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Eyewitness identification of multiple perpetrators*

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ABSTRACT

To date, research and South African case law has largely ignored the memory burden experienced by witnesses to multiple-perpetrator crimes and failed to address the challenges that arise when administering identification parades for such crimes. Empirical research suggests that eyewitnesses to multiple-perpetrator crimes achieve low identification accuracy, which worsens with the addition of each perpetrator to be identified. Witnesses to multiple-perpetrator crimes also experience a unique memory task of matching criminal actions to perpetrators. Preliminary empirical evidence suggests witnesses perform poorly at this task. Although some international research documents the difficulties that officers experience when conducting identification parades, there is little evidence of how South African officers administer parades in the field. This article presents empirical evidence from a sample of detectives in the Western Cape showing that in-field administration of parades for multiple-perpetrator crimes are not uniform, and officers risk conducting parades that would not be considered 'fair'. The article concludes that the current South African guidelines may profitably be revised, so that difficulties associated with administering parades for multiple-perpetrator crimes are alleviated.

1 Introduction

Although there is ample research on eyewitness memory for single-perpetrator crimes, eyewitness memory for multiple-perpetrator crimes has been largely neglected by the law, police, and researchers. This is surprising, given the prevalence and nature of multiple-perpetrator crimes in South Africa and internationally. Although reliable and up-to-date crime statistics reporting the percentage of multiple-perpetrator

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crimes and the number of offenders are hard to find, one can turn to other sources such as the Victims of Crime Survey (VOCS) and peer-reviewed research. Questions about the number of perpetrators were not analysed in the 2013/2014[1] and 2016/2017 VOCS,[2] and not asked in the 2017/2018 VOCS.[3] Furthermore, only select key findings from the VOCS 2018/2019 were reported in the latest publication of the Governance, Public Safety and Justice.[4] Findings from other peer-reviewed research in South Africa and abroad that document the prevalence of multiple-perpetrator crimes are summarised in Table 1. The pattern of findings suggests that (a) crimes are often committed by multiple perpetrators, and (b) certain crimes are more likely to be committed by multiple perpetrators (eg hijacking, assault).

Table 1 Estimated prevalence of multiple-perpetrator crimes in various countries

Country	Source	Crime type	Per cent of crimes committed by multiple perpetrators
Australia	Australian Bureau of Statistics, 2004[5]	Sexual assault	23.0%
European Union	European Union Agency for Fundamental Rights, 2012[6]	Crimes against minority groups	46.0% –70.0%
South Africa	Artz & Kunisaki, 2003[7]	Rape	50.0%
	Jewkes et al, 2012[8]	Rape	17.4%

1 Statistics South Africa 'Victims of Crime Survey 2013/2014' (2015), available at *http://beta2.statssa.gov.za/ publications/P0341/P03412013.pdf,* accessed on 13 September 2020.

2 Statistics South Africa 'Victims of Crime Survey 2016/2017' (2018), available at *https://www.statssa.gov.za/ publications/P0341/P03412016.pdf,* accessed on 13 September 2020.

3 Statistics South Africa 'Victims of Crime Survey 2017/2018' (2019), available at *http://www.statssa.gov.za / publications/P0341/P03412017.pdf,* accessed on 13 September 2020.

4 Statistics South Africa 'Governance, Public Safety and Justice Survey: Victims of Crime 2018/19' (2019), available at *http://www.statssa.gov.za/ publications/P0341/P03412018.pdf,* accessed on 13 September 2020.

5 Australian Bureau of Statistics 'Sexual Assault in Australia: a Statistical Overview' (2004) 26, available at *http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/C41F8B2864D42333CA256 F070079CBD4/$File/45230_2004.pdf*, accessed on 13 September 2020

6 European Union Agency for Fundamental Rights (FRA) 'European Union Minorities and Discrimination Survey (EU-MIDIS). Data in Focus Report: Minorities as Victims of Crime' (2012) 13.

7 Cited in MAH Horvath & L Kelly 'Multiple perpetrator rape: Naming an offence and initial research findings' (2009) 15 J *Sexual Aggression* 83.

8 R Jewkes, L Vetten, R Jina, N Christofides, R Sigsworth & L Loots 'What we know-and what we don't: Single and multiple perpetrator rape in South Africa' (2012) 41 *SA Crime* Q 11.

Country	Source	Crime type	Per cent of crimes committed by multiple perpetrators
	Maw, 2012[9]	Rape	30.0%
	Statistics South Africa, 2015[10]	Theft	45.9%
		Robbery	79.7%
		Hijacking	100.0%
		Assault	48.4%
		Sexual Assault	36.4%
		Fraud	14.3%
	Statistics South Africa, 2018[11]	Household experience of assault	9.4%
		Individual experience of sexual offence	5.8%
		Individual experience of assault	6.7%
	Swart et al, 2000[12]	Rape	30.0%
	Vredeveldt et al, 2015[13]	Various crimes	55%
United Kingdom	Curran & Millie, 2003[14]	Rape	19.0%
United States	Franklin, 2004[15]	Rape	10.0%–33.0%
	Sourcebook of Criminal Justice Statistics, 2008[16]	Violent Crimes (overall)	20.5%
		Assault	75.8%
		Robbery	22.8%
		Rape	1.4%

Multiple-perpetrator crimes are not limited to only two-person (ie, dyad) crimes; instead the number of perpetrators involved in multiple-perpetrator crimes varies greatly. For example, of the 328 police dockets of multiple-perpetrator rapes reported in Johannesburg

9 S Maw *The psychological impact of rape trauma: A longitudinal study of adult female survivors in the Western Cape, South Africa*. PhD (University of Cape Town) (2013).

10 Statistics South Africa op cit (n1)

11 Statistics South Africa op cit (n2)

12 LA Swart, A Gilchrist, A Butchart, M Seedat & L Martin 'Rape surveillance through district surgeon offices in Johannesburg, 1996–1998: Findings, evaluation and prevention implications' (2000) 30 *SA J Psych'y* 1.

13 A Vredeveldt, CG Tredoux, A Nortje, K Kempen, C Puljević & GN Labuschagne 'A field evaluation of the Eye-Closure Interview with witnesses of serious crimes' (2015) 39 *L & Hum Behav* 189.

14 A Vredeveldt, CG Tredoux, A Nortje, K Kempen, C Puljević & GN Labuschagne 'A field evaluation of the Eye-Closure Interview with witnesses of serious crimes' (2015) 39 *L & Hum Behav* 189.

15 K Franklin 'Enacting masculinity: Antigay violence and group rape as participatory theater' (2004) 1 *Sexuality Res & Social Pol'y* 25.

16 Sourcebook of Criminal Justice Statistics 'Table 3.31. Estimated percent distribution of violent victimizations by multiple offenders by type of crime and perceived race of offenders' (2008), available at *http://www.albany.edu/sourcebook/pdf/t3312008.pdf*, accessed on 13 September 2020.

that Jewkes et al analysed, 62.8% described rapes committed by two perpetrators;[17] but 19.8%, 9.2%, 2.7% and 2.4% described rapes committed by three, four, five, and six perpetrators respectively, and 3.1% of the dockets were opened for rapes committed by between seven and 17 perpetrators. The authors analysed the data from the VOCS 2013/2014[18] and VOC 2016/2017,[19] and there was a wide range in the number of perpetrators involved in various types of crime – in some instances, the maximum number of perpetrators reported was as many as 30 (see Table 2). The nature of multiple-perpetrator crimes also differs from that of single-perpetrator crimes in ways other than the number of perpetrators responsible, for example, multiple-perpetrator crimes are often very violent and result in serious physical harm to the victim,[20] and multiple-perpetrator rapes are often committed by strangers to the victim and involve weapons.[21]

Table 2 Frequencies and percentages of multiple perpetrators and single perpetrator crimes across types of crimes as reported in the 2013/2014, and 2016/2017 Victims of Crime Survey

Type of crime	Number of perpetrators		
	Two	Three or more	Maximum number reported
2013/2014 Victims of Crime Survey			
Assault	32.4% (34)	67.6% (81)	22
Hijacking	60.0 % (3)	40.0% (2)	4
Robbery	40.4% (19)	59.6% (28)	32
Sexual assault	87.5% (7)	12.5% (1)	11
Theft	40.0% (20)	60.0% (30)	14
2016/2017 Victims of Crime Survey			
Assault	33.3% (25)	66.7% (50)	14
Consumer fraud	62.5% (5)	37.5% (3)	17
Deliberate damaging/burning of dwellings	12.5% (1)	87.5% (7)	12
Home robbery	53.1% (26)	47.9% (23)	9
Housebreaking/Robbery	56.5% (39)	43.5% (30)	6
Motor vehicle vandalism	50.0% (4)	50.0% (4)	4
Robbery	48.0% (24)	52.0% (26)	10
Theft of livestock	50.0% (4)	50.0% (4)	5
Theft of motor vehicle	-	100.0% (3)	5
Theft out of motor vehicle	33.3% (5)	66.7% (10)	6
Theft of personal property	62.5% (5)	37.5% (3)	17

Note. The number reported in parentheses is the frequency of cases within that category. The percentages are row-wise percentages. The data reported in this table was analysed from the raw data reported in the Victims of Crime Survey, and the types of crimes differed between the two surveys, with the 2016–2017 Victims of Crime Survey listing more categories of crime. Some crime categories were removed because there were too few cases reported.

[17] Jewkes et al op cit (n8).

[18] Statistics South Africa op cit (n1).

[19] Statistics South Africa op cit (n2).

[20] Statistics South Africa op cit (n1).

[21] Jewkes et al op cit (n8).

Although it is difficult to determine the prevalence rate of multiple-perpetrator crimes definitively, it is reasonable to conclude that such crimes do occur – and yet there is a paucity of research investigating how witnesses to multiple-perpetrator crimes perform in identification parades. This dearth of research is surprising: it suggests that to date the memory demands associated with multiple-perpetrator crimes have been overlooked, or the memory demands of witnesses to multiple-perpetrator crimes and single-perpetrator crimes are considered the same. However, the authors posit – and provide evidence – that witnesses to multiple-perpetrator crimes experience a greater memory burden, which leads to lower accuracy for identification parades. Furthermore, the authors hypothesise that witnesses to multiple-perpetrator crimes experience an additional memory burden that is not shared by witnesses to single-perpetrator crimes: that is, the task of matching roles and actions within the criminal event to the respective perpetrator (eg, deciding whether the perpetrator was the 'getaway driver' or 'the gunman').

The authors are not the first to recognise that multiple-perpetrator crimes present witnesses with unusual memory challenges. Lord Devlin made a similar observation in his 1976 report when he remarked that:

> Another example of an exceptional situation arises when the accused does not deny his presence as one of a group at the scene of the crime, but denies that it was he who performed the criminal act, e.g. struck the blow. In such a case visual identification is mixed up with ordinary observation of action in proportions that will vary according to the circumstances. Did the witness correctly observe the movement constituting the blow; and, if he did, did he attach it to the right body?[22]

Additionally, there are situations in which it will be difficult, if not impossible, to determine which perpetrator was responsible for specific actions within a crime (eg, in a riot). In the South African judicial system, the principle of common purpose[23] exists to assist the courts when it is not possible to individuate the actions performed by members of a group. This principle satisfies the tenet of causality, that a crime occurred due to a set of actions perpetrated by an individual. The doctrine of common purpose, however, is a solution to a *judicial* problem of establishing causality, and it does not arise from difficulties

[22] PA Devlin & B Devlin *Report to the Secretary of State for the Home Department of the Departmental Committee on Evidence of Identification in Criminal Cases* (1976) 88 at para 4.63.

[23] There are a number of requirements that must be satisfied for the principle of common purpose, and these are outlined in *S v Mgedezi* 1989 (1) SA 687 (A).

in eyewitness memory – it is coincidentally a solution for both scenarios. However, if the eyewitness was required to state the actions of each perpetrator, it is not clear whether they would be able to do so. For all of these reasons, the authors do not think that the way in which witnesses' memory for multiple-perpetrator and single-perpetrator crimes is tested, especially through the use of identification parades, should be the same.

Despite the differences in the memory demands experienced by witnesses to multiple-perpetrator and single-perpetrator crimes, current South African case law and published legal texts only briefly consider some of the difficulties associated with administering identification parades for multiple-perpetrator crimes (the authors discuss this further later in the article). This is not unique to South Africa; there is little discussion in recommended police procedures and guidelines for other countries on how identification parades for multiple-perpetrator crimes should be administered. Fitzgerald, Rubínová and Juncu[24] reviewed the parade rules for 51 countries and found that two-thirds of the countries do specify how to conduct parades for multiple suspects. Of those that do, 11 countries limit parades to only one suspect each, five countries allow for two suspects (on condition that they resemble each other), and one country states that all the suspects must be placed in the same parade. International research from England[25] and the Netherlands[26] also shows that officers experience numerous difficulties when administering identification parades for multiple-perpetrator crimes, and consequently, often modify the recommended procedures accordingly (the authors discuss this further later in the article); however, in doing so, officers risk compromising the fairness of the identification procedure/s.

2 Aim of the article

The aim of this article is threefold. First, the authors discuss how psychological research contributes to discussions about eyewitness memory and police procedure, and then present an overview of the key findings in the psychological literature that pertain to eyewitness

[24] R Fitzgerald, E Rubínová, & S Juncu (2019). 'Eyewitness identification around the World ('preprint) (2019), available at *https://www.researchgate.net/publication/331825580_Eyewitness_ID_ around_the_World _preprint*, accessed on 20 April 2020.

[25] Z Hobson, R Wilcock, & T Valentine 'Multiple suspect showing: A survey of police identification officers' (2012) 7 *Policing: J Pol' & Practice* 79.

[26] N Tupper, M Sauerland, JD Sauer & L Hope 'Eyewitness identification procedures for multiple perpetrator crimes: A survey of police in Sweden, Belgium, and the Netherlands' (2019) 25 *Psychol, Crime & Law* 992.

memory for multiple perpetrators. In this article, the term 'multiple-perpetrator crimes' refers to crimes committed by two or more individuals, whereas 'single-perpetrator crimes' refers to crimes committed by one individual. Although single-perpetrator and multiple-perpetrator crimes may involve multiple suspects, the authors exclude this exception and adopt the simplified definition above for the ease of argument. Second, the authors summarise existing documentation about how identification parades are administered in South Africa and present findings from international research showing that officers often modify recommended procedures when administering parades for multiple-perpetrator crimes. At that point in the article, the authors present the findings of a survey that was conducted among detectives in the Western Cape. In the survey, detectives were asked about the types of difficulties they experienced when administering parades for multiple-perpetrator crimes. Third, the authors aim to start a discussion among lawmakers, officers, and researchers about whether the current recommended procedures adequately detail the administration of identification parades for suspects of multiple-perpetrator crimes, and whether the current procedures hinder or facilitate police procedure. In the authors' opinion, which is supported by the survey data, officers are already modifying the current recommended procedures, but the effect thereof is unknown. Do these adaptations benefit the witnesses? Do these adaptations ensure a fair identification procedure for all suspects? The answers to these questions are unknown currently, but are raised here for consideration. It is suggested that alternative guidelines and identification procedures should be considered to address these challenges.

3 Key findings of eyewitness memory for multiple-perpetrators from psychological research

3.1 The contribution of eyewitness identification research

The vagaries and vicissitudes of eyewitness memory have intrigued psychologists for more than 100 years. Since seminal work by Binet, Münsterberg and Stern,[27] researchers have made great strides towards a better understanding of why eyewitness memory fails, and how best it can be preserved through improved police procedures. Psychology and law researchers can investigate research topics using different approaches. First, researchers can investigate eyewitness memory

[27] SL Sporer 'Lessons from the origins of eyewitness testimony research in Europe' (2008) 22 *Appl Cog Psychol* 737.

in the field. While this approach provides more ecological validity since 'real' eyewitness memory is measured, this type of research is associated with little control over variables that may affect memory and is difficult to conduct due to ethical reasons. Researchers can use a second approach in which they investigate eyewitness memory in the laboratory. This allows researchers to control various factors that are known to affect memory, by using a standardised laboratory environment with standardised instructions and materials. The second approach has a crucial advantage over the first: Unlike the police who never know with absolute certainty if the true perpetrator is present in the parade (ie if the suspect in the parade is the guilty perpetrator), laboratory researchers do know this, and they are thus able to control whether research participants view parades with or without the real perpetrator. With this knowledge, researchers can investigate witnesses' choosing behaviour when viewing parades that are target-present (ie contain a guilty suspect) or are target-absent (ie contain an innocent suspect), and determine whether witnesses have made correct or incorrect decisions under varying conditions. Using this methodology, researchers can investigate numerous questions about eyewitness behaviour and memory and police procedures to better guide legal and police policy.[28]

3.2 Psychological research on eyewitness memory for multiple-perpetrator crimes

Although most psychological research on eyewitness memory has investigated memory for single-perpetrator crimes, to date the authors have found 16 published studies[29] that have either directly investigated

[28] National Research Council *Identifying the Culprit: Assessing Identification Evidence* (2014), available at *http://www.nap.edu/catalog/18891/identifying-the-culprit-assessingeyewitness-identification*, accessed on 13 September 2020; JT Wixted, L Mickes, JC Dunn, SE Clark & W Wells 'Estimating the reliability of eyewitness identifications from police lineups' (2016) 113 *Proc Nat' Acad Sci* 304.

[29] BR Clifford & CR Hollin 'Effects of the type of incident and the number of perpetrators on eyewitness memory' (1981) 66 *J Appl Psychol* 364; M Bindemann, A Sandford, K Gillatt, M Avetisyan & AM Megreya 'Recognising faces seen alone or with others: Why are two heads worse than one?' (2012) 41 *Perception* 415; JL Dempsey & JD Pozzulo 'Identification accuracy of eyewitnesses for a multiple perpetrator crime: Examining the simultaneous and elimination lineup procedures' (2008) 26 *Am J Forensic Psychol* 67; JL Dempsey & JD Pozzulo 'Children's identification accuracy of multiple perpetrators: Examining the simultaneous versus elimination line-up' (2012) 20 *Psychiatry, Psychology & Law* 353; D Egan, M Pittner & AG Goldstein 'Eyewitness identification: Photographs vs. live models' (1977) 1 *Law & Hum Behav* 199; IA Fahsing, K Ask & PA Granhag 'The man behind the mask: accuracy and predictors of eyewitness offender descriptions' (2004) 89 *Journal of Applied Psychology* 722; Goldstein, AG 'The fallibility of the eyewitness: Psychological evidence' in BD Sales (ed) *Psychology in the Legal Process* (1977) 223; ZJ Hobson &

or at least commented on eyewitness memory for multiple-perpetrator events. The article will briefly discuss the findings of this corpus to answer two questions: Can eyewitnesses to multiple-perpetrator crimes (1) identify all the perpetrators and (2) accurately match criminal roles (or actions) with perpetrators?

3.2.1 *Witness identification of all perpetrators*

In terms of the authors' knowledge, 12 of the 16 studies have directly investigated eyewitness memory for multiple perpetrators;[30] however, these studies used different research designs to test different hypotheses. For example, three studies[31] included a single-perpetrator control group for comparison, four studies[32] tested eyewitness memory for only one of the multiple perpetrators who was present for the crime, and eight studies[33] tested eyewitness memory for all the perpetrators in the multiple-perpetrator conditions. Of the three

R Wilcock 'Eyewitness identification of multiple perpetrators' (2011) 13 *Internat'l J Police Sci & Man* 286; K Kask & R Bull 'The effects of different presentation methods on multi-ethnicity face recognition' (2009) 15 *Psychol, Crime & Law* 73; AM Megreya & M Bindemann 'Identification accuracy for single-and double-perpetrator crimes: Does accomplice gender matter?' (2011) 103 *Brit J Psychol* 439; AM Megreya & AM Burton 'Recognising faces seen alone or with others: When two heads are worse than one' (2006) 20 *Appl Cog Psychol* 957; W Schiff, L Banka & G de Bordes Galdi (1986) 'Recognizing people seen in events via dynamic "mug shots"' (1986) 99 *Am J Psychol* 219; JW Shepherd 'Identification after long delays' in BR Clifford & SM Lloyd-Bostock (eds) *Evaluating Witness Evidence: Recent Psychological Research and New Perspectives* (1983) 173; N Tupper, M Sauerland, JD Sauer, NJ Broers, SD Charman & L Hope 'Showup identification decisions for multiple perpetrator crimes: Testing for sequential dependencies' (2018) 13 *PloS one* 1; EC Wells & JD Pozzulo 'Accuracy of eyewitnesses with a two-culprit crime: Testing a new identification procedure' (2006) 12 *Psychology, Crime & Law* 417; AD Yarmey 'Eyewitness identification and stereotypes of criminals' in A Trankell (ed) *Reconstructing the Past: The Role of Psychologists in Criminal Trials* (1982) 205.

30 Clifford & Hollin op cit (n29) 415; Dempsey & Pozzulo (2008) op cit (n29) 67; Dempsey & Pozzulo (2012) op cit (n29) 353; Egan, Pittner & Goldstein op cit (n29) 199; Goldstein op cit (n29) 223; Hobson & Wilcock op cit (n29) 286; Megreya & Bindemann op cit (n29) 439; Schiff, Banka & de Bordes Galdi op cit (n29) 219; Shepherd op cit (n14) 173; Tupper, Sauerland, Sauer, Broers, Charman & Hope op cit (n29) 1; Wells & Pozzulo op cit (n29) 417; Yarmey op cit (n29) 205.

31 Clifford & Hollin op cit (n29) 415; Megreya & Bindemann op cit (n29) 439; Yarmey op cit (n29) 205.

32 Clifford & Hollin op cit (n29) 415; Egan, Pittner & Goldstein op cit (n29) 199; Megreya & Bindemann op cit (n29) 439.

33 Dempsey & Pozzulo (2008) op cit (n29) 67; Dempsey & Pozzulo (2012) op cit (n29) 353; Hobson & Wilcock op cit (n29) 286; Schiff, Banka & De Bordes Galdi op cit (n29) 219; Shepherd op cit (n29) 173; Tupper, Sauerland, Sauer, Broers, Charman & Hope op cit (n29) 1; Wells & Pozzulo op cit (n29) 417; Yarmey op cit (n29) 205.

studies that used a single-perpetrator comparison group, identification accuracy was always higher for the single-perpetrator conditions than the multiple-perpetrator conditions. For the single-perpetrator conditions across the three studies, eyewitness identification memory for single-perpetrator crimes had an average accuracy of approximately 46% (ranging between 30% and 59.6%);[34] in contrast, eyewitness identification memory for all perpetrators in the multiple-perpetrator scenarios was approximately half that (ranging between 9% and 30%, depending on the number of perpetrators in the multiple-perpetrator conditions).

Eyewitness memory for multiple perpetrators was especially vulnerable when the crimes were violent. Specifically, Clifford and Hollin manipulated the type of crime (violent, non-violent) and the number of perpetrators (one, three, and five). [35] For witnesses tasked with identifying a perpetrator for a five-perpetrator crime, identification accuracy was 20% in the non-violent condition, but half that in the violent condition. In the same study, the authors reported that eyewitness testimony describing the physical appearance of the main assailant became increasingly impoverished as the number of perpetrators increased, but was also further negatively affected if the crime was violent. This finding is especially concerning in light of findings that show that multiple-perpetrator crimes are typically more violent than crimes committed by single perpetrators.[36]

The poor identification accuracy for the main assailant described in the studies above could be explained by witnesses encoding other perpetrators in the group at the cost of not encoding the main assailant. When shown an identification parade for the main assailant, witnesses may perform poorly because they do not recognise that perpetrator, but they might perform better if asked to recognise the other perpetrators who were also present at the time of the crime. Of the three studies that included a single-perpetrator control group, only one study also tested recognition memory for all the perpetrators involved in the crime.[37] In that experiment, identification accuracy for the single-perpetrator condition was 52%, and overall identification accuracy decreased to 14% and 9% when crimes were committed by three and five perpetrators respectively. In research in the authors'

[34] To calculate this value, the authors averaged the reported percentage of accurate identifications and rounded up the value.

[35] Clifford & Hollin op cit (n29) 415.

[36] Clifford & Hollin op cit (n29) 415.

[37] Yarmey op cit (n29) 205.

laboratory,[38] it was found that the ability to identify all perpetrators of a crime dropped from approximately 53% for a single-perpetrator crime to 15% in a two-perpetrator crime and steadily decreased as the number of perpetrators increased, down to 0% for 10 perpetrators. The exact percentages are not important, instead, what needs to be emphasised is that all research that has compared eyewitness memory for single perpetrators and multiple perpetrators has demonstrated that 1) eyewitness memory is worse when more perpetrators are involved, 2) eyewitness memory worsens as the number of perpetrators increase, and 3) the decrease in identification accuracy is nonlinear, implying that accuracy decreases drastically with each additional perpetrator.

3.2.2 *Can eyewitnesses accurately match criminal roles (or actions) with perpetrators?*

Of the previously described corpus, only two studies tested for role-perpetrator pairing.[39] The results are equivocal: One study reported that only one participant in 33 was *unable* to match the roles for a two-perpetrator crime (ie, 97% accuracy),[40] and a second study reported that only 30.3% of participants were able to accurately match roles with perpetrators in a three-perpetrator crime.[41] Research from the authors' laboratory, however, paints a very poor picture of eyewitnesses' ability to accurately pair perpetrators with roles.[42] Specifically, the pattern of results showing that perpetrator accuracy decreases as the number of perpetrators increases is even more pronounced when pairing roles to perpetrators: the authors find that role-perpetrator pairing is already worsened by the addition of a second perpetrator in committing the crime, and eyewitnesses' ability to pair roles to perpetrators declines nonlinearly as the number of perpetrators increases. However, measuring this in the laboratory is especially difficult, because role-perpetrator pairing accuracy is a two-step process: role-perpetrator pairing accuracy can only be correct if 1) eyewitnesses are able to accurately recognise the perpetrator from the parade, and then 2)

[38] A Nortje *The Butcher, the Baker, the Candlestick Maker: Investigating Facial Recognition for Multiple-Perpetrator Crimes* PhD (Cape Town) (2018) 179. A Nortje, CG Tredoux & A Vredeveldt 'How many faces can we remember? Why this matters when assessing eyewitnesses' in M Bindemann (ed) *Face Processing: Systems, Disorders and Cultural Disorders* (2017).

[39] Hobson & Wilcock op cit (n29) 286; Wells & Pozzulo op cit (n29) 417.

[40] Wells & Pozzulo op cit (n29) 417.

[41] Hobson & Wilcock op cit (n29) 286.

[42] Nortje op cit (n38) 179.

accurately recall the role performed by that perpetrator. In an earlier experiment, the authors were able to separate the dependent nature of role-perpetrator pairing by using two separate recognition tests – one for people, and one for roles – followed by a third test in which participants had to indicate which role was paired with which person.[43] The authors found that participants were able to accurately recognise people and roles at very high levels, but only when tested on these two items separately (ie, a recognition test only for people, and another one only for roles). In contrast, when participants were asked to match roles with people, accuracy decreased substantially – in fact, the pairing accuracy decreased to such an extent that even though participants were able to recognise 30 people and 30 roles at approximately 64% and 90% accuracy respectively, they were unable to accurately pair more than one correctly recognised role to correctly recognised people (ie, one pair out of 30 = 0.1% accuracy).

3.2.3 *Discussion*

In summary, existing research consistently shows that compared to witnesses to single-perpetrator crimes, witnesses to multiple-perpetrator crimes perform worse at identification tasks. Identification accuracy is negatively impacted by the addition of a second perpetrator at the time of the crime and continues to worsen nonlinearly as the number of the perpetrators' increase. Furthermore, preliminary research suggests that witnesses to multiple-perpetrator crimes cannot reliably match the identified perpetrators with roles performed during the crime – and that an accurate identification does not guarantee an accurate recollection of the role performed. Even though this line of research is in a developmental stage, and there is no doubt that more research is needed to further investigate witness memory for multiple perpetrators, the authors think that these findings warrant consideration by lawmakers and officers. Specifically, are the current recommended procedures for testing witness memory adequate for the demanding memory task of identifying multiple perpetrators and testifying to their actions?

3.3 Administration of identification parades for multiple-perpetrator crimes

Compared to witnesses to single-perpetrator crimes, witnesses to multiple-perpetrator crimes demonstrate worse identification accuracy,

[43] Nortje op cit (n38) 103. Nortje, Tredoux & Vredeveldt op cit (n38).

impoverished testimony, and greater memory burdens. Despite these differences, national and international recommended police procedures outlining the administration of identification parades only briefly touches on what to do in scenarios where multiple suspects are involved. Consequently, investigating multiple-perpetrator crimes also presents officers with a unique set of challenges, especially when administering identification parades.

3.3.1 *Challenges with conducting identification parades in the United Kingdom*

Two surveys conducted in the United Kingdom[44] and Western Europe,[45] respectively, detail the difficulties experienced by officers when conducting identification parades for multiple-perpetrator crimes). In the United Kingdom, administration procedure is described in Annex B of Code-D of the Police and Criminal Evidence Act (PACE)[46], and recommendations include that (1) parades should consist of at least seven individuals[47] who physically resemble the suspect; (2) only one suspect should be included in each parade, but that a second suspect may be included in the same parade if the two suspects resemble each other; (3) if a second suspect is included, the number of people in the parade increases from 7 to 12; (4) parades may not include more than two suspects; (5) the people who appear in the parade alongside the suspect may not appear in other parades; and (6) a witness views the parade alone, and the suspect may change parade position during witnesses.

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[44] Hobson, Wilcock & Valentine op cit (n25).

[45] Tupper, Sauerland, Sauer & Hope op cit (n26).

[46] Home Office (United Kingdom) *Police and Criminal Evidence Act 1984 (PACE). Code D Revised: Code of Practice for the Identification of Persons by Police Officers* (2017), available at *https://assets.publishing. service.gov.uk/government/uploads/system/uploads/attachment_data/file/592562/pace-code-d-2017.pdf*, accessed on 13 September 2020.

[47] The people who appear alongside the suspect in a parade, and who are known to be innocent, are referred to as bystanders in the legal literature, foils in the psychological literature, and parade participants in the National Instruction 1/2007. In theory, foils serve two important roles: As known-to-be-innocent parade members, they allow for the police to judge the witness' choosing behaviour and the quality of the eyewitnesses' memory – that is, when eyewitnesses mistakenly identify a foil from the parade then police know not to investigate the foil for the crime. The misidentification of the foil from the parade is the only type of parade choice that the police can judge for accuracy, whereas the police will never know the accuracy of other parade decisions such as rejecting the parade (ie, not choosing anyone) or identifying the suspect as the perpetrator.

Despite these guidelines, Hobson et al[48] report that police services in the United Kingdom experience numerous difficulties when administering identification parades to victims of multiple-perpetrator crimes. Specifically, officers report that (1) victims do not know which of the perpetrators they are meant to identify in each parade, (2) sometimes victims make all their identifications from a single parade, rather than one identification from each parade, (3) victims frequently request to change their decisions for previously viewed parades or want to review previously seen parades, (4) victims make errors in the identification procedure that result in the entire identification procedure ending prematurely, and (5) victims feel overwhelmed by the burden of viewing multiple parades of multiple faces. Officers also complained that arranging multiple parades for multiple suspects was time-consuming and difficult, and the logistics of arranging such parades became increasingly difficult as the number of witnesses and suspects increased. Consequently, officers also reported that they adapted their parade guidelines in any of the following ways: (1) witnesses were allowed to view all the parades before making any identifications, (2) the instructions to the witness were modified to emphasise that only one identification was required for each parade and that each parade was for a different suspect, and (3) the instructions to the witness were modified to indicate which suspect they were asked to identify, based on the role described in the witness' statement – although this modification sometimes resulted in more confusion at the time of identification among the officers and the witnesses.

The difficulties reported by the UK officers, however, may not be solely due to the number of perpetrators involved, but may also result from the medium used to administer identification parades. The police services researched by Hobson et al administered parades with VIPER[49] or PROMAT[50] software. Both types of software present a sequence of individual videos of the upper body and face of the suspect and other parade members to witnesses, one video at a time. This so-called video parade has almost entirely replaced the live identification parade in the United Kingdom.

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[48] Hobson, Wilcock & Valentine op cit (n25).

[49] Office of the Police & Crime Commissioner for West Yorkshire *Viper: Video Identification Parade Electronic Recording: http://www.viper.police.uk/.*

[50] Promat Envision International *Promat*: *http://www.promatenvision.co.uk/.*

3.3.2 *Challenges with conducting identification parades in Sweden, Belgium, and the Netherlands*

Tupper et al[51] provide a summary of the rules for conducting identification parades in Sweden, Belgium, and the Netherlands. For multiple-suspect identification parades, the rules differ among the three countries. Photographic, video and live parades are allowed in Sweden, and only one suspect is allowed in each parade; when there are multiple suspects, then multiple parades are to be constructed. Officers in the Netherlands may also construct photographic, live and video parades, but the recommendations differ according to parade format: For live parades, multiple suspects must appear in separate parades; for photo or video parades, only one parade must be built (regardless of the number of suspects). The authors report that there were no national guidelines for conducting parades in Belgium.

Tupper et al administered an online survey to 51 law enforcement officers who worked in either Sweden, Belgium or the Netherlands to better understand how officers interpreted the parade guidelines of their respective countries, and whether they experienced any challenges associated with conducting parades for multiple-suspect crimes. In general, 58% of officers reported it was difficult to construct parades. Some of the reasons given included the difficulty of finding individuals to appear alongside the suspect in live parades or the poor quality of photographs used in photographic parades. The majority of respondents (90%) reported that witnesses were asked which role was performed by the perpetrator after making an eyewitness identification; however, 55% of officers also reported that witnesses to multiple-perpetrator crimes often confused perpetrators or confused perpetrator-roles.

3.3.3 *Police guidelines, commentaries, and case law in South Africa*

In South Africa, there is little explicit statutory guidance about how to administer identification parades. Section 37(1)(*b*) of the Criminal Procedure Act[52] gives police officers the power to make a suspect available for identification; however, the Criminal Procedure Act does not detail the way that such an 'identification task' should be held and whether there are certain criteria that should be met to ensure that such a task is procedurally fair. In 2007, the South African Police

[51] Tupper, Sauerland, Sauer & Hope op cit (n26).

[52] Criminal Procedure Act 51 of 1977.

Services (SAPS) issued the National Instruction 1/2007,[53] which outlines when and how an identification parade can be held. Other than the National Instruction 1/2007,[54] officers (and interested readers) can also consult case law, which is summarised and discussed in legal texts such as *Commentary on the Criminal Procedure Act*,[55] and *Hiemstra's Criminal Procedure*.[56] The available case law and legal texts provide a set of guidelines about how to conduct an identification parade, and these guidelines are structured as a set of 18 rules. The rules comment on the roles and responsibilities of the suspect, the officer administering the parade, and the expectations of the witness.

Most of the 18 rules that outline police procedures for identification parades apply to scenarios that involve witnesses to crimes committed by any number of perpetrators (eg, Rule Two, which states that the officer administering the parade should not be the investigating officer, is unlikely to change or be impacted if the number of perpetrators increases). Of interest to the current article, however, are rules that describe how identification parades should be constructed for cases involving multiple perpetrators. Only one of the 18 rules mentions what officers should do when there is more than one suspect. This rule, Rule 6, should be read alongside Rule 5 and Rule 7.

> *Rule Five: The parade should in principle consist of at least eight to ten persons, but a greater number is desirable.*
>
> *Rule Six: It is generally undesirable that there should be more than one suspect on the parade; and if a second is placed on the parade, the two suspects should be more or less similar in general appearance and the persons on the parade should be increased to at least twelve to sixteen.*
>
> *Rule Seven: If the same identifying witnesses are involved in two parades, then the suspect should not be the only person appearing in both; nor should a suspect be added to a parade, already inspected by the identifying witnesses, for purposes of a second parade.*

Together, these three rules provide some guidance about how to construct parades for multiple suspects. The National Instruction 1/2007 and the official document that the officer must complete when administering an identification parade (ie the SAPS 329 pro forma) provide less guidance about the number of suspects and individuals

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[53] South African Police Service (SAPS) *National Instruction: Identification Parades* (2007).

[54] SAPS op cit (n2).

[55] E Du Toit, F de Jager, A Paizes, A St Quintin Skeen & S van der Merwe et al *Commentary on the Criminal Procedure Act* (2019, rev serv 63) at § 37 of ch 3.

[56] A Kruger *Hiemstra's Criminal Procedure* (2019) ch 3.

allowed on the parade.[57] Section 13(2) of the National Instruction 1/2007 states only that:

> *If there is more than one suspect on the parade, the number of the parade participants must also be increased to a greater number.*

There is no mention of the maximum number of suspects allowed in a parade in the National Instruction 1/2007, instead reference is made only to 'suspects'. Careful examination of the SAPS 329 form reveals that the details of up to four suspects can be captured for a single parade – this directly contradicts the guidelines that specify that the maximum number of suspects who can be placed in a single parade is two.[58]

The guidelines also yield other shortcomings that are worth mentioning. Specifically, officers may be hamstrung by Rules 5, 6 and 7 when investigating multiple-perpetrator crimes. When investigating multiple suspects, officers are faced with two possible identification scenarios:

- First, officers may decide to place the two suspects in the same parade together. The number of foils is increased to accommodate the inclusion of the second suspect.
- Second, officers may decide to administer two identification parades, each limited to only one suspect. The people who appear alongside the suspect in the parade may not appear in the other parade, so each parade requires at least seven foils.

To satisfy Rules 5, 6 and 7 for the first scenario, officers must decide whether the suspects share a reasonable degree of physical similarity to each other. It is unclear, however, what constitutes a reasonable degree of similarity and on what basis this should be decided. If the officers decide that the suspects are to be placed in the same parade, then officers must find enough people to appear in the parade (ie, at least ten foils to meet the recommended minimum of twelve people in total), and they need to be reasonably similar to both suspects. Merely adding people to the parade so that the size of the parade is increased

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[57] Examples of formally documented police procedures include National Instruction 1/2007, *Detective Services of the South African Police Services,* issued on 2007-04-17, and the SAPS 329 form (ie, the official SAPS form used to document the administration and formation of a formal identification parade).

[58] *S v Mhlakaza* 1996 (2) SACR 187 (C); *S v Wildman* 1968 (2) PH H356 (A); this recommendation dates back to the Home Office circular No 6/1969 which is listed in Devlin op cit (n22). The recommendation in the Home Office circular No 6/1969 is more explicit about the conditions where a second suspect may be included in the same parade: If there are two suspects and they are of roughly similar appearance they may be paraded together with at least twelve other persons. Where, however, the two suspects are not similar in appearance, or where there are more than two suspects, separate parades should be held using different persons on each parade.

without ensuring their physical resemblance with the suspects is insufficient, since it is likely that these foils will be dismissed by eyewitnesses as implausible.[59]

To satisfy Rules 5, 6, and 7 for the second scenario, officers must find enough people to appear in each parade, which would require a larger number of foils in total. If the same witness is viewing both parades, then officers would need at least fourteen foils to meet the recommended minimum of eight people per parade. Furthermore, it is reasonable to assume that the entire process of administering the parades will take longer in the second scenario compared to the first scenario, because the following criteria must be satisfied for any parade: (1) witnesses may only view a parade without other witnesses present, (2) each parade must be formed between witness viewings, (3) suspects are entitled to change their clothing and positions between witness viewings, (4) witnesses must receive instructions prior to viewing each parade, and (5) a SAPS 329 form must be completed for each parade. These five conditions can drastically increase the difficulty and the amount of time needed to administer an identification parade. In other words, Rules 5, 6 and 7 are meant to provide officers with a set of criteria against which to judge whether a parade is fair – and while these rules present with minor logistical difficulties for investigations in single-perpetrator crimes, these difficulties become increasingly difficult to navigate for multiple-perpetrator crimes. The logistical difficulties that police experience, when faced with identification parades for multiple-perpetrator crimes, might be so hard to satisfy and the process might be so laborious, that the rules are no longer helpful, and instead result in non-compliance. In fact, Hobson et al found exactly that: Officers experienced so many problems when administering identification parades for multiple-perpetrator crimes that they adapted the police procedures and instructions to avoid confusing the witness.[60]

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[59] RS Malpass 'Effective size and defendant bias in eyewitness identification lineups' (1981) 5 *Law & Hum Behav* 299; RS Malpass, CG Tredoux & D McQuiston-Surrett 'Lineup construction and lineup fairness' in RC Lindsay, DF Ross, JD Read & MP Toglia (eds) *The Handbook of Eyewitness Psychology: Volume II* (2007) 169; CG Tredoux 'Statistical inference on measures of lineup fairness' (1998) 22 *Law & Hum Behav* 217; GL Wells, MR Leippe & TM Ostrom *'Guidelines for empirically assessing the fairness of a lineup'* (1979) 3 *Law & Hum Behav* 285; furthermore, see *R v Olia* 1935 TPD 213 where Judge de Wet said that 'the mere fact of adding one man to the parade is certainly not a proper way of conducting an identification parade.' (p 216).

[60] Hobson, Wilcock & Valentine op cit (n25).

3.3.4 *Matching roles to perpetrators*

As discussed earlier, witnesses to multiple-perpetrator crimes experience an additional challenge if asked to pair the roles performed in crime to the respective perpetrators. Although the legal guidelines make no mention of asking the witness to provide auxiliary information to support their identification, the SAPS 329 form, however, requires that the officer note any comments made by the witness at the time of the identification. It is presumably here that the officer would note the supporting information used by witnesses to make their identifications. In fact, a reading of the following section of the judgment given by Judge Price and Judge Dowling[61] suggests that this type of supporting information is necessary and required by the courts:

> Questions of identification are always difficult. That is why such extreme care is always exercised in the holding of identification parades – to prevent the slightest hint reaching the witness of the identity of the suspect. An acquaintance with the history of criminal trials reveals that gross injustices are not infrequently done through honest but mistaken identifications. People often resemble each other. Strangers are sometimes mistaken for old acquaintances. In all cases that turn on identification the greatest care should be taken to test the evidence. **Witnesses should be asked by what features, marks or indications they identify the person whom they claim to recognise. Questions relating to his height, build, complexion, what clothing he was wearing and so on should be put.** A bald statement that the accused is the person who committed the crime is not enough. Such a statement unexplored, untested and uninvestigated, leaves the door wide open for the possibility of mistake (emphasis added).

This recommendation, together with the requirement on the SAPS 329 form, suggests that officers are obliged to ask witnesses to substantiate their decision – and the authors think that it is here that witnesses will recall what the perpetrators did during the crime.

3.4 How do South African police officers conduct identification parades?

Compared to the procedures used in the UK, Belgium, Sweden, and the Netherlands, South African police officers primarily make use of live identification parades, and in some instances photograph parades. There are, however, very few published resources that detail how South African officers actually administer identification parades in the field – in fact, the authors found only one study in which it was concluded that identification parade procedures should be improved.[62]

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[61] *R v Shekelele* 1953 (1) SA 636 (T) at 638.

[62] A Rust & C Tredoux 'Identification parades: An empirical survey of legal recommendations and police practice in South Africa' (1998) 11 *SACJ* 196.

Thus it is currently unknown whether the difficulties reported by the police services researched by Hobson et al[63] and Tupper et al[64] can be attributed to the format of the parades (eg, photographic and video versus live), or whether other police services who use different parade procedures experience similar challenges when administering parades for multiple-perpetrator crimes.

While it is possible to gather empirical evidence of how single-perpetrator and multiple-perpetrator crimes differ from each other, it is more difficult to ascertain police conduct during the investigation of these crimes. Some resources detail how officers *should* construct and administer identification parades in South Africa – examples include case law[65] and recommended procedures and guidelines[66] – however, there is very little published research about how South African officers administer identification parades in reality.[67] Unfortunately, it is difficult to recover accurate information about police practice in the field, because police dockets are hard to access and are not available to the public. Furthermore, the information in the dockets may not be a true reflection of the events at the parade. What is meant by this is that the dockets may not be detailed enough, because they may not document all the decisions and difficulties that officers experienced during the period leading up to and including the administration of the parade. Without this information, it is not possible to know how parades are truly administered in the field.

3.4.1 *Aim and design*

The authors recruited 75 police detectives from a sample of police stations in the Western Cape and administered a survey with questions about how they administer identification parades for multiple-perpetrator crimes. The authors obtained ethical approval for this project from the Department of Psychology at the University of Cape Town,[68] as well as from the Research Division at the SAPS.[69]

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63 Hobson, Wilcock & Valentine op cit (n25).

64 Tupper, Sauerland, Sauer & Hope op cit (n26).

65 Du Toit, de Jager, Paizes, St Quintin Skeen & van der Merwe op cit (n55); Kruger op cit (n56).

66 Du Toit, de Jager, Paizes, St Quintin Skeen & van der Merwe op cit (n55); Kruger op cit (n56).

67 The authors found only one instance of published research about how South African police officers administer identification parades; see Rust & Tredoux op cit (n62).

68 Approval granted on 31 July 2013.

69 Ethics number: 25/7/2/1(201600143).

3.4.2 *Sample*

The authors surveyed 75 detectives based at nine police stations in the Western Cape (see Figure 1 for the location of the stations). Initially, 16 possible stations were approached; these 16 stations were chosen because the detectives who were employed there (1) frequently requested the assistance of a videographer from the Local Criminal Record Centre (LCRC) – implying that identification parades are frequently held at that station – and (2) had completed an identification parade training course through SAPS. Of the 16 stations, only nine agreed to be part of the study. After obtaining consent from the station commanders at the participating stations, the authors contacted the relevant detective commanders and arranged to attend one of the daily detective meetings where the survey was administered to detectives who had administered at least one identification parade.

Of the 75 detectives who participated, the majority were male (84%). The most frequently reported rank was Sergeant (36.0%). No other identifying information was gathered about the detectives to protect their identity.

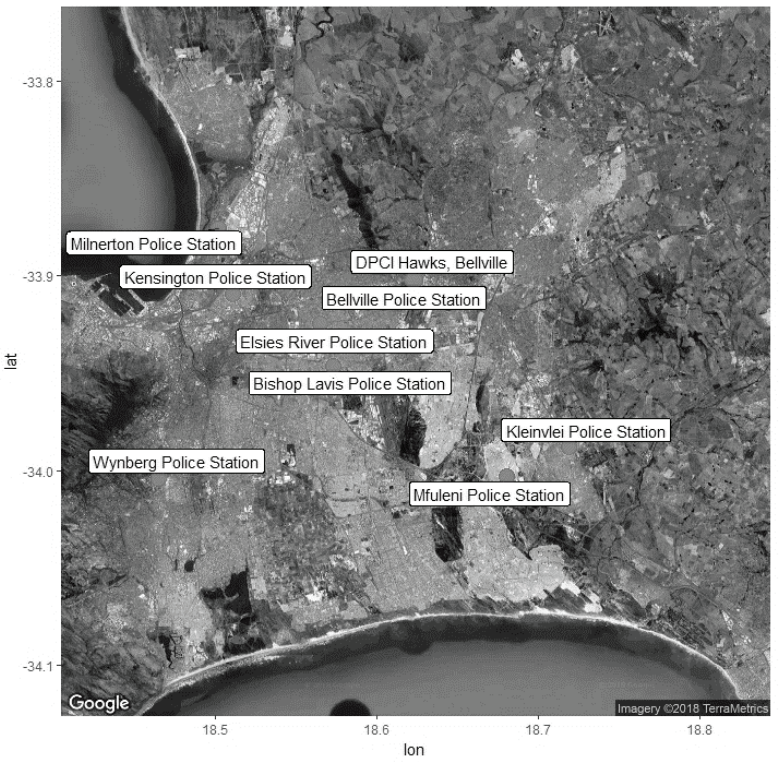

Figure 1: Geographical distribution of the nine police stations in the Western Cape where participating detectives were stationed.

3.4.3 *Materials*

The authors adapted the survey used by Hobson et al (2011)[70] so that it was relevant to South Africa.[71] The adapted survey included questions about administering live parades and whether eyewitnesses had to provide additional information to support their identifications. Two senior detectives at the National Bureau for Illegal Firearms Control and Priority Violent Crimes provided feedback on the survey, and the survey was further refined based on the suggestions from other researchers who have worked with either SAPS or police services in other countries.

The survey consisted of three sections: (1) training, (2) crime specialisation, and (3) experiences forming and administering identification parades. The authors will only report key findings that are relevant to the current article.

3.4.4 *Results*

3.4.4.1 Training and experience with administering identification parades

The vast majority of the sample (89%) had received formal training on how to build and administer identification parades (see Table 3). On average, the sample of detectives had served as members of the SAPS for 19.65 years (*SE*[72] = 1.07 years), with an average of 11.83 years of experience with identification parades (*SE* = 1.02 years). The number of parades that detectives had formed across their careers varied greatly, but most had formed between five and 50 parades.

When asked how frequently they had testified in court, 47% reported that they had testified in court. Of those detectives, the majority had testified five times or fewer (76%).

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[70] Hobson, Wilcock & Valentine op cit (n25).

[71] The survey materials are available from the first author, on request.

[72] SE denotes standard error, which captures the amount of variability around a statistic. The standard error is an adjusted measure of the standard deviation that is weighted by the square-root of the sample size.

Table 3 Percentage of responses to questions about police training and experience administering identification parades

Question Item and Responses	N	%	95% CI for %
Received training about how to administer identification parades?			
Yes	67	89	[82, 96]
No	8	11	[4, 18]
Type of training received			
Detective learning programme	21	28	[18, 38]
Resolution of crime course	15	20	[11, 29]
Specific aspects of training	14	18	[10, 27]
Unspecified course	12	16	[8, 24]
SAPS Paarl college/SAPS academy	6	8	[2, 14]
In-service training	5	7	[1, 12]
Fellow members/colleagues	2	3	[0, 6]
Training from legal experts	1	1	[0, 4]
Number of parades formed throughout career			
0	3	4	[0, 8]
5 or fewer	29	39	[28, 50]
Between 5 and 10	13	17	[9, 26]
Between 10 and 25	7	9	[3, 16]
Between 25 and 50	18	24	[14, 34]
More than 50	5	7	[1, 12]
Number of parades formed in the last 12 months			
0	44	60	[49, 71]
5 or fewer	22	30	[20, 41]
Between 5 and 10	4	6	[0, 11]
Between 10 and 25	2	4	[0, 9]
Between 25 and 50	0	-	-
More than 50	1	1	[0, 4]
Ever testified in court			
Yes	34	47	[35, 58]
No	39	53	[42, 65]
Number of times testified in court			
5 or fewer	25	76	[61, 90]
Between 5 and 10	7	21	[7, 35]
Between 10 and 25	1	3	[0, 8]
More than 25	0	-	-

Note. All percentages are rounded to zero decimal places. Discrepancies in the percentage totals for each question are due to rounding errors. CI denotes confidence intervals of the percentage.[73]

3.4.4.2 Estimate of the prevalence of multiple-perpetrator crimes

Detectives dealt mostly with contact crimes (79%), followed by property-related crimes (19%), other serious crimes (16%), and crimes detected from police action (11%).[74] Of the crimes that they had investigated in the past 12 months, detectives were asked to investigate what percentage were committed by multiple perpetrators: 55% of detectives answered that at least half (50%) of the crimes that they investigated were committed by multiple perpetrators. A slightly smaller percentage (42%) reported that at least 70% of the crimes that they investigated in the last 12 months were committed by multiple perpetrators.

Detectives were asked to estimate the number of perpetrators typically involved in the crimes that they specialise in/typically investigate. The overall aggregated responses showed that 18% of detectives answered that single perpetrators are typically responsible, and 82% of detectives reported that the majority of the crimes that they investigate were committed by multiple perpetrators (see Figure 2). More than two-thirds of detectives (69%) reported that they frequently investigated crimes committed by one, two, and three perpetrators, and approximately 90% usually investigated crimes committed by between one and five perpetrators (see Figure 2). A small percentage of detectives reported that they investigate crimes that are usually committed by between six and fifteen perpetrators

[73] In this article, the authors report 95% confidence intervals, which are estimates of a range within which a value will fall. Specifically, if the sample were 100 groups of detectives, one would expect that 95 of the 100 samples will report values that range between the lowest confidence interval and the highest confidence interval (which are the first and second number within parentheses, respectively).

[74] These percentages do not add up to 100%, because detectives could give multiple responses.

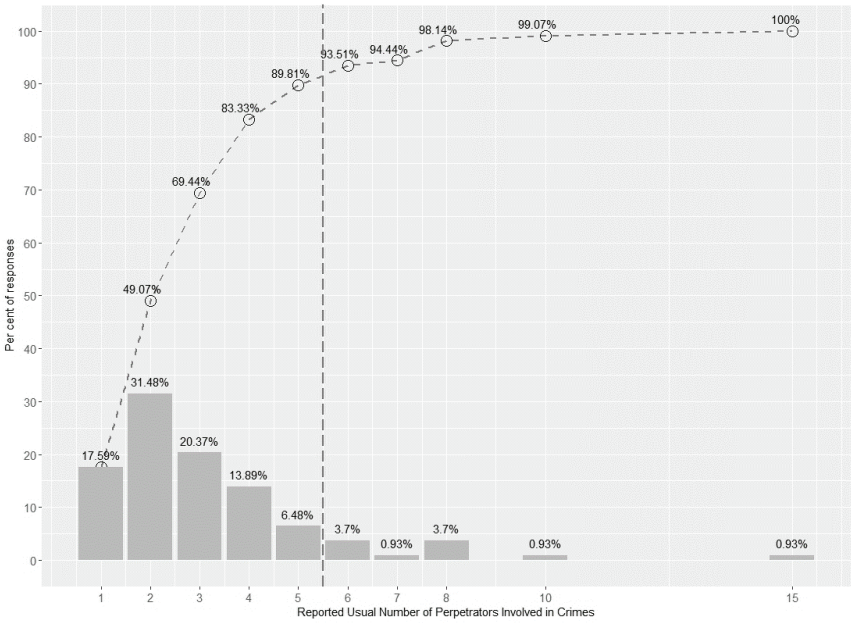

Figure 2: Estimates of the typical number of perpetrators involved in the commission of crimes that detectives specialise in/typically investigate. The bars indicate the response percentage, whereas the dark dotted line indicates the cumulative percentage. The vertical dotted line cuts the figure into the percentage of detectives who estimate that crimes are committed by five or fewer, and more than five perpetrators.

3.4.4.3 Building and administering identification parades

Detectives were asked how they built and administered identification parades so that we could gain more information about in-field practices. Detectives were first asked if they had ever administered a parade that contained more one suspect: three-quarters of the detectives (75%) answered that they had. However, when further probed about which type of parade (a parade containing only one suspect two more suspects) they built most frequently, approximately two-thirds of detectives (64%) answered that they normally administered parades that contain a single suspect, whereas about a third (35%) said that they usually administered parades with multiple suspects.[75]

To better understand the decision to include multiple suspects in the same parade, the authors asked detectives to freely report the reasons for doing so, and their responses were grouped according to similar reasons (see Table 4). The most frequently reported reason to include more than one suspect in a parade was that the crime was committed

[75] One detective reported to build both types of parades equally often. Their response accounts for the missing 1%.

by two or more perpetrators or the police had arrested two or more suspects (eg, 'when more than one suspect is mentioned in case/arrested/detained on same case/linked to multiple cases').[76] Other reasons given to include more than one suspect in the parade were 1) that the eyewitness indicated that they were able to identify more than one perpetrator; 2) to alleviate logistical difficulties associated with administering parades (eg, 'always – to save time and because easier to arrange'); and 3) that it was possible to arrange these parades (eg, 'if there are enough people to stand parade or the suspects look alike.').

To gain further insight, the authors posed a hypothetical scenario in which a crime was committed by two perpetrators, and two suspects were arrested (see Table 4). The detectives had to decide whether to place the two suspects in the same parade or in two separate parades. Approximately two-thirds of detectives reported that they would administer a single parade containing both suspects, and 28% reported that they would place each suspect in a separate parade. The authors asked detectives to justify their decisions for the hypothetical scenario. The top three reasons given by officers who preferred a single parade containing multiple suspects were that 1) a single parade was easier to arrange and presented with fewer logistical challenges; 2) a witness would be less distressed if they viewed one parade rather than multiple parades and 3) a single parade was less time-consuming.

In contrast, the top three reasons given by officers who preferred the multiple parades – each containing a single suspect – were that 1) multiple parades benefitted the witness because they only had to make one decision per parade; 2) single-suspect parades were fairer to the suspect; and 3) this type of parade was preferred by courts (see Table 4).

Table 4 The motivation for including the chosen number of suspects per parade

Questions	Themes	n	%	95% CI
Q1: Reasons for parade format				
Parade Format One: Multiple suspects in one parade	1. If more than suspect was involved or arrested	37	74	[62, 86]
	2. Strength of eyewitness' memory	6	12	[3, 21]
	3. To alleviate logistical difficulties	4	8	[1, 16]
	4. Feasibility based on external factors	3	6	[0,13]

[76] It is not possible to separate these two reasons from the responses given by detectives.

Parade Format Two: One suspect per parade	1. Has never added more than one suspect, or does not allow more than one suspect per parade	9	75	[51, 100]
	2. Presents with difficulties for the eyewitness	3	25	[1, 50]
Q2: Hypothetical scenario preference				
	1. Method One: Build a parade with all the suspects	47	66	[55, 77]
	2. Method Two: Build multiple parades with a suspect in each	20	28	[18, 39]
	3. Method Three: Other	4	6	[0, 11]
Q3: Hypothetical scenario motivation				
Parade Format One: Multiple suspects in one parade	1. Better for eyewitness/witness comfort	16	26	[15, 37]
	2. Less time consuming	16	26	[15, 37]
	3. Logistical ease	18	30	[18, 41]
	4. For the courts	5	8	[1, 15]
	5. Most common method/trained that way	3	5	[0, 10]
	6. Other	3	5	[0, 10]
Parade Format Two: One suspect per parade	1. Fair to the suspect	5	25	[6, 44]
	2. For the courts/judicial purposes	5	25	[6, 44]
	3. Trained that way/guidelines	1	5	[0, 15]
	4. Easier for witness	8	40	[19, 62]
	5. Logistical/practical difficulties	1	5	[0, 15]
Parade Format Three: Photographic	1. Other	4	100	-

Note. All percentages are rounded to zero decimal places. Discrepancies in the percentage totals for each question are due to rounding errors. CI denotes confidence intervals.[77]

In the next set of questions, officers were asked to estimate the largest number of suspects that they had placed together in a parade. In response, 9% reported that they always formed only single-suspect parades, 32% reported that the largest number of suspects in a parade was two, and 59% reported three or more suspects (Figure 3). The greatest number of suspects placed in a parade reported by this sample were 9, 12, and 36 suspects (Figure 3).

[77] See op cit (n73, 74).

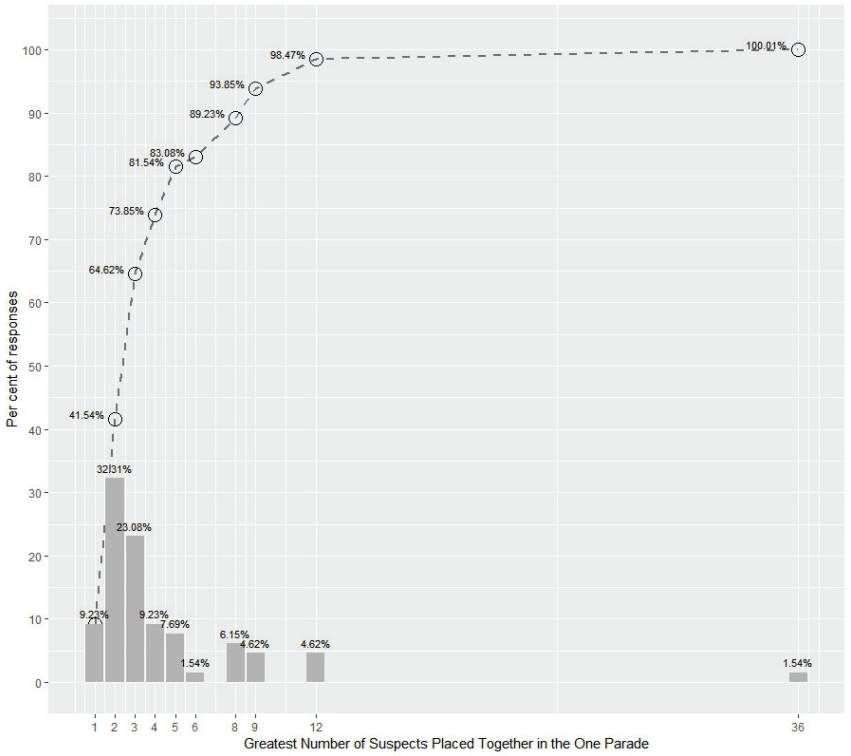

Figure 3: Estimates of the greatest number of suspects placed in a parade together. The bars indicate the response percentage, whereas the dark dotted line indicates the cumulative percentage.

To form live identification parades, officers must have access to foils who are known to be innocent of the crime at issue,[78] and who can appear alongside the suspect/s in the identification parades. Although the reported guidelines provide some guidance about how to choose these foils,[79] appropriate foils are hard to find. The authors asked officers from where they recruited innocent foils. Detectives answered that they most frequently sourced parade members from prisons or jails (41%), followed by members of the public who were paid or were asked to volunteer (25%). Sometimes the police tasked suspects with the responsibility of sourcing innocent foils who would appear in the parade containing themselves (26%); in such instances, the foils were typically friends or family members of the suspects. However, in such

[78] For the argument why foils should be known to be innocent, see LG Wells & JW Turtle 'Eyewitness identification: The importance of lineup models' (1986) 99 *Psychol Bull* 320.

[79] Du Toit, de Jager, Paizes, St Quintin Skeen & Van der Merwe op cit (n55); Kruger op cit (n56), and National Instruction 1/2007 op cit (n57).

scenarios, the foils are not necessarily known to be innocent, and the onus of finding suitable foils is transferred from the officers to the suspects. A few officers reported that fellow officers would appear in the parade as foils (6%).

Finally, officers were asked whether witnesses were required to provide ancillary information at the time of their identification – that is, additional information that would justify how they had made their decision. Overall, 83% of detectives reported that witnesses were required to state how they had come to their decision, and 86% of detectives reported that witnesses were required to state any additional information about the person whom they identified. Most detectives also reported that witnesses were able to name and describe the roles/actions of all the people whom they identified from the parade (85%); however, the majority of officers also reported that witnesses seem to get confused about the roles and actions of the people whom they identify from the parade (78%). Furthermore, 51% of officers reported that the information that witnesses provided at the time of the identification sometimes differed from the information that witnesses provided in their statement. The top four differences in witness reports were that 1) the suspect looks different (43%), 2) confusing suspect roles with each other (20%), 3) forgetting what information they had reported in their statement (20%), or 4) providing new information at the time of the identification (17%).

3.4.5 *Survey conclusion*

The survey findings clearly demonstrate that detectives often build identification parades containing multiple suspects – it appears to be 'standard procedure' for multiple-perpetrator crimes. Multiple-suspect parades solve numerous logistical issues for the police, who reported that such parades are easier to administer and less time-consuming than several single-suspect parades. Officers mentioned that single-suspect parades are likely to be fairer to the suspect, but opinions differed regarding the consequences for witnesses: Some reported that viewing a single parade containing multiple suspects is less distressing for witnesses, whereas others reported that viewing multiple parades containing a single suspect each is less confusing for witnesses. How witnesses experience identification parades are unknown, but it is not unreasonable to assume that viewing any number of parades is probably a distressing experience for witnesses. Finally, there is some evidence to suggest that while witnesses are often required to justify their identification decisions, the information that they provide at the time of the identification may differ from the information in their statement.

3.4.6 *Discussion*

In this article, the authors aimed to highlight an often-overlooked problem in both psychological and legal fields: that is, multiple-perpetrator crimes present with unique challenges to both witnesses and police officers. To date, the recommended procedures for holding identification parades in South Africa (and in most countries) have largely ignored the challenges that the police experience when building live parades for crimes committed by multiple perpetrators.[80] The manner in which the South African guidelines and case law are constructed suggests that these guidelines can be used – as is – when constructing any type of parade; however, the authors would argue that some of the guidelines are not applicable, and at worst, not appropriate for parades for multiple suspects. Alarmingly, the challenges with implementing these recommended guidelines seem to 1) result in an unstandardised procedure for forming and administering parades with multiple suspects and 2) encourage non-compliance with the guidelines. This is evident from the findings of our survey: detectives use various methods to build parades with multiple suspects, and some of these methods directly contradict some of the recommendations. By doing this, detectives risk wasting valuable time and resources on an investigative tool that may be challenged in court. Furthermore, these findings highlight that detectives rely on their practical experience with building parades and interacting with witnesses to inform their decisions about how parades should be built. The guidelines are meant to provide officers with enough leniency to avoid being hamstrung by overly rigid and unimplementable guidelines; but the authors think that the guidelines, in their current state, fail to consider the practical limitations associated with holding either large or numerous parades. The survey findings also underscore an interesting tension between recommendations and practice, which is surprising because they inform each other, that is, police procedure during an investigation may be commented on in case law, which then informs future police procedures. Despite this reciprocal relationship, the recommended procedures and procedures in practice appear to exist in isolation of each other.

From the authors' findings, it is recommended that South African police guidelines are revised with special consideration given to the practical challenges that arise when administering live identification parades with a focus on how to administer multiple-suspect parades. If the primary hurdle is the difficulty of finding enough foils to appear alongside the suspect, then one possible solution is for the South

[80] For a comparison identification of parade procedures around the world, see Fitzgerald, Rubínová & Juncu op cit (n24).

African police and courts to more readily adopt photo parades; photo parades may mitigate some of the hurdles that officers experience. Courts in various other countries have long recognised the challenges associated with live parades and are transitioning towards using photo or video parades as the norm rather than the exception. Specifically, in England, Wales, and most of the United States, the preferred procedure is to use either photo or video parades.[81] The research comparing witness accuracy for photo parades to live parades does not on balance find that live parades are advantageous.[82]

If the primary hurdle is how best to test witness memory while alleviating the anxiety experienced by a witness before, during, and after viewing a parade, then photo and video parades are only part of the solution. There is some evidence that witnesses are distressed even when viewing a video parade;[83] however, it is unknown whether they are *more* distressed when viewing a live parade. However, it is not unreasonable to assume that photo parades can be administered sooner after the crime has occurred than live parades, and that photo parades are safer for witnesses and officers since the parade members are not physically present.

The challenges associated with investigating multiple-perpetrator crimes extend beyond the police station to include witnesses who are faced with the more arduous memory task of having to recognise more than one individual from a parade – and possibly substantiate their identification with an accurate pairing of roles to perpetrators. Preliminary research suggests that identification accuracy drastically decreases as the number of perpetrators who committed the crime increase and that witnesses are particularly poor at pairing roles with perpetrators. At this stage, more research is needed to investigate whether certain parade scenarios impact witness memory. For example, the survey results showed that officers use different methods for multiple-suspect parades: some officers place all the suspects in the same parade, whereas others prefer to build multiple parades, each containing only one suspect. It is not clear what impact these two types of parades have on recognition accuracy, that is, does the presence of multiple suspects in the same parade act as a memory aid for witnesses since the presence of each suspect cues the witnesses' memory for every other suspect in the parade, or, is the task of making multiple identifications from one parade too difficult for witnesses?[84]

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[81] RJ Fitzgerald, HL Price & T Valentine 'Eyewitness identification: Live, photo and video lineups' (2018) 24 *Psychol, Pub Pol'y, & Law* 307.

[82] Ibid.

[83] Hobson, Wilcock & Valentine op cit (n25).

[84] This hypothesis assumes that the suspects are guilty (ie they are the perpetrators who committed the crime).

More empirical research is needed to test these hypotheses in the laboratory and in the field before any definite answer can be given.

The difficulties that witnesses experience when identifying multiple suspects and matching roles to suspects have a significant impact on the perceived reliability of their testimony and memory. Since the memory task associated with multiple-perpetrator crimes is more difficult than that associated with single-perpetrator crimes, is it fair to use the same set of criteria to judge the veracity of both types of witness testimony – and if not, then how should the courts judge the testimony of witnesses to multiple-perpetrator crimes? The authors are not able to propose a solution, but think that the courts should consider these difficulties when evaluating the testimony of witnesses to multiple-perpetrator crimes.

No study is without limitations, and it would be remiss to not comment on these. The responses given to this survey might be affected by social desirability and answering in a way that corresponds to the authors' (perceived) research questions. However, if the detectives were responding in a way that affirms that they follow the recommended guidelines, then the authors would have expected *fewer* reports of officers using methods that are *not* recommended; instead, almost a third of detectives reported that they typically built parades containing multiple suspects, and three-quarters reported that they had built at least one parade with multiple suspects. Through personal communication with the detectives, as well as other senior police officials, the authors were aware that live parades presented officers with various problems and that some officers were in favour of switching to a different method (eg, parades comprised of photographs or videos of line-up members). This motivation most likely accounts for some of the negative responses that were received in the survey about the challenges experienced when administering parades.

The authors are aware that asking the detectives directly about how they conduct identification parades is one of many ways to gather information about how they build identification parades. Other possible methods including viewing the video or photographic records stored at the LCRC, reviewing case files at the courts, or attending parades to collect the data in situ. Attending parades in person would be valuable, but is an expensive form of data collection. The authors' decision to not rely on records was based on feedback from officers at the LCRC who said that the authors would only be allowed to view case records where suspects were found guilty. The authors were concerned that cases with guilty and non-guilty outcomes might differ in other ways, including the police procedure followed. However, if these methods were combined with other methods of data collection

(such as interviews, and attending police training), then the authors think that the data would be very valuable and may provide relevant information. Future research should consider this approach.

Furthermore, the authors recognise that the sample of detectives who participated was not a probability sample, and it is not known what detectives in other areas do when administering parades. The authors can think of a few scenarios where one would expect differing results, for example, metropolitan areas versus urban areas, and areas with more homogenous populations versus areas with more diverse populations. In particular, the authors hypothesise that smaller stations in smaller areas might struggle to form live identification parades because they have access to fewer individuals who can stand in the parade. Stations in areas with homogenous populations and little diversity will struggle to form parades for other population groups (eg, in the Mbombela Local Municipality, 89.4% of the population is Black African, and 0.7% of the population is Indian/Asian. What would the police at a local station in Mbombela do if they had to organise a parade for an Indian suspect?).[85] Future research should expand data collection to include samples from these areas, as well as other provinces.

4 Conclusion

In South Africa, the practice of building and administering identification parades is steered by formal guidelines outlined in the Criminal Procedure Act 51 of 1977, the National Instruction 1/2007,[86] and case law.[87] These guidelines are meant to provide officers with clear parameters with which to construct fair and proper parades. Unfortunately, the guidelines have largely neglected the unique difficulties associated with building parades for multiple-perpetrator crimes, and consequently, officers supplement the guidelines to solve these practical challenges. These adaptations are understandable and valuable because they are based on the in-field experience of the officers, but they come at a risk. For example, some adaptations are based on anecdotal evidence and assumptions about memory (which are not supported by empirical evidence), some adaptations may result in 'unfair' parades, and other adaptations might hinder the witness' ability to make an identification leading to wasted time and resources.

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[85] Statistics South Africa 'Municipal profiles' (2011 census), available at *http://www.statssa.gov.za/?page_id=993&id =mbombela-municipality,* accessed on 22 April 2020.

[86] South African Police Service op cit (n53).

[87] Du Toit, de Jager, Paizes, St Quintin Skeen & Van der Merwe op cit (n55); Kruger op cit (n56).

There are shortcomings also in the way psychology researchers approach eyewitness memory for multiple-perpetrator crimes, but there are useful findings nonetheless The results from the few research studies that have investigated memory for multiple-perpetrator crimes show that recognition accuracy decreases as the number of perpetrators increases. Even fewer studies have investigated whether witnesses to multiple-perpetrator crimes are able to accurately pair actions with perpetrators – a task unique to witnesses of this type – and preliminary research on this problem suggests that eyewitnesses cannot accurately do so, and may not be able to do so at all when there are many perpetrators. At this stage, multiple approaches are recommended: Lawmakers and officers should work together to adapt parade recommendations so that they are optimal, and more empirical research is needed to investigate the conditions under which witness memory for multiple perpetrators succeeds or fails; findings from such research can be used to further inform police practice.

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