yrs – 10 yrs	10 yrs and above
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A3. Do you have any experience dealing with murder crime scenes?

YES	NO
-----	----

A4. How many years have you been dealing with murder crime scenes?

A5. What is your highest qualification?

A6. Did you undergo any training in the use of fingerprints to identify a murder suspect?

YES	NO
-----	----

## **SECTION B: CRIMINAL INVESTIGATION**

- B1. What is the meaning of criminal investigation?
- B2. What are the objectives of criminal investigation?
- B3. What is the purpose of criminal investigation?
- B4. Explanation of a crime scene.
- B5. The different types of a crime scene.
- B6. Explain each type of crime scene.
- B7. Explanation of identification.
- B8. The different identification categories.
- B9. Explanation of individualisation.
- B10. The differences between identification and individualisation.
- B11. Explanation of Locard's principle.

## **SECTION C: THE USE OF FINGERPRINTS TO IDENTIFY A MURDER SUSPECT**

- C1. Explanation of a fingerprint.
- C2. The different types of fingerprints.
- C3. How a fingerprint could be lifted from a crime scene.
- C4. Explanation of a suspect.
- C5. What are the procedures used to identify a suspect when using fingerprints?
- C6. The best practices on the identification of a suspect by using fingerprints.
- C7. Explanation of murder.
- C8. What are the elements of murder?
- C9. What is the value of using fingerprints to identify a murder suspect?

# ANNEXURE E: TURNITIN SIMILARITY INDEX AND RECEIPT

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AN ANALYSIS OF THE USE OF FINGERPRINTS TO IDENTIFY A MURDER  
SUSPECT  
by  
MZWAMAKHAYA GODFREY DLEPU  
submitted in accordance with the requirements for the degree of  
MASTER OF ARTS  
in the subject  
CRIMINAL JUSTICE  
at the  
UNIVERSITY OF SOUTH AFRICA  
Supervisor: Dr A.C. Masizandla  
NOVEMBER 2020

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