

The impact of crime scene contamination by police officers in unsolved housebreaking cases in the Honeydew policing area, South Africa

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Abstract: Unsolved housebreaking cases are a major cause for concern in South Africa. The number of burglaries has increased in the Honeydew policing area in the province of Gauteng, South Africa, with community members regularly complaining about housebreaks. However, reported cases frequently remain unsolved, which raises the question of the impact of police officers' crime scene contamination on the resolution of housebreaking cases. The purpose of this article is to evaluate the impact of police officers' crime scene contamination on the resolution of housebreaking cases in specifically the Honeydew policing area. A qualitative research approach was followed to address the research problem and substantiate the research findings. That included a literature review, and oral, face-to-face interviews conducted with detectives and visible policing officers in charge of housebreaking crime scenes, among other things, in the target area. Research participants were purposely chosen from various focus groups, including South African Police Service (SAPS) detectives and uniform police officers attached to the SAPS Visible Policing (VISPOL) unit. The article's objectives were met by using semi-structured interviews for data collection. The findings of this article reveal that police officers who attend to housebreaking crime scenes in the Honeydew policing area often lack knowledge about securing a crime scene, which results in the contamination of such scenes. Unfortunately, that happens in similar cases throughout South Africa, which raises the question of whether police officers receive adequate training in crime scene management and evidence preservation. Evidence contamination can harm an investigation. This article recommends that detectives and VISPOL officers at the Honeydew police station be kept up to date with the contents of SAPS National Instruction 1 of 2015, which outlines the roles of crime scene supervisors and examiners. This will provide them with critical knowledge about and skills for crime scene management, process planning and implementation, and assist in eliminating housebreaking crime scene contamination by police officers, as that carries significant weight in the execution of their daily duties.

Keywords: Crime Scene Contamination, Evidence, Housebreaking, Physical evidence, Police Officers

Introduction

The duties and function of the police are to protect the crime scene and physical evidence to ensure admissibility in court. Although these duties cannot be archived without actually being at the crime scene, the police should be cautious when attending to the crime scene, and their movement at the scene should not contaminate any physical evidence. These require extensive training and workshops to ensure compliance.

One of the most important functions of police officers is to investigate and resolve crimes (Mofokeng, 2012; Constitutional act 108, section 205 (1-3)). If a crime scene is to be investigated comprehensively, first responders must advise on the preservation of the site so that all possible available forensic evidence can facilitate a successful investigation. According to Mofokeng (2012), it may sometimes "be obvious that a crime has been committed, leading to the designation of the location as a crime scene". Thus, a crime scene is the place where criminal activity took place or where evidence related to a crime can be found. Crime scenes can be classified as primary, secondary or tertiary (Mokwena and Motsepe, 2020), depending on the sequence of locations involved in the crime. They can also be categorised as outdoor, indoor or conveyance (mobile), based on the environment where they occurred.

Crime scenes contain physical evidence that is pertinent to the relevant investigation, such as fingerprints, blood, hair, fibres, documents, photographs, and so on. Such evidence is collected, preserved and analysed by crime scene investigators (CSIs) and law enforcement. CSIs are responsible for documenting and securing a crime scene following the proper chain of custody and protocols.

Problem Statement

Social and economic inequality is a major contributor to South Africa's high housebreaking statistics. Property crimes are unavoidable where the distribution of material wealth is unequal in urban environments and regions, as is the case in the Honeydew area in Gauteng, South Africa. According to statistics, this type of crime is common in the area. Its scope and occurrence are cause for concern and continue to rise. Additionally, many housebreaking cases remain unsolved. The problem addressed in this research involves the impact of crime scene contamination by police officers on the solving of housebreaking cases in the Honeydew policing area, which covers Honeydew, Cosmo City extensions 0 to 20 and the Zandspruit informal settlement. Policing of residential burglaries in these areas has been debilitated severely and the researchers regarded this policing area as lacking police officers with good training in the prevention of crime scene contamination.

The Honeydew policing area experienced an increase of 12.7% in housebreaking in the 2020/21 period (Stats SA, 2021). Some of these cases were marked as unsolved because suspects could not be linked to the crime scenes due to a lack of sufficient physical evidence, which means there were not enough types of evidence present for it to be accepted in court. Since criminals mostly leave physical evidence at housebreaking incidents that can be traced during criminal investigations (Osterburg & Ward, 2014), it may be that the responding police officers on the relevant crime sites contaminated evidence or tampered with the available chains of evidence, resulting in the lack of criminal prosecution. Hence, the actions of the police officers on the site of a crime are critical (Stats SA, 2021).

Unemployment, poor living conditions, a lack of material resources and financial needs, among other issues, are not addressed throughout the Honeydew policing area, and crime will continue to be a social problem in South Africa. It is also worth noting that perpetrators of this crime are more likely to also be perpetrators of other crimes. Many of the South African residents complain of having suffered many losses through burglary and theft activities committed by the perpetrators such as drug addicts, who steal to maintain their habit of drug use (Machethe, Obioha & Mofokeng, 2022: 210). While cases of crime are brought to court for prosecution, housebreaking perpetrators re-offend because of unsuccessful prosecution resulting from crime scene contamination and tampering with the chain of evidence at crime scenes (Stats SA, 2020).

Table 1 shows the rise in housebreaking cases in the Honeydew policing area from 2015/16 to 2019/20.

Table 1: Housebreaking in residential homes in the honeydew policing area

	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020
Honeydew policing area	11 127	10 965	10 506	9 981	10 214

Source: (Stats SA, 2019)

VISPOL officers are expected to develop various innovative and collaborative solutions in conjunction with different stakeholders in their service areas to increase the number of solved housebreaking cases. They must also try to disseminate information about good contamination prevention practices among both police officers and the inhabitants of the area's residential properties. However, based on statistics, it could be concluded that the detectives and VISPOL officers servicing the area are not properly trained to deal with this type of crime.

Therefore, the purpose of this study was to evaluate the impact of crime scene contamination by police officers on solving housebreaking cases in the Honeydew policing area because of its status as one of the stations with the highest housebreaking statistics in Gauteng.

Brief Literature Review

Value and integrity of a crime scene

Crime scene investigation plays a crucial role in criminal case procedure, and it is widely recognised as an important component in solving crimes. While there has been extensive research on crime scene investigation and criminal

case procedures individually, research specifically focusing on the relationship between crime scene investigation and the successful resolution of criminal cases, particularly in the context of housebreaking, is more restricted.

The relationship between crime scene investigation and solving criminal cases is multifaceted and can vary depending on several factors, including the nature of the crime; the quality of the crime scene investigation; the available resources and technologies; and the proficiency of the investigators involved. A thorough and effective crime scene investigation can provide critical evidence and information that can aid in identifying suspects, establishing timelines, reconstructing events and supporting prosecution efforts.

Contamination of crime scenes is a significant concern because it impacts the investigation process and the outcome of criminal cases adversely. Crime scene contamination refers to the introduction of extraneous materials or substances, alterations, damage or the destruction of crucial evidence on the crime scene that may compromise the integrity of the evidence or lead to misinterpretation. Contamination can occur in various ways, such as the mishandling of evidence, improper documentation and the presence of unauthorised personnel or curious bystanders at a crime scene before the police have properly secured it. Such individuals may inadvertently disturb or alter evidence, which could lead to the loss or contamination of crucial information. As such, their actions, even if well-intended, may impact the investigation process and the overall integrity of the evidence negatively. Crime scene contamination can be a significant barrier to effective investigation as it becomes challenging for investigators to differentiate between evidence that is relevant to the crime and evidence that may have been introduced by unauthorised individuals or through mishandling.

Hence, contamination of a crime scene can have several negative consequences, as described above. It can hinder investigators' ability to reconstruct events accurately, identify the perpetrator and establish guilt beyond reasonable doubt. Inefficiency in crime scene investigation, such as inadequate training, lack of standardised protocols, or insufficient resources can contribute to increased contamination risks and can lead to challenges in solving criminal cases.

Thus, law enforcement agencies and forensic professionals must stay updated on best practices, adopt standardised protocols and invest in training and resources to ensure effective crime scene investigations. Additionally, interdisciplinary collaboration among forensic scientists, law enforcement and researchers can help to further explore the relationship between crime scene investigation and the successful resolution of criminal cases, leading to a more comprehensive understanding and improved practices in this field.

In 2013, the DNA project, a non-profit organisation lobbying for support for the expansion of the national DNA database in South Africa, and the South African Banking Risk Information Centre (SABRIC) proposed that all police officers receive crime scene training (Mofokeng, 2012). According to experts, physical evidence discovered at crime scenes is critical in court trials. However, there have been numerous reports of police officers contaminating crime scenes or failing to perform their duties in some way. For example, Mofokeng (2012) noted that the chief executive officer of SABRIC mentioned a specific offender who committed 40 bank robberies before being arrested because police officers failed to collect DNA evidence at each scene. DNA, or deoxyribonucleic acid, is an individual's human genetic code (Gilbert, 2007). The forensic use of DNA typing techniques plays a significant role in the examination of biological evidence and because of its extraordinary sensitivity and discriminating capability, DNA analysis has become important in the domains of forensic research, forensic medicine and anthropology, and paternity testing. While evidence appropriate for DNA analysis was initially confined to biological material, including nucleated cells, many distinct sorts of physical evidence are nowadays regularly submitted to forensic science laboratories for analysis.

Gilbert (2010) defined crime scene contamination as any alteration to or removal or destruction of evidence. Houck (2009) offered a different definition, asserting that the "unwanted transfer of material between items of evidence" is defined as crime scene contamination. Evidence contamination can mean the difference between a successful and unsuccessful investigation. Gilbert (2010) illustrated the concept by stating that only objects that have been confirmed contamination-free will be allowed as evidence in a trial. Considering Locard's exchange principle, it can be said that, when material is transferred between two items, there is a great chance that an offender will leave a trace. It does, however, also increase the probability of evidence that was left behind being contaminated by officers examining a crime scene.

To prevent that from happening, initial responding officers should be prepared to collect, identify and package all available evidence to preserve both their form and value. Effective leads that emerge as a result of a crime scene

investigator's knowledge, skill and understanding can be a valuable source of information for law enforcement practitioners working on a case.

The case of Oscar Pistorius in South Africa serves as a typical example of inadequacy and incompetence on the part of SAPS officers in the handling of crime scenes and has certainly attracted a great deal of negative attention to the SAPS's quality and standard of crime investigation. During the Oscar Pistorius trial, news reporting on the case (*Sunday Times*, 2013) revealed that former investigating officer Hilton Botha had contaminated the crime scene and failed to safeguard crucial evidence. Examples of the neglect were submitted by the defence team who blamed the SAPS for contaminating the crime scene and disrupting critical evidence during its investigation. It was also reported that a blood-stained coat and blood-stained mat discovered at the scene were damaged rather than collected. The investigating officer, Col Dirk de Waal, later stated that the instructions for preserving and securing a crime scene were not followed. It was furthermore established that the investigators in charge of gathering evidence lacked the necessary tools to conduct their investigations professionally. That included labels for sample containers and bags reflecting unique identification codes and other relevant information, such as the location, date and time, and the chain-of-custody forms required to track the samples collected as evidence. The officers involved also failed to photograph the crime scene and the evidence gathered before packaging it.

Orthmann and Hess (2013) pointed out that, if evidence is not collected and protected at a crime scene, it will decompose, reduce or fade away over time. Failure in that regard impacts the significance of evidence, which is determined by the extent to which it can prove that a crime was committed, as well as how, when and by whom it was committed. The requirement that any item introduced in court must be in the same condition as when it was discovered at a crime scene is referred to as evidence integrity. The chain of evidence is a record of what happened to the evidence from when it was discovered to when it was submitted to court, including who had custody of it and why. In agreement with the aforesaid, Heard (2013) stated that, for evidence to be used in a trial, it must be proven that its journey from the crime scene to the laboratory and finally to court was handled and documented professionally by capable criminal investigators. That would ensure that all individuals involved are satisfied that they can serve as silent witnesses, providing objective and tangible information about a crime that will either corroborate or refute the accounts of witnesses, victims and suspects.

According to Locard's exchange principle, contact of any nature leaves traces. Thus, when a crime takes place, the criminal leaves behind traces in the form of, for example, DNA that can be used for identification. Previously, traces like hair, tissue, fingernails, and so on, did not mean much as they could not be used for identification. But now, DNA sampling of such evidence can help to identify a perpetrator, and it is crucial in crime scene investigation.

The crime scene

A crime scene is a location where evidence of a crime can be found. It is not always the exact site where the crime occurred. As such, there may be primary, secondary and, frequently, tertiary crime scenes. According to Van Heerden (1982), a crime scene is a field laboratory where elements of possible later disputes can be found for laboratory examination. Marais and Van Rooyen (2001) describe a crime scene as a location of hidden clues that may lead to the clarification or detection of criminal activity. It covers any area or locality where tangible clues to a crime can be found. A crime scene can indeed be on land or in water, in a tree or six feet underground.

Crime scenes are sources of physical and material evidence. However, the interpretation or reconstruction of a crime scene may not end with evident objects or evidence offered on a specific site. A crime scene may include more than one area, such as when a person is murdered in one spot and discovered in another. Therefore, it makes no difference where a crime occurred or whether different crime scenes were involved.

As mentioned, crime scenes may involve primary, secondary and even tertiary crime sites. A primary site as the location of the original criminal conduct represents the location where the most or a high concentration of physical evidence will be present, such as in the case of a sudden, suspicious death (Dutelle & Becker, 2018). A secondary crime scene is a location where physical evidence linked to a criminal occurrence may be discovered. For such sites, which may also be an item, possible physical evidence will typically be transferred from the central crime site. The deceased, the getaway car in an armed robbery, the suspect's environment, the suspect's vehicle or the weapon used in the crime are some examples (Goddard & Melville, 2001). There are several categories in addition to these typologies. However, even with these classifications, no one definition works in every situation and, in the end, the scene is a mixture or adaption of the categorisation as determined by the investigator (Swanson, Chamelin, Territo & Taylor, 2011).

Crime scene contamination

Lochner, Horne and Zinn (2020) highlighted that the contamination of physical evidence at crime scenes is a common challenge in criminal investigations. Despite maximum effort, crime scenes are often subjected to some level of contamination before they are secured by the police. Contamination can occur in several ways; it can be caused by environmental factors or through, for example, the transfer of personal materials and objects and improper handling of evidence, particularly without wearing or using any protective measures, which is a significant cause of contamination. The actions and behaviour of individuals involved in an investigation can, therefore, inadvertently introduce foreign materials that can compromise the integrity of evidence (Lochner & Zinn, 2015).

Lochner et al. (2020) mentioned that crime scene contamination often arises from the actions of personnel present at a scene, including first responders and investigators. To maintain the integrity of a crime scene and prevent contamination, certain precautions should be taken.

The basic functions of first officers at the crime

- James and Nordby (2014:167) contend that crime scenes are both diverse and unique. However, they essentialise the primary crime scene above the secondary crime scenes. In this regard, the researcher differs significantly with James and Nordby (2014:167)); and Adamczyk et al., (2017:1) in the sense that the secondary crime scene also plays a critical role in the investigation and should also be prioritised and treated the same way as the primary crime scene. Therefore, all crime scenes should be treated with utmost care and approached scientifically without prejudice.
- Generally, the first people to arrive at the crime scene are uniform members of the police or the emergency medical service (James & Nordby, 2014:170). They should ensure their own safety and that of the victims when attending to the crime scene. On arrival at the crime scene, specialist police officers should protect the crime scene and immediately arrest the suspects where possible (Brown, 2001:43). They should also ensure proper coordination of separating the witnesses and complainants.
- The rationale is to avoid any prejudicial influences that may contaminate the crime scene, as well as further discussion of the case amongst the witnesses and the complainants. Adamczyk et al., (2017:3); DeChant (2012:22); and (Palmiotto ,2013:99).
- Weather conditions can adversely affect the physical evidence at the crime scene, especially when it is an outdoor scene exposed to external factors such as the sun, excessive heat, rain and wind. The more fragile physical evidence is, the more sensitive, and requires efficient care;
- The suspect and accomplice might be in a position of committing larceny or theft, contaminate or even destroy physical evidence. If the crime scene is not protected, important data may vanish or tampered with. This is usually done by the accomplices or members of a family intentionally or unintentionally by trying to clean their house after a murder, for instance;
- Cleaning of the crime scene should ensure that both the electronic and print media on the scene do not exercise their own control or dominance of the crime scene proceedings. Their main focus is usually on “getting the story” even if it means compromising the chain of custody and the Locard exchange principles. The media personnel do not consider the consequences of disclosing certain information in terms of legal requirements and prejudices of further investigation and the justice process.
- People who are more responsible for the contamination of a crime scene are police officials themselves who have the ability to transfer strange physical evidence at the crime scene and also shift staff without permission. When police officers enter the crime scene, rules and regulations must be explained to them using a custody sheet; and
- In the event of a domestic primary crime scene, the victims or family members may see the need to clean the place and put the house in order and avoid any embarrassment without considering the importance of the initial step of recording the crime scene, which is the domain of the police investigators. In such an instance, the role players should be informed in advance and also get full explanation about the crime scene procedures and processes on why household facilities such as the bathroom and toilets; and the water tap should not be used before the police arrive. They should also be warned not to eat or smoke at the crime scene as this might contaminate the scene and ignite incendiary materials on the scene.

- Adherence to the above-cited procedures by the first police responders also ensures that police photographers can document the crime scene in its original state, which allows for the collection of accurate data and uncontaminated evidence (Houck, Crispino & Mcadam, 2012:115).

By being mindful of these precautions, first responders can reduce the risk of contamination at crime scenes and assist in preserving the integrity of evidence. It is essential to adhere to strict protocols and maintain a professional and focused approach during crime scene processing to ensure that the evidence represents the scene accurately and supports a thorough investigation. It must be affirmed that the risk of contamination can increase when there are too many people present at a crime scene. The presence of numerous individuals can inadvertently introduce foreign materials, interfere with a scene and compromise the integrity of evidence (Geldenhuis, 2021).

A crime scene report is a document that records the details of the crime scene, such as location, time, date, case reference, individuals involved, evidence collected and observations made, among other things. A crime scene report should be accurate, clear, concise and organised. It should include any diagrams, sketches or photographs that illustrate the layout and appearance of the crime scene. Miller and Jones (2014) elaborated on this statement by asserting that "the only consistent aspect of crime scenes is their inconsistency. Crime scenes are diverse and can be categorised in a variety of ways. First, crime scenes can be categorised based on where the original criminal conduct took place. According to this classification, the primary crime scene is the location of the initial or first criminal conduct and all later crime scenes are considered as secondary. This classification indicates the order of locations and implies neither priority nor importance concerning the scenes.

To preserve both the form and the value of the evidence, first responders or crime scene technicians must be well-prepared to gather, identify and package all relevant evidence meticulously (Mofokeng, 2018). Their expertise, approach and experience can reveal promising leads that will benefit law enforcement personnel greatly in managing cases.

Housebreaking, also known as burglary, is a crime committed by someone breaking into a building or similar structure used for human habitation with the intent of committing an offence on the premises (Snyman, 2014). Criminals break into the homes of innocent people and disrupt feelings of personal security, well-being and peace of mind, causing further harm to their "victims" (Sonne, 2006). Statistics South Africa (Stats SA, 2020) reported a dramatic increase in the number of housebreakings in 2020/2021, labelling it the crime with the sharpest growth rate over the reporting period. Reporting on the Governance, Public Safety and Justice Survey (GPSJS) 2019/20, Stats SA highlighted that the number of households affected by crime increased from 2,1 million in 2015/16 to 2,3 million in 2019/20. It estimated that there were 1,2 million burglaries in South Africa in 2019/20, affecting 891 000 households, or 5,3% of all households in the country (Stat SA, 2019).

Crime is a threat throughout the world. To treat it properly and legally or reduce the threat of crime, legal practitioners are responsible for the prosecution of suspects based on clear evidence. In that regard, forensic evidence is the best mechanism to point out or identify a suspect and evidence found at the scene of a crime, and it is one of the most widely used forms of forensic evidence. For example, fingerprints are found wherever a suspect touches or holds things at a crime scene, and powders and chemicals are used to magnify such prints to collect them as evidence. Generally, fingerprints are fragile and easily destroyed, and great skill is required to collect them from some materials and when they are found with other physical evidence.

In terms of the Constitution of the Republic of South Africa (South African Government, 1996), only the SAPS has the authority to investigate criminal activity and collect relevant evidence. Unfortunately, reports on several cases in South Africa have reflected that police officers contaminate crime scenes while investigating and gathering evidence. For example, in the case of the State v Pistorius in 2016, SAPS officers were chastised for sloppy work at the crime scene. That included their failure to find one of the bullets in the toilet cubicle of the *en suite* bathroom of the accused's bedroom, which was later discovered by investigators of the defence team (*Sunday Times*, 2013). As noted, the crime site is the most crucial aspect of any investigation. According to Lochner and Zinn (2015), the crime scene is the location where the clues and evidence are discovered that guide the investigation forward. Furthermore, in cases where there are no witnesses, such as that of Pistorius, the law relies heavily on carefully collected and accurately analysed forensic evidence to determine exactly what happened. Hence, the failure of officers in that case resulted in negative public awareness about the police's quality and standard of crime investigation. It is, however, important to note that crime scene contamination does not always come from young, inexperienced or naive police officers; it can also come from professional and experienced investigating officers.

Section 12(1) of the Bill of Rights included in the Constitution clearly states that "Everyone has the right to freedom and security of the person," which includes the right "to be free from all forms of violence from either public or private sources" (Republic of South Africa, 1996). Furthermore, section 25(1) states that "No one may be deprived of property except in terms of law of general application, and no law may permit arbitrary deprivation of property." (Republic of South Africa, 1996) However, failure to protect all citizens' rights in terms of safety, security and property as a result of the limited capacity among police officers highlighted above and other problems in law enforcement agencies and the criminal justice system in general, has seen a significant increase in self-protection and private security measures in South Africa in recent years. Most South Africans are now attempting to protect themselves and prevent crime, and alarm systems, electric fencing and other private security measures have become general features of the South African landscape.

Impact of the environment

According to Geldenhuys (2021), environmental conditions can have a significant impact on the preservation and integrity of crime scene evidence. Investigators and forensic experts must be aware of such factors and take appropriate steps to mitigate potential contamination of or damage to evidence. The following are examples of how different environmental conditions can affect crime scene evidence:

- **Rain:** Rain can wash away or dilute valuable evidence, such as footprints, tyre tracks or bloodstains, especially if they are on the ground or other exposed surfaces. It can cause the degradation of certain types of evidence, making later analysis difficult or even impossible.
- **Sun and heat:** Extreme heat and exposure to sunlight can accelerate the decomposition of organic materials such as blood, body fluids or tissue samples. High temperatures can cause volatile substances to evaporate, potentially affecting the chemical composition of evidence.
- **Snow and extreme cold:** In colder climates, snow and freezing temperatures can preserve certain types of evidence, but they can also hinder the collection and analysis processes. For example, collecting evidence from snow-covered surfaces may require specialised techniques to avoid contamination.
- **Humidity:** High humidity levels can promote the growth of bacteria and other microorganisms, potentially contaminating biological evidence. It can also affect the stability of certain materials such as DNA.

To minimise the impact of environmental conditions on crime scene evidence, investigators and forensic experts must act quickly and implement proper preservation techniques, which may include protecting the crime scene from the elements using appropriate packaging and storage methods and documenting the condition of evidence before, during and after collection.

The chain of evidence

Evidence, such as objects, documents or substances, plays a crucial role in many legal proceedings. Continuity of possession, also known as the chain of custody or chain of evidence, is a fundamental concept in the handling of physical evidence. It ensures the integrity and reliability of evidence throughout its journey from the crime scene to the courtroom (Lochner & Zinn, 2015).

Girard (2013) noted that physical evidence, often referred to as items with potential evidential value, may not reveal its significance immediately. That may only become evident when further investigation and analysis are conducted. As more information is gathered, certain items initially considered insignificant may gain importance in a case. The chain of evidence, or chain of custody, is a critical process and involves the preservation, safekeeping and documentation of physical evidence from the moment it is collected at a crime scene up to when it is presented in court. The primary objective of maintaining the chain of evidence is to ensure the integrity and reliability of evidence throughout its handling, storage and transportation (Lochner & Zinn, 2015).

According to Van Graan and Budhram (2015), evidence is any material that may prove or contradict a fact. Evidence is the foundation of the investigative process, and for the end product to be constructed correctly, the evidence must be recognised, collected, documented, safeguarded, evaluated, analysed, revealed and presented in a court-acceptable way.

The following guidelines provided by Lochner et al. (2020) are essential to maintaining an accurate and complete chain of evidence. Following such practices will help to ensure the integrity and reliability of evidence throughout its journey from the crime scene.

- Limiting the number of individuals who handle the evidence reduces the risk of contamination, loss or mishandling. Designating specific personnel responsible for evidence collection, transportation, analysis and storage helps to maintain a clear chain of custody and makes it easier to track the movement of evidence.
- Proper documentation is a critical aspect of the chain of evidence. All individuals who come into contact with evidence must record their involvement in the chain of custody documents. That includes their names, identification numbers, relevant dates and any significant actions taken regarding the evidence. Comprehensive and accurate documentation ensures a transparent record of evidence handling.
- Obtaining signed or secure receipts: Whenever evidence is transferred from one person to another, whether it is collected at a crime scene, transported to a laboratory or handed over to another agency, signed or secure receipts must be obtained. Such receipts serve as an official acknowledgement of evidence transfer, helping to establish an unbroken chain of custody.

Birzer and Roberson (2012) described the collection of evidence as the act of collecting and storing everything that can assist in determining whether a crime was committed or what the relationship was between a crime, its victims and its perpetrators for use during criminal investigations. Evidence can be classified into two general categories, namely physical evidence and testimonial evidence. Any object or material that has a physical existence relevant to a crime can be regarded as physical evidence – it can be anything physical and can be huge or tiny. It is also known as real evidence. A statement given under oath is regarded as testimonial evidence. For example, a witness pointing at someone in the courtroom and saying, "That's the person I saw stealing in the grocery store." is referred to as direct evidence or *prima facie* evidence.

By following the above procedures, investigators can minimise the risk of contamination and maintain the integrity of evidence. Proper packaging, sealing, marking and documentation not only ensure the security of evidence but also provide a clear and reliable record of its handling and preservation. That assists in establishing the chain of custody, bolstering the credibility of evidence, and supporting its admissibility in court. The marking of physical evidence requires careful attention to avoid destroying or compromising its evidential value (Lochner & Zinn, 2015). For example, fragile evidence, such as latent fingerprints, DNA samples or delicate materials, requires special care during marking. Movement or mishandling of evidence in containers can potentially damage or destroy fragile traces. It is, therefore, essential to handle such evidence with extreme care, ensuring minimal movement or disturbance.

Locard's exchange principle, which states that every contact leaves a trace, is indeed central to the issue of crime scene contamination. When individuals, including police officers and emergency medical services personnel, enter a crime scene, they can inadvertently introduce trace evidence or contaminants that may compromise the integrity of a scene (Watkins, 2013).

Watkins (2013) elaborated on further key points related to crime scene contamination and the measures to prevent it:

- Contamination on arrival: When the police arrive at a crime scene, there is a risk of contamination as they interact with the surroundings. Footprints, fingerprints, fibres or other trace materials may be transferred, potentially interfering with the analysis and interpretation of evidence.
- Contamination by emergency medical services: When emergency medical services personnel attend to injured individuals at a crime scene, their actions may cause contamination. Medical interventions, such as administering first aid or moving injured individuals, may disturb the scene and potentially introduce foreign materials.
- Securing and controlling access: To prevent further contamination, it is crucial to secure a crime scene and control access. Limiting the number of individuals entering the scene and documenting their entry and exit help to maintain the integrity of evidence and support the chain of custody.
- Proper evidence collection procedures: Following established evidence collection procedures is essential to minimise contamination. Using appropriate tools, such as gloves and sterile equipment, and employing techniques like avoiding direct contact with evidence, can help to reduce the transfer of contaminants.
- Documentation of actions: It is important to document the actions of all individuals involved in an investigation, including their movements, interactions and any potential contact with evidence.

Detailed documentation supports transparency, aids in the reconstruction of events and assists in identifying potential sources of contamination.

Thus, by securing the crime scene, controlling access, adhering to proper evidence collection procedures and documenting actions, investigators can minimise the risk of contamination and preserve the integrity of crime scenes. This will assist in ensuring that evidence represents a scene accurately, supporting a thorough and reliable investigation.

Preservation of evidence at crime scenes

Preservation of evidence refers to the intentional and careful actions taken to protect physical evidence from contamination, damage, loss or destruction. Proper preservation is crucial to maintain the integrity and credibility of evidence throughout an investigation and its presentation in court. According to Lochner and Zinn (2015), the preservation process involves the following steps:

- **Identification:** Properly identifying and recognising potential evidence at a crime scene or incident location is the first step. Such evidence may include objects, documents, substances or anything that may have relevance to a case.
- **Documentation:** Detailed documentation of the location, condition and context of the evidence is essential. Such information must be recorded in written reports and supported by photographs, sketches and any other means to establish a clear record of how the evidence was found.
- **Collection:** The careful and systematic collection of evidence is crucial to prevent contamination and damage. The appropriate tools and techniques must be used to gather each item while adhering to proper handling procedures.
- **Packaging:** Evidence must be packaged appropriately to prevent any physical damage or alteration during storage and transportation. Specific containers and materials are used to ensure that evidence remains secure and uncontaminated.
- **Labelling:** Each piece of evidence must be labelled with unique identifiers, such as a case number, item number, date and description of the item to help maintain proper documentation and prevent mistakes.

Negligence and a careless attitude towards handling, preserving, packaging and transporting evidence can have severe consequences for the integrity and reliability of evidence and the entire chain of custody. Investigators, law enforcement agencies and all involved parties must treat evidence with the utmost care and diligence to maintain its credibility (Lochner & Zinn, 2015).

Methodology

This qualitative study applied a non-probability approach and purposive sampling to select 20 participants to obtain rich information about the research topic. The selected participants comprised ten detectives representing sample A and ten VISPOL officers representing sample B. The participants were selected randomly from the entire population at the study target site, with the researchers deciding which individuals were appropriate for the article study. The 20 selected participants were thought to adequately represent the entire station population to ensure the drawing of meaningful conclusions. Since the investigation of housebreaking crime scenes requires a distinctive approach, the extensive knowledge and experience of the selected participants on the subject of crime scene contamination during housebreaking investigation were deemed to be appropriate to provide unique data to guide the article study. Table 2 reflects the selected participants.

Table 2: Selected participants

Selected participants	Selected number
Detectives (sample A)	10
VISPOL officers (sample B)	10

The selected participant samples have comprehensive experience in the investigation of housebreaking crime scenes and are up to date with the latest trends in that regard. They are also knowledgeable about the contamination of housebreaking crime scenes; therefore, they could provide sound and useful data that addressed the purpose and objectives of this article study.

Participants were subjected to face-to-face, semi-structured interviews and the data collected during the interviews were analysed using both primary and secondary sources that included the literature review and the interviews. That was followed by manual transcription to record the information obtained clearly and accurately.

Findings

Evidence contamination can mean the difference between a successful and failed investigation and this article study identified various definitions of crime scene contamination as any alteration, removal or destruction of evidence and the "unwanted transfer of material between items of evidence" (Houck, 2009).

Participant 1 from sample A said that SAPS officers contaminate crime scenes by entering them without the required clothing. He stated that they often tamper with crime scene evidence by trampling on it, not collecting evidence and failing to report evidence before removing it from crime sites.

The remaining sample A participants said SAPS officers contaminate crime scenes because of a lack of understanding and knowledge. They pointed out that newly appointed police officers do not know how a crime scene must be managed and lack skills in crime scene management.

Sample B participants responded as follows:

Participant 8 explained that the most common way in which a crime scene can be contaminated is by not establishing entry and exit points for all role players at the crime scene. Such a point should be located opposite the place where the crime occurred.

Participant 9 maintained that SAPS officers never contaminate crime scenes because they are trained on how to handle such sites.

However, participant 10 admitted that SAPS officers contaminate crime scenes by not cordoning them off; failing to collect evidence at crime scenes; failing to package evidence properly; failing to secure all exhibits, like footprints, at a crime scene; and failing to secure the tools used to gain access to a housebreaking site.

Lesese (2023:75) found that seven sample B participants argued that SAPS officers contaminate crime scenes because they are not fully trained in how to manage such sites. This results in them sometimes allowing people on a crime scene because they are colleagues and friends, hoping that such individuals would assist while they actually flood the scene. They did, however, confirm that the first responding officer on site must own the crime scene and refuse any entry until all evidence has been collected; and that police officers must practise putting their hands in their pockets when they arrive at a crime scene to avoid contaminating the site and touching evidence. They stressed that SAPS officers contaminate crime scenes due to a lack of knowledge.

Although their responses differed, both samples had a clear understanding of how SAPS officers contaminate crime scenes. Furthermore, while some differences were identified between the perspectives of the participants and those of the authors cited, the researchers concluded that there are not many differences between them when it comes to how SAPS officers contaminate crime scenes. The researchers believe that particular safety measures should be implemented to prevent contamination and safeguard evidence because contaminated evidence loses its significance, and its analysis serves no purpose.

Discussion and Recommendations

Understanding the impact of crime scene contamination on the outcome of a housebreaking investigation is becoming increasingly important. Crime scene contamination is extremely detrimental to crime scene investigation because crime scene contamination cannot be reversed. As such, awareness about the significance of unaltered crime scenes among both SAPS officials and the general public is essential to prevent contamination and ensure the integrity of evidence.

Police officers who contaminate crime scenes often lack knowledge about the importance of preserving scenes to solve cases. Thus, increasing their understanding of the value of crime scene preservation can help to create greater awareness among this group. Concerning the general public, police departments often use various methods to create awareness in communities. That includes community policing meetings or local outreach programmes. However, while these initiatives are valuable, they may have limited reach and impact.

Mass media can play a crucial role in making the broader public aware of the value of intact crime scenes. Leveraging mass media platforms, including television, radio, newspapers and social media, can disseminate information about crime scene investigation and the importance of preserving crime scenes effectively. Police

departments can collaborate with media outlets to run awareness campaigns, publish articles or interviews, and produce educational content that highlights the significance of crime scene preservation. In that way, the message can be spread more widely, educating the general public about the potential consequences of contamination. This can assist in discouraging curious individuals from interfering with crime scenes and promote responsible behaviour when such situations are encountered.

Enhancing the skills and knowledge of police officers through modern technology-based training is crucial for improving their effectiveness. Training programmes should incorporate the latest advancements in policing techniques, forensic science and investigation methodologies. That includes training officers in proper evidence collection, crime scene management, forensic analysis and the use of technological tools and resources available in modern law enforcement. By equipping police officers with up-to-date training and knowledge, they will understand the complexities of modern policing better and become more efficient in executing their duties.

Collaborations with experts in forensic science can also enhance the capabilities of police officers. Police expertise in areas such as DNA analysis, fingerprint examination, ballistics and other specialised forensic techniques will contribute significantly to effective investigations. Partnerships with forensic laboratories and agencies specialising in different forensic disciplines can provide valuable resources and expertise to support criminal investigation and should therefore be developed.

The potential for crime scene contamination will be reduced greatly if police officers and forensic specialists are subjected to continuing education and training, which will keep them up to date with the necessary knowledge and skills to minimise the impact of crime scene contamination on the outcome of criminal investigations.

Purpose of the article

The purpose of this article is to evaluate the impact of police officers' crime scene contamination on the resolution of housebreaking cases in specifically the Honeydew policing area.

Conclusion

The number of unsolved cases of housebreaking in South Africa continues to reflect an upward curve. In view of the growing number of burglaries in the Honeydew policing area in Gauteng, this article study considered the impact of the contamination of crime scenes by police officers on the resolution of housebreaking cases in that area. A brief literature review defined the nature of a crime scene; its value and integrity in criminal case procedure; and the contamination and preservation of crime sites. The findings of this article study led the researchers to conclude that the perspectives of the study participants on the contamination of crime scenes by SAPS officers corresponded largely with those contained in the literature. The main causes of crime site contamination affecting the successful resolution of housebreaking cases in the target area were found to be a lack of knowledge and skills in crime scene management among police officers at the target site as a result of inadequate training, and a lack of awareness about the importance of intact crime scenes among both police officers and the public. Various approaches for improving the handling or processing of housebreaking crime scenes are submitted. These include awareness campaigns to enhance understanding of the importance of unaltered crime scenes, as well as collaboration with experts and continued, up-to-date training of police officers to increase their capabilities and efficiency.

The recommendations of this paper are submitted to improve the handling or processing of housebreaking cases in the Honeydew policing area and should contribute significantly to improved SAPS knowledge on the matter, as well as making the world a better place by highlighting the issues affecting the successful resolution of housebreaking cases in the area.

This paper's recommendations aim to improve and suggest approaches for improving the handling or processing of housebreaking crime scenes. This paper recommends that special training must be provided to members who are investigating housebreaking cases, in which all details involved in the investigation are provided. This paper was also concerned with educating SAPS officers on how to avoid contaminating housebreaking crime scenes at residential premises, as well as educating them not to touch anything at the crime scene without following proper procedure when the SAPS responds after an incident is reported. Understanding the impact of SAPS officers contaminating housebreaking crime scenes and individuals' adherence to the laws governing the management of crime scenes can help to avoid the contamination of a crime scene.

Untrained officers were a major source of concern among participants when it came to crime scene contamination. As a result, training was mentioned the most in avoiding contamination of a crime scene. It is recommended that

police officers be equipped with appropriate methods of securing a crime scene, such as barriers or restriction tape, and they should be adequately trained on how to use these methods and materials.

To effectively address the impact and extent of housebreaking crime scene contamination at residential premises in the Honeydew policing area, SAPS members in uniform and detectives attending to the crime must be well-trained to avoid contaminating a crime scene. To remove the exhibit from the crime scene, the investigating officers require additional training.

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