

Tagging and Tracking of Persons with Albinism: A Reflection of Some Critical Human Rights and Ethical Issues Arising from the Use of the Global Positioning System (GPS) as Part of a Solution to Cracking Down on Violent Crimes Against Persons with Albinism

MM Mswela*



P·E·R

Pioneer in peer-reviewed,
open access online law publications

Author

Mphoeng Maureen Mswela

Affiliation

University of South Africa

Email mswelmm@unisa.ac.za

Date Submission

5 May 2018

Date Revised

26 February 2019

Date Accepted

26 February 2019

Date Published

24 July 2019

Editor Prof Oliver Fuo

How to cite this article

Mswela MM "Tagging and Tracking of Persons with Albinism: A Reflection of Some Critical Human Rights and Ethical Issues Arising from the Use of the Global Positioning System (GPS) as Part of a Solution to Cracking Down on Violent Crimes Against Persons with Albinism" *PER / PELJ* 2019(22) - DOI <http://dx.doi.org/10.17159/1727-3781/2019/v22i0a5206>

Copyright



DOI

<http://dx.doi.org/10.17159/1727-3781/2019/v22i0a5206>

Abstract

Recent years have seen an increase in the use of the Global Positioning System (GPS) by both private and public entities for the purpose of tracking and monitoring the location of human beings. The GPS tracking application is used as a locating system to monitor, among other people, children, the elderly who suffer from Alzheimer's, and the mentally ill, for personal protection purposes. This electronic monitoring system has also found application on parolees as a law enforcement measure. In trying to track down a tangible solution to prevent and mitigate brutal attacks on persons with albinism in South Africa, this article proposes the extension of the application of the use of the Global Positioning Tracking System to persons with albinism as a strategy to halt the continued attacks against this population. Although Malawi has pioneered the use of the GPS in the context of fighting violent crimes against persons with albinism, what is unsettling to the author is the fact that no debates have taken place on the ethical and legal concerns arising from electronically tagging and tracking people with albinism; especially in view of the fact that persons with albinism are already a vulnerable and stigmatised population. Could it be that ethical issues and human rights are to be ignored when it is affirmed that technology serves the common good of protecting persons with albinism? My emphasis here is on the need for a debate on what could otherwise be a controversial application of technology. Although the purpose of the GPS is undeniably worthy, sometimes the way these devices are used can be more problematic. More challenging is the desire to justify the encroachment of any rights, as arises through using this crime prevention strategy. The use of the electronic monitoring system to tag and track persons with albinism raises crucial human rights and ethical concerns, particularly relating to the right to privacy, liberty, perhaps equality, and notably, the right to dignity. There is a need to be conscious of the possibility of the misuse of the technology and precautionary measures must be put in place. This article therefore discusses the ethical and legal issues which could arise from the electronic tagging and tracking of persons with albinism.

Keywords

Global Positioning System (GPS); tagging; tracking; persons with albinism; right to liberty; privacy; stigma; dignity.

.....

1 Introduction

The Global Positioning System (GPS) was originally designed by the United States Military to accurately pinpoint the location of targets, its troops, tanks, ships and aircraft.¹ The extension of its application worldwide can be traced back to 1983, when Korean Air Line Flight 007 was shot down by the Soviet Union, killing all 269 passengers on board the aircraft, after the aircraft started wandering off its intended path and accidentally strayed over a sensitive military target.² Investigations by an expert on cockpit information stated that an "autopilot mode" setting is assumed to have diverted the aircraft into Soviet airspace.³ Had the technology been "set under highly accurate inertial navigation system setting", the plane would have flown in a different path, precisely on the brink of but still outside Soviet airspace.⁴ Subsequent to this tragic disaster, former United States (US) President Ronald Reagan decreed that the GPS was to be made accessible for civilian use as a common good.⁵ Thereafter the GPS became an extensively used navigation tool and a valuable device for cartography, land surveying, business, and scientific uses.⁶

The GPS uses a technological device, generally carried by a moving vehicle or person, to track the device's movements, at intervals and to determine its location and therefore that of its carrier.⁷ The recorded location data can either be stored in the tracking unit (which is known as passive tracking); otherwise, it could be transmitted to a central location database (which is known as active tracking).⁸ This permits the location of the device to be

* Mphoeng Maureen Mswela. LLB LLM LLD. Senior Lecturer, Department of Jurisprudence, College of Law, University of South Africa. E-mail: mswelmm@unisa.ac.za.

¹ Joint Economic Congress *China's Economic Future* 300; Kaplan and Hegarty *Understanding GPS* 2-3; also see Pace *et al Global Positioning System* 238. This article will refer interchangeably to Global Positioning System and GPS in order to avoid monotonous repetition.

² Bertagna 2010 https://www.eetimes.com/document.asp?doc_id=1278363; and Pace *et al Global Positioning System* 238.

³ Patterson 2013 <https://edition.cnn.com/2013/08/31/us/kal-fight-007-anniversary/index.html>.

⁴ Patterson 2013 <https://edition.cnn.com/2013/08/31/us/kal-fight-007-anniversary/index.html>.

⁵ Ranjana "India: Carrier Liability for Passengers" 6.

⁶ Ranjana "India: Carrier Liability for Passengers" 6; and Milner *Pinpoint* 3.

⁷ Gray *How does GPS Work?* 4-12; and Bertagna 2010 https://www.eetimes.com/document.asp?doc_id=1278363.

⁸ Gray *How does GPS Work?* 4-12; and Bertagna 2010 https://www.eetimes.com/document.asp?doc_id=1278363.

revealed against a map backdrop either in real time or when analysing the track later, by using Global Positioning System tracking software.⁹

The Global Positioning Tracking System is a process of figuring for example out precisely where something is.¹⁰ This tracking system could be placed in a vehicle, for example, on a cell phone, or on special GPS devices which can either be motionless or movable units.¹¹ It can track the movement of a vehicle, valued assets, or even animals.¹² Therefore, the Global Positioning Tracking system can, for instance, be used by a company to observe the progress and route of a delivery truck, to assist the police to figure out the location of a stolen vehicle, or even to monitor extremely valuable goods that are in transit.¹³

Recent years have seen an increase in the use of the GPS by both private and public entities for the purpose of tracking and monitoring the location of human beings.¹⁴ The GPS tracking application is used as a locating system to monitor children, the elderly who suffer from Alzheimer's and the mentally ill, among other people, for personal protection purposes.¹⁵ This electronic monitoring system has also found application on parolees as a law enforcement measure.¹⁶

Parents who monitor the location of their children do so by designating "exclusion zones" that the child is barred from entering and by making sure that they remain in a particular place at specified times.¹⁷ However, once

⁹ Gray *How does GPS Work?* 4-12; and Bertagna 2010 https://www.eetimes.com/document.asp?doc_id=1278363. Data tracking software is also accessible from smartphones with (GPS) competency.

¹⁰ Barfield *Fundamentals of Wearable Computers* 174-176.

¹¹ Xhafa *et al Advances in Intelligent Systems* 373.

¹² Kim *Transportation Engineering and Planning* 117; Hughes and Louw 2002 *BMJ* 847-848; and McComb *et al Monitoring Animal Populations* 140; and Tracking System Direct 2010 <https://www.tracking-system.com/for-consumers/gps-personal-tracking-system/315-gps-tracking-livestock.html>.

¹³ Kim *Transportation Engineering and Planning* 117.

¹⁴ Michael, McNamee and Michael "Emerging Ethics of Humancentric GPS Tracking" 1.

¹⁵ Michael, McNamee and Michael "Emerging Ethics of Humancentric GPS Tracking" 1.

¹⁶ Michael, McNamee and Michael "Emerging Ethics of Humancentric GPS Tracking" 1. Mentally ill patients, Alzheimer's sufferers and people with dementia wander off, often without medication, adequate clothing or any means of communication such as a mobile phone. Families find themselves in a challenging situation where calling for help from the Police is likely to cause delays in finding the wanderer. Tracking technologies have found application in this context, thereby allowing the safe movement of the elderly with Alzheimer or Dementia. Also see Saranya and JesuJayarini 2017 *IRJET* 3365-3371.

¹⁷ Wilson *Safe Kids Safe Families* 216; and Punetha and Mehta "Protection of the

the child has left a specified zone, such electronic tags, which use GPS and GSM (Global System for Mobile Communications) technology, can track the location of the missing person in real time, with the information being sent back to a monitoring centre or the parent.¹⁸ Assuming that a child goes into a no-go area, this permits a parent to track the child with the technology.¹⁹ Real-time tracking is therefore predominantly useful from a security perspective for the reason that it allows one to determine the precise location of something at any given time.

Fairly recently the Malawian government extended the application of the use of the Global Positioning Tracking System to people with albinism as a strategy to halt the continued attacks against this population.²⁰ It is reported that the electronic tags were donated to Malawi by an electronic security system enterprise based in the United Kingdom and the devices use an electronic zone asset tracker commonly known as a GPS tracker.²¹ The GPS devices were distributed to persons with albinism in hot-spot zones. They include an electronic panic button which can be activated by pressing the Save Our Souls (SOS) knob when they are in danger.²² The system will then automatically alert the registered trackers, who are the Police Rapid Response Unit and the community policing groups.²³ When someone wearing the device is attacked the person can press the button. An alarm is instantaneously sent from the gadget to the monitoring site, permitting the authorities to react instantly by rushing to the scene to protect the victim.²⁴ According to the police, the use of such technology assists victims and helps with tracking perpetrators.²⁵ One police spokesperson indicated that the device is a helpful aid in assisting law enforcers in discharging their duties.²⁶

Child/Elderly/Disabled/Pet" 2349-2353.

¹⁸ Punetha and Mehta "Protection of the Child/Elderly/Disabled/Pet" 2349-2353.

¹⁹ Punetha and Mehta "Protection of the Child/Elderly/Disabled/Pet" 2349-2353.

²⁰ CSJ News Reporters 2017 <http://csjnews.org/2017/04/10/malawi-bust-attacks-persons-albinism/>.

²¹ CSJ News Reporters 2017 <http://csjnews.org/2017/04/10/malawi-bust-attacks-persons-albinism/>.

²² CSJ News Reporters 2017 <http://csjnews.org/2017/04/10/malawi-bust-attacks-persons-albinism/>.

²³ CSJ News Reporters 2017 <http://csjnews.org/2017/04/10/malawi-bust-attacks-persons-albinism/>.

²⁴ CSJ News 2017 <http://csjnews.org/2017/04/10/malawi-bust-attacks-persons-albinism/>.

²⁵ CSJ News Reporters 2017 <http://csjnews.org/2017/04/10/malawi-bust-attacks-persons-albinism/>.

²⁶ CSJ News Reporters 2017 <http://csjnews.org/2017/04/10/malawi-bust-attacks-persons-albinism/>. The GPS tracking system finds application in several contexts and there are several types of GPS tracking system units which work in various ways. It is not within the scope of this article to attempt to describe the technicalities

It cannot be denied that the dilemma of violent attacks against persons with albinism is real, with negative safety ramifications on persons with albinism and their families. In South Africa the distinctive feature of crimes against persons with albinism is not the volume of the crime but its violent nature.²⁷ The body parts taken from persons with albinism are understood to sell for huge amounts of money, making this lucrative enterprise a means of acquiring quick money.²⁸ The mysterious kidnapping and killing of persons with albinism evoke anxiety and insecurity in members of their communities, making them hesitant to walk, travel or stay alone for fear of potential danger.²⁹ As a minority group at risk, persons with albinism require social and legal protection so that they can enjoy the entire range of human rights,

of GPS tracking system units. The author deems the discussion above as sufficient to provide a general yet non-technical understanding of the purpose served by this system.

²⁷ "On 25 September 2015, two 19 year-old men pleaded guilty in the Vryheid Regional Court to the murder of Thandazile Mpunzi, a 20 year-old woman with albinism, and each was sentenced to 20 years' imprisonment. Mpunzi's mutilated and skinned remains were found in a shallow grave after the suspects had confessed and led the police to the site. The National Prosecuting Authority recorded that the 17 year-old boyfriend of the deceased had her murdered so that he and his friends could use her body parts for *muti*. The Court heard that traditional healer Bhekukufa Gumede had told the deceased's boyfriend that '*muti* mixed with the body parts of a person with albinism would make them rich'. On the basis of this the accused concocted a plot to kill Thandazile Mpunzi to obtain her body parts. On the afternoon of 1 August 2015, Mpunzi's boyfriend lured her to a remote area in the Phelandaba area of Emanguzi in Northern KwaZulu-Natal, where Mabuza and Khumalo attacked and strangled her before taking her body to a nearby forest. The assailants met the following day, mutilated the deceased's body and left with certain body parts. They later buried the remains of the body in another forest. Thandazile Mpunzi was a victim of violent attacks and killing of persons with albinism for ritual purposes. Based on the belief that the body parts of persons with albinism have extraordinary powers, unscrupulous dealers have resorted to harvesting their body parts with the expectation that these can be used to help them become rich. The body parts are allegedly used as ingredients in rituals, concoctions and potions on the basis of the claim that their magic will bring prosperity to the user. At the same time, persons with albinism have been ostracised and even murdered for exactly the converse reason, namely, because they are considered a curse and to bring bad luck on a community. Underlying all these perceptions is the failure to see albinism for what it is: a medical condition, one of an incredibly rare group of diseases, presenting as pigmentation variance in the skin, hair and/or eyes, owing to hereditarily-blocked melanin synthesis. In another alarming case as recently as 28 June 2016, a four year old boy with albinism was reportedly kidnapped in Empangeni, KwaZulu-Natal. The incident sparked an uproar as the community expressed their anger over the alleged kidnapping. During the investigation leading to an arrest, police followed up information received about a woman who was purportedly arranging to sell a child with albinism for R100 000 to a well-known community member who is also a traditional healer in Emanguzi. The 28 year-old woman was apprehended by police and the child was reunited with his family." See Mswela 2017 *AHRLJ* 115-117.

²⁸ Mswela 2017 *AHRLJ* 116.

²⁹ Mswela 2017 *AHRLJ* 117.

which include the right to life and freedom of movement.³⁰ The risky circumstances in which persons with albinism find themselves require an immediate reaction before these horrendous attacks against this population spirals out of control.³¹

In this article I further the discussion in my previous article entitled *Violent Attacks against Persons with Albinism in South Africa: A Human Rights Perspective*.³² Apart from engaging in a detailed discussion on the extent of the violent attacks on persons with albinism, that contribution proposed general policing strategies which could assist in the prevention of attacks against persons with albinism. Further to this, the contribution made a call to the Minister of Safety and Security to establish a commission to investigate the violent attacks and to recommend a strategy on feasible safety measures for persons with albinism.³³ It was proposed that such a strategy ought to include operative crime prevention plans and programmes with the aim of bringing to an end the spread of violence and crime against this population.³⁴ Subsequent to the making of these recommendations, further brutal attacks against persons with albinism have been reported;³⁵ which potentially could have been avoided had a concrete strategy been established and implemented as a matter of urgency.

³⁰ Mswela 2017 *AHRLJ* 122.

³¹ Mswela *Selection of Legal Issues* 235.

³² Mswela 2017 *AHRLJ* 114-133. In the aforementioned article I highlighted the cultural beliefs, superstitions, myths and false perceptions about albinism as the backdrop against which the violent attacks against persons with albinism can be understood and explored the way in which the current legal framework and, in particular, provisions on the right to life, dignity and freedom and security of the person enshrined in the *Constitution*, protect persons with albinism against violent attacks. Further to this, I critically assessed the impact of the brutal killing of persons with albinism in a democratic regime such as South Africa, and highlighted the fact that people with albinism must be protected against physical attacks, since the state has a duty to protect the right to life. Provisions from international and regional human rights instruments relevant to the killing of persons with albinism were explored briefly. General policing strategies were proposed as measures that could assist in the prevention of attacks against persons with albinism. Apart from this, the article called on the Minister of Safety and Security to appoint a task team to develop a strategy for implementing safety measures for persons with albinism and recommended that such a strategy should put effective prevention plans and programmes into action to stop the spread of violence and crime against persons with albinism.

³³ Mswela 2017 *AHRLJ* 114-133.

³⁴ Mswela 2017 *AHRLJ* 114-133.

³⁵ SALC Staff Writer 2018 <http://www.southernafricalitigationcentre.org/2018/03/23/a-call-for-an-end-and-a-holistic-response-to-attacks-on-persons-with-albinism-the-macdonald-masambuka-case/>.

Should South Africa consider GPS tagging and the tracking of persons with albinism as a holistic response to the attacks against this population? In trying to arrive at a tangible solution to prevent violent attacks on persons with albinism, I build on my previous contribution by borrowing from Malawi's Global Positioning System Strategy and proposing its use in South Africa. What is unsettling to the author is the fact that although Malawi has pioneered the use of such a device in a new context, no debates have taken place on the ethical and legal concerns arising from the electronic tagging and tracking of people with albinism; especially in view of the fact that persons with albinism are already a vulnerable and stigmatised population. Could it be that ethical issues and concerns about human rights are to be ignored in this context? My purpose here is to highlight the need for a debate on what could otherwise be a controversial application of technology. There is need to be conscious of the possibility of misusing the technology, and precautionary measures must be put in place. I therefore discuss the ethical and legal issues which could arise from the electronic tagging and tracking of persons with albinism.

2 Ethical and human rights issues stemming from electronically tagging and tracking persons with albinism

Although the purpose of the GPS is undeniably worthy, sometimes the manner in which these devices are used can be problematic. More challenging is the desire to justify the encroachment on any rights which arises through using the GPS as a crime prevention strategy. The use of the electronic monitoring system to tag and track persons with albinism raises crucial human rights and ethical concerns, particularly in regard to the right to privacy, liberty, perhaps equality, and notably the right to dignity. Arguing from the perspective of the electronic tagging and tracking of elderly people with Alzheimer's, Susan Ashcroft-Simpson, a medical ethicist, warns that some populations comprising the elderly or persons with mental illness may possibly stand a greater risk of their rights being encroached upon in the name of safety.³⁶

³⁶ Ashcroft-Simpson 1999 *Education & Ageing* 80.

2.1 Privacy and consent

2.1.1 The right to privacy in the context of GPS tagging and tracking of persons with albinism

The most important ethical and legal issue facing electronic tagging is privacy. Commonly someone's whereabouts or precise location should not be identified except if they do something out of the ordinary that warrants such identification. Electronic tracking inherently potentially encroaches on an individual's privacy through permitting others to monitor the individual's location at any time. The *Constitution of the Republic of South Africa, 1996* protects the right to privacy in section 14,³⁷ which reads as follows:

Everyone has the right to privacy, which includes the right not to have -

- (a) their person or home searched;
- (b) their property searched;
- (c) their possessions seized; or
- (d) the privacy of their communications infringed.

According to Currie and De Waal, section 14 is made up of two parts.³⁸ The first part is the first phrase of the first sentence, which reads; "everyone has the right to privacy". This phrase guarantees a general right to privacy.³⁹ The second part protects against specific enumerated violations of privacy including searches and seizures of someone's person, individual territory, property or possessions, and infringements on the privacy of communications.⁴⁰ Although section 14 refers to specific privacy rights, the list is not exhaustive.⁴¹

The nature of privacy includes isolation from the public and publicity since it involves an individual's state of life.⁴² This involves not having knowledge of a person's personal dealings,⁴³ and means that the mere unsanctioned acquaintance by outsiders of an individual's personal life constitutes an impingement on their privacy. In the *Bernstein* case, Ackerman J remarked that privacy is actually an individual realm except where an individual

³⁷ Section 14 of the *Constitution of the Republic of South Africa, 1996*.

³⁸ Currie and De Waal *Bill of Rights Handbook* 294.

³⁹ Currie and De Waal *Bill of Rights Handbook* 294.

⁴⁰ Currie and De Waal *Bill of Rights Handbook* 294.

⁴¹ Croome *Taxpayers' Rights* 122.

⁴² Neethling *et al Law of Delict* 323.

⁴³ Neethling *et al Law of Delict* 323.

channels into joint relations and activities such as business and social relations.⁴⁴ Under these circumstances, the scope of private freedom shrinks.

The scope of an individual's constitutional right to privacy covers aspects such as a permissible expectation of privacy, the right to be left alone, the right to the development of a person's individual personality, informational privacy and protection from searches and seizures.⁴⁵

The right to be left alone protects a person's sanctum, which includes the person's body, sexual preference, home and family life.⁴⁶ The basis of this right is that outsiders should not interfere with a person's intimate matters.⁴⁷ The right to privacy means that everyone is permitted a sphere of personal autonomy to which the community does not have access without approval.⁴⁸ According to David McQuoid-Mason, personal-autonomy privacy rights can be seen as substantive privacy rights that allow people to make decisions about their lives without any interference.⁴⁹

Even though electronic tagging and tracking has the potential of increasing the freedom of movement being tracked, in a way, it is congruently likely to encroach on the person's autonomy. Monitoring a person through the use of an electronic tracking tool is comparable to following them when they are walking, even though electronic monitoring is invisible. One is ordinarily more alert if one knows somebody is following one, as against when a tracking tool is placed on one's car, for instance. In addition, for the reason that the location of a person whose movements are being monitored is digitised, such digitised information may possibly be instantaneously investigated with the purpose of drawing implications in a manner which a mere observation may not have. The risk of restricting the privacy of a person through the use of a GPS should never be taken for granted, and the use of these monitoring tools must to be considered warily.

⁴⁴ *Bernstein v Bester* 1996 2 SA 751 (CC) (hereinafter referred to as the *Bernstein* case) paras [65]-[67].

⁴⁵ Currie and De Waal *Bill of Rights Handbook* 295-304, 328.

⁴⁶ *Bernstein* case para [67].

⁴⁷ *Bernstein* case para [67].

⁴⁸ *Bernstein* case para [67].

⁴⁹ McQuoid-Mason "Privacy" 38-23.

2.1.2 Does installing a GPS device on a person or a car constitute a search or seizure under the Constitution?

In the South African jurisprudence the term "search" has not been clearly defined and the enquiry into what conduct amounts to a search is left to common sense and determined on a case-by-case basis.⁵⁰ Does installing a GPS device on a person or a car constitute a search or seizure under the *Constitution*? Despite the rise in the use of GPS technology in South Africa, this specific question has not been the subject of any judicial enquiry in South Africa, and the jurisprudence of the United States could be instructive.

In the US if a private or public entity plants a GPS tracker on a person, on a vehicle, or on anybody's personal belongings, this amounts to a search and is consequently protected by the constitution.⁵¹ The *United States v Jones*⁵² is illustrative. In this case the police attached a GPS monitor to the car of a suspected drug trafficker. The evidence gathered through the use of the GPS tracker was sufficient to convict Jones, but the courts consequently ruled against the police, stating that there was a violation of Jones's Fourth Amendment rights.⁵³ In this case the US Supreme Court ruled that the Fourth Amendment is encroached on when a law enforcing officer without a warrant places a GPS tool on a suspect's car and uses that tool to observe the movements of that vehicle.⁵⁴ The Fourth Amendment guarantees

[t]he right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures

with the exception of situations in which a search warrant is centered on probable cause.⁵⁵ The majority judgement in the *Jones* case held that the Government physically trespassed on Jones' vehicle by attaching the device, and that the government's use of that device to monitor the vehicle's movements constituted a "search" which was presumptively illegal in the absence of a valid warrant.⁵⁶ Once such a trespassory attachment has taken place, a "search" is said to have occurred, irrespective of the length

⁵⁰ Swanepoel 1997 *CILSA* 374. Also see Basdeo 2009 *PELJ*.

⁵¹ Meyer 2015 <https://www.theatlantic.com/technology/archive/2015/03/supreme-court-if-youre-being-gps-tracked-youre-being-searched/389114/>.

⁵² *United States v Jones* 565 US 400 (2012) (hereinafter referred to as the *Jones* case).

⁵³ *Jones* case para 3-12.

⁵⁴ *Jones* case para 3-12.

⁵⁵ Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

⁵⁶ *Jones* case para 3-12.

of the surveillance.⁵⁷ This decision has significantly limited law enforcement's capacity to employ this technique (GPS) of investigation.⁵⁸

Building upon the *Jones* case, the US Court of Appeals for the Third Circuit fairly recently held in the *United States v Katzin* that law enforcement officers require a valid warrant before installing a GPS device on a suspect's vehicle.⁵⁹ In 2009 and 2010 a series of similar burglaries took place at Rite Aid stores in Delaware, Maryland and New Jersey.⁶⁰ With the help of the FBI, local law enforcement officers identified a suspect, Harry Katzin, who had been frequently seen at or near the burglary sites with his van.⁶¹ The police could predict with certainty the location of the suspects' vehicle, and subsequent to consulting with the US Attorney's office, but without obtaining a warrant, the law enforcement officers installed a GPS tracking device on Katzin's van.⁶² A number of days later information taken from the GPS device permitted the police to associate the vehicle with a burglary that had transpired shortly beforehand.⁶³ The law enforcement officers stopped the van and found the stolen merchandise inside it.⁶⁴ Katzin and his assumed accomplices were criminally charged, with much of the evidence against them stemming from the confiscation of the contents of the van.⁶⁵

At the trial the defendants sought to eliminate as evidence all of the merchandise confiscated from the vehicle, citing the *Fourth Amendment of the US Constitution*.⁶⁶ Evidence collected in violation of this Amendment is bound by the Exclusionary Rule, which affords that a criminal defendant may eliminate from admittance at trial any evidence acquired pursuant to

⁵⁷ *Jones* case para 3-12.

⁵⁸ Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

⁵⁹ *United States v Katzin* No 12-2548 (3d Cir 2013) (hereinafter referred to as the *Katzin* case) at FindLaw 2014 https://caselaw.findlaw.com/us-3rd-circuit/1679462.html#footnote_1. Also see Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

⁶⁰ *Katzin* case.

⁶¹ *Katzin* case; and Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

⁶² *Katzin* case; and Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

⁶³ *Katzin* case; and Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

⁶⁴ *Katzin* case; and Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

⁶⁵ *Katzin* case; and Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

⁶⁶ *Katzin* case; and Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

an unlawful search.⁶⁷ The defendants in *Katzin* relied on the decision in *United States v Jones* to support their argument that the evidence obtained from the GPS-tracked van should be excluded.

In deciding *Katzin* the Third Circuit panel undertook a broad analysis of whether a warrantless GPS search can ever be reasonable and therefore abide by privacy laws.⁶⁸ The court first deliberated on valid, warrantless searches based on "reasonable suspicion". Courts have recognised that in certain situations a police officer does not need a warrant and probable cause to conduct a lawful search.⁶⁹ Precisely, there are three occurrences where an officer requires only a reasonable suspicion to carry out a warrantless search.⁷⁰ These instances are "special needs" cases which comprise diminished privacy interests, and "stop and frisk" (immediate harm and in limited time) cases.⁷¹ It is only in these cases that "reasonable suspicion" is essential for the search to be reasonable.⁷²

The court speedily rejected the concept that any of the three exceptions was applicable in the present case.⁷³ The "special needs" case entails that the "primary purpose" of the search need not be "to uncover evidence of ordinary criminal wrongdoing",⁷⁴ yet the whole point of the GPS in *Katzin* was to detect criminal wrongdoing.⁷⁵ The diminished privacy exception equally did not find application for the reason that *Katzin* was a private citizen entitled to full privacy under the *Constitution* during the time that the GPS device was mounted. Besides, the search of a car still necessitates at the very least probable cause.⁷⁶ Finally, the court found that the exception

⁶⁷ *Katzin* case; and Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

⁶⁸ *Katzin* case; and Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

⁶⁹ *Katzin* case; and Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

⁷⁰ *Katzin* case; and Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>. See further *Magajane v Chairperson, North West Gambling Board* 2006 5 SA 250 (CC) paras 75-77; s 13(8)(f) of the *South African Police Service Act* 68 of 1995.

⁷¹ *Katzin* case; and Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

⁷² *Katzin* case; and Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

⁷³ *Katzin* case; and Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

⁷⁴ *Katzin* case; and Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

⁷⁵ *Katzin* case; and Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

⁷⁶ *Katzin* case; and Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

of the risk of immediate harm and having limited time was not applicable in the *Katzin* case since the installation of a GPS device constitutes a search over a period of time.⁷⁷ The court averred that a warrantless GPS search was never reasonable with anything less than probable cause.⁷⁸

The court then turned to the question whether a warrantless GPS search even with probable cause was permissible.⁷⁹ The state argued that under the judicially acknowledged "automobile exception" a warrant was not needed to conduct a search of an automobile, and that the exception applied equally to GPS searches too.⁸⁰ The court rejected this argument, stating that the automobile exception permits "warrantless searches of any part of a vehicle that may conceal evidence ... [only] where there is probable cause to believe that the vehicle contains evidence of a crime".⁸¹ In *Katzin* the law enforcement officers did not believe that the automobile presently contained evidence of a crime, but merely that its location might possibly in the future result in evidence of a crime.⁸² The Third Circuit held that the *Katzin* case was beyond the scope of the automobile exception and that the search therefore constituted an irrational search in violation of the right to privacy.⁸³

South African law recognises that there will be limited circumstances that allow an exception to the warrant requirement.⁸⁴ Under such circumstances, laws authorising a warrantless search "must provide a constitutionally adequate substitute for a warrant".⁸⁵ The *Criminal Procedure Act* allows for a warrantless search only if the owner gives consent for the search.⁸⁶

⁷⁷ *Katzin* case; and Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

⁷⁸ *Katzin* case; and Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

⁷⁹ *Katzin* case; and Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

⁸⁰ *Katzin* case; and Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

⁸¹ *Katzin* case; and Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

⁸² *Katzin* case; and Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

⁸³ *Katzin* case; and Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>.

⁸⁴ *Magajane v Chairperson, North West Gambling Board* 2006 5 SA 250 (CC) para 75.

⁸⁵ *Magajane v Chairperson, North West Gambling Board* 2006 5 SA 250 (CC) para 77.

⁸⁶ Section 22 of the *Criminal Procedure Act* 51 of 1977 provides that: "A police official may without a search warrant search any person or container or premise for the purpose of seizing any article referred to in section 20 – (a) if the person concerned consents to the search for and the seizure of the article in question, or if the person who may consent to the search of the container or premises consents to such search and the seizure of the article in question; or (b) if he on reasonable grounds believes

Further to this, section 22(b) of the *Criminal Procedure Act* authorises a search without a warrant in situations that demonstrate urgency wherein a police officer has a reasonable belief that a search warrant would be given to him but a delay in attaining the warrant could thwart the object of the search. The *Police Act*⁸⁷ similarly permits law enforcement officers, in particular the police, to set up roadblocks after obtaining permission from either the National or Provincial Police Commissioner. Section 13(8)(f) of the *Police Act* permits any police officer to search any car stopped at a roadblock and to seize any object which is reasonably understood to have been utilised in the commission of a crime or could be useful evidence in attesting to the commission of a criminal activity.

When exercising a warrantless search police officials may without a warrant conduct a search anywhere in South Africa within a parameter of 10 kilometers of or any reasonable distance from any border between South Africa and any foreign state or in the territorial waters of South Africa, or inside South Africa within 10 kilometres of or any reasonable distance from such territorial waters or at any airport or within any reasonable distance from such an airport.⁸⁸ The purpose of such a search is to exercise control over the unlawful movement of both people and goods within South African borders.

2.1.3 *Consensual GPS installation and subsequent surveillance*

Progressive directives are vital to make sure that people with albinism take part in decisions on the use of electronic tagging and tracking technologies, and they must be able to make informed decisions. Consequently, privacy concerns are minimal in circumstances where a person consciously consents to be tracked and completely understands the consequences of electronic monitoring. Electronic monitoring does not constitute an infringement of privacy when performed with the full and informed consent of the person monitored. Placing regard on persons with albinism and providing person-centred consideration is significant, and this includes attaining input from people with albinism and their families on the design as well as the use of such technological devices.

– (i) that a search warrant will be issued to him under paragraph (a) of section 21(1) if he applies for such a warrant; and (ii) that the delay in obtaining such warrant would defeat the objects of the search".

⁸⁷ *South African Police Service Act* 68 of 1995.

⁸⁸ Section 13(8)(a) *South African Police Service Act* 68 of 1995.

A competent person is afforded the right to make decisions under South African law.⁸⁹ An effort must therefore be made to enable informed decision-making. Where children are involved, incompetency to give consent is acknowledged only where the child is incapable of understanding the information relevant to the decision, to retain that information, to use or weigh it up as part of the process of making a decision, and to communicate the decision. In the GPS context this might possibly be problematic at times owing to the technical features of some devices. Diverse techniques of presenting the information can be used and measures can be taken to check if the person with albinism has really understood the consequences of using the device.

Bearing in mind that most abductions and murders of persons with albinism are performed on children, these children could benefit from the use of electric monitoring. For example, GPS trackers have of late been designed to give parents peace of mind by providing them with information about the exact location of their children. Parents may set safe zones using the geofencing feature found in these devices, which will allow the parent to receive a text message and e-mail notification if the child leaves the perimeters of such zones.⁹⁰ This could be useful for parents who wish to know when their child arrives and leaves the premises of the school the child attends. In the same way, those monitoring children with albinism should be notified only if the child with albinism walks outside the demarcated zone. The *Children's Act* stipulates that in the absence of capacity or where a child has limited capacity, decisions may be made on behalf of such a child if based on judgements made in the best interests of the child.⁹¹ From my point of view, a decision taken to enhance a child's safety is clearly in the best interests of that child.

It is therefore important to obtain a person's free and informed consent before installing or using electronic monitoring devices on the person. In the case of monitoring movement, a person with albinism might be prepared to

⁸⁹ Section 12 of the *Constitution of the Republic of South Africa*, 1996: "Freedom and security of the person (1) Everyone has the right to freedom and security of the person, which includes the right- (a) not to be deprived of freedom arbitrarily or without just cause; (b) not to be detained without trial; (c) to be free from all forms of violence from either public or private sources; (d) not to be tortured in any way; and (e) not to be treated or punished in a cruel, inhuman or degrading way. (2) Everyone has the right to bodily and psychological integrity, which includes the right- (a) to make decisions concerning reproduction; (b) to security in and control over their body; and (c) not to be subjected to medical or scientific experiments without their informed consent."

⁹⁰ Thomas 2016 <https://trackimo.com/real-time-tracking-kids/>.

⁹¹ Section 7 of the *Children's Act* 38 of 2005.

forego a certain degree of privacy in exchange for the benefits that the person believes the device will bring, but then again agreeing to have a monitoring device installed on an individual should not be based on illegitimate pressure. Such pressure could perhaps be from the parents of a person with albinism, who might say that in the event of the child's being kidnapped no one would be ready to look for the child, or that the use of such devices had been made compulsory by insurance companies.

2.1.4 *The use of stored geolocation data for secondary purposes*

The major worry arising from electronic monitoring is the amount of data which can be deduced from an analysis of a person's movements. Of concern is whether information generated by a GPS receiver for one purpose could be used for another purpose. For example, could data derived from the GPS tracking of a person with albinism for safety purposes be used for an analytics study on the use of electronic monitoring devices? In the introduction to this paper it was stated recorded geolocation data can be stored within the GPS Electronic Tracking Device, while in some instances it might be transferred to a central location database. This allows the location of the device to be displayed against a map backdrop either in real time or later, when analysing the data.⁹² In this case, privacy law and data protection law are the most relevant. The *Protection of Personal Information Act* (POPI Act) promotes the protection of personal information, persons with albinism included. Within its definition of personal information or data, the POPI Act includes location information.⁹³ Therefore, data protection law does have an impact on geolocation. The POPI Act contains a provision which deals with matters on records and files stored by service providers. In particular, the Act makes it clear that personal information may not be processed for a secondary purpose unless that processing is compatible with the original purpose.⁹⁴ If one intends to reuse another's personal information, the question is, is it in accordance and compatible with the purpose for which it was collected?

Should you want to use existing personal information for any purpose other than what the information was gathered for, confirmation will be required from the data subject again.⁹⁵ The data subject should be aware of the

⁹² Bertagna 2010 https://www.eetimes.com/document.asp?doc_id=1278363; Gray *How does GPS Work?* 4-12. Data tracking software is also accessible from smartphones with (GPS) competency.

⁹³ Chapter 1, para 11 of the *Protection of Personal Information Act* 4 of 2013 (the POPI Act).

⁹⁴ Section 15 of the POPI Act.

⁹⁵ Section 15 of the POPI Act.

continued use of the personal information.⁹⁶ When gathering information, you have to advise the data subject what the information will be used for and for what period you will hold that information.⁹⁷ Further to this, the Act protects a subscriber to stored data from disclosure without proper legal authorisation.⁹⁸ The kind of authorisation required by law enforcement to access stored information includes a court order or a search warrant,⁹⁹ depending on the sensitivity of the information sought.¹⁰⁰

Having said this, it is reasonable to argue that where a person with albinism subscribes to GPS electronic monitoring for safety reasons, that person's recorded data must be kept in the safe control of a responsible party, be it a public or a private body that controls the manner of the processing of the personal information obtained from a data subject. The use of personal data, in particular the geolocation of persons with albinism, in analytics, for example, might well be wanted as a secondary use, but unless the subscriber (the person with albinism) gives precise consent, it could be regarded as a breach. The overriding concern here is privacy.

2.2 Electronic monitoring and stigma

The extent to which stigma can be attached to a visible tag could inhibit the use of the device and might have damaging effects on the user.¹⁰¹ Concerns about the use of GPS electronic monitors among persons with albinism might possibly include the potential for increased stigmatisation, which might negatively compound the existing stigma. Thought should be given to altering the connotations which wearing a GPS electronic device bears in South Africa.

Although the use of the global positioning system has proven to be effective on dementia patients, in the United Kingdom and in Ireland opponents of the use of this technology contend that extending its application to people with dementia conjures up unfortunate metaphors, for example of infantilism, of being in custody, and of leading a subhuman existence, especially as electronic tagging has been popular for tracking the movement of animals. In addition, in some hospitals newborn babies are electronically tagged to prevent kidnapping, and the use of this technology is well

⁹⁶ Section 15 of the POPI Act.

⁹⁷ Section 15 of the POPI Act.

⁹⁸ Section 15 of the POPI Act.

⁹⁹ Section 82 of the POPI Act.

¹⁰⁰ Section 15 of the POPI Act.

¹⁰¹ Hughes and Louw 2002 *BMJ* 847-848; Nellis *et al Electronically Monitored Punishment*.

established for convicted criminals in some jurisdictions.¹⁰² Dementia opponents of its use with dementia patients state that people with dementia have done nothing wrong and hence must not be put on a par with common offenders.¹⁰³

People with dementia have frequently been stigmatised because of their loss of ability, and their being associated with criminals through electronic tagging and tracking might compound such stigma.¹⁰⁴

In South Africa, in recent years electronic monitoring has been a penal sanction, among other things. Since 2011 the tagging system has been used for serious offenders on parole, or for those who have served a life sentence, in order to bring partial relief to the overcrowding in prisons.¹⁰⁵ Electronically monitoring offenders is considered as a mechanism to restrict the independence of an offender in society, possibly in a manner which lessens the risk of reoffending.¹⁰⁶ As such, electronic monitoring plays a significant role in our criminal justice system as part of a compendium of mechanisms used to increase public safety, thereby creating safer communities. Being tagged and tracked is increasingly associated with serious offenders, although the application of tagging and tracking has been extended to new areas. Tagging is being employed in a wide spectrum of situations.

In South Africa GPS tracking devices have also become popular in tracking the movement and counting of sheep.¹⁰⁷ Many varieties of the technology are also available for wildlife and game tracking, and have been found very useful due to their robustness.¹⁰⁸ Since the rhino-poaching epidemic began in 2008, South Africa has lost more than 3 000 of these extraordinary

¹⁰² O'Neil 2003 *BMJ* 281; and Ward, Philipson and Bingham 2013 <https://www.telegraph.co.uk/news/health/news/10029205/GPS-tags-for-dementia-patients.html>.

¹⁰³ Ward, Philipson and Bingham 2013 <https://www.telegraph.co.uk/news/health/news/10029205/GPS-tags-for-dementia-patients.html>.

¹⁰⁴ O'Neil 2003 *BMJ* 281; and Ward, Philipson and Bingham 2013 <https://www.telegraph.co.uk/news/health/news/10029205/GPS-tags-for-dementia-patients.html>.

¹⁰⁴ Ward, Philipson and Bingham 2013 <https://www.telegraph.co.uk/news/health/news/10029205/GPS-tags-for-dementia-patients.html>.

¹⁰⁵ Hughes and Louw 2002 *BMJ* 847-848; and Nellis *et al Electronically Monitored Punishment*.

¹⁰⁶ Anon 2012 <https://www.news24.com/SciTech/News/Cape-farmer-counts-sheep-with-GPS-20120711>.

¹⁰⁷ Tracking System Direct 2010 <https://www.tracking-system.com/for-consumers/gps-personal-tracking-system/315-gps-tracking-livestock.html>.

¹⁰⁸ Africa Wildlife Tracking date unknown <http://www.awt.co.za/>.

animals.¹⁰⁹ Over 700 were slaughtered in 2014 alone. South Africa has put in place a National Strategy for the Safety and Security of the Rhinoceros Populations that was necessitated by the increased number of incidents of rhino poaching.¹¹⁰ Following a number of new legislative measures and increased attention from police and wildlife investigators there has been a marked reduction in rhino poaching.¹¹¹ Among several other companies, iDetect has assisted many of South Africa's lesser known parks to monitor rhinos on the move.¹¹² The system uses specially designed radio collars that support real-time multiple alarm triggers for potential risk situations such as an animal's being chased.¹¹³ This makes it more difficult for poachers to escape detection, increasing the possibility of catching them while also protecting the tagged animals.¹¹⁴ If such a strategy can be effectively implemented to conserve the rhino species, one can only hope that the same approach will be useful when it comes to protecting the most vulnerable members of the human species.

The use of the global positioning system on persons with albinism is bound to be extremely worrying. The stigma and discrimination against persons with albinism cannot be overlooked.¹¹⁵ The stigma associated with the appearance of the albino skin and albino eyes is real.¹¹⁶ Of all persons living with albinism, the position of some African albinos is the worst. Some

¹⁰⁹ Brite House date unknown https://www.britehouse.co.za/Community/CSI/Documents/Rhino_Tagging.pdf.

¹¹⁰ DEA *National Strategy* 3.

¹¹¹ DEA *National Strategy* 3.

¹¹² Brite House date unknown https://www.britehouse.co.za/Community/CSI/Documents/Rhino_Tagging.pdf.

¹¹³ Brite House date unknown https://www.britehouse.co.za/Community/CSI/Documents/Rhino_Tagging.pdf.

¹¹⁴ Brite House date unknown https://www.britehouse.co.za/Community/CSI/Documents/Rhino_Tagging.pdf. In addition, the *vehicle* recovery industry also provides essential tracking mechanisms to private persons. Apart from this, in specific industries where employees drive vehicles in the course of performing their duties accountability exists by using the Global Positioning Systems. For instance, it is not startling to find that employers who own industries that offer carriage or delivery services have installed Global Positioning Systems devices in the vehicles that are used by their employees. The use of the Global Positioning Systems devices can benefit both the employer and the employee in circumstances where the delivery status requires to be confirmed or a vehicle breaks down or where a vehicle has been stolen. In all probability, the employee in these circumstances is aware that a Global Positioning Systems device has been mounted on the company vehicle they are driving and that the employee's movements are being tracked while on duty. See Grosenbacher 2016 <https://www.laborandemploymentlawcounsel.com/2016/01/the-legality-of-tracking-employees-by-gps/>.

¹¹⁵ Mswela and Slabbert 2013 *SAJBL* 25-27; and Mswela *Selection of Legal Issues* 1-283.

¹¹⁶ Mswela and Slabbert 2013 *SAJBL* 25-27; and Mswela *Selection of Legal Issues* 1-283.

African albinos suffer overt stigma and discrimination that results from a fundamental and recurrent misunderstanding and general ignorance of the condition.¹¹⁷ There is growing evidence of social discrimination and stigmatisation directed towards this segment of the population.¹¹⁸ Their appearance, a lack of knowledge about the condition itself, and how it is viewed in communities serve to perpetuate the stigma.¹¹⁹ For example, the etiological beliefs about albinism are influenced by culture and superstition rather than by genetics. A failure to respect the privacy of people with albinism in matters involving electronic monitoring could exacerbate the stigma faced by this vulnerable group of people. Using GPS technology could increase the stigma attached to albinism only if the GPS technology is associated with tracking technologies which are used by law enforcers in the criminal justice system. People might associate GPS Technology which is often used to protect prisoners, animals and retail products with persons with albinism. There is a potential of stigma with the use of locator devices when the users are marked as controlled, which may lead to social isolation or exclusion.

Nevertheless, authorities who support the use of such devices argue that the stigma does not emanate from the technology itself but from social constructions of the meaning of its use.¹²⁰ It is argued that electronic tagging is not inherently degrading or dehumanising but realistically that these associations arise from the circumstances of its use.¹²¹ In the context of electronic monitoring and dementia, some scholars argue that electronic tracking reduces stigma by preventing the experience of "being lost and half dressed on a motorway".¹²²

3 Conclusion

Although the use of location trackers could help persons with albinism, just like many other aids, location trackers have the potential stoking propelling controversy, in particular in relation to human rights and ethical concerns.

¹¹⁷ Mswela and Slabbert 2013 *SAJBL* 25-27; and Mswela *Selection of Legal Issues* 1-283.

¹¹⁸ Braathen *Albinism in Malawi* 11-14. Also see Hong, Zeeb and Repacholi 2006 *BMC Public Health* 4.

¹¹⁹ Cruz-Inigo *et al* 2011 *Dermatol Clin* 79-87. Also see Hong, Zeeb and Repacholi 2006 *BMC Public Health* 4.

¹²⁰ Hughes and Louw 2002 *BMJ* 847-848.

¹²¹ Hughes and Louw 2002 *BMJ* 847-848.

¹²² Hughes and Louw 2002 *BMJ* 847-848.

The article has argued that tracking technology should be used in a way which both protects and empowers persons with albinism.

A fundamental concern is balancing the rights of persons with albinism, in particular their right to privacy, with the possible benefits of GPS electronic monitoring in reducing the risk of their harm and conceivably improving their personal liberty. The use of GPS and other assistive tools ought to be assessed in terms of risk-benefit instead of simply on risk assessment. For instance, the benefits and risks of being able to walk independently need to be set against being restricted from moving freely. Electronic monitoring may perhaps be justified on the grounds that it gives the person freedom of movement. The use of a GPS device could reduce the subject's confinement and enables a person with albinism to walk independently. Locator devices that use the global positioning system could encourage safe walking by notifying those concerned when a person with albinism goes outside of designated area, by providing the geographic coordinates where that person is, so that the person can be located more easily. Further, the use of such a device might possibly enhance the subject's autonomy by decreasing family and societal concerns for the subject's safety and could decrease the amount of time needed to locate missing individuals with albinism and the costs related with search and rescue operations.

In the process of harmonising safety with liberty, it should be known that there are challenges connected with providing safety to people with albinism. Consideration should be given to aspects of social construction associated with albinism, more broadly the construction of people with albinism as vulnerable. It appears essential, at this point, for the libertarian flag to be kept flying, so that persons with albinism can have a better quality of life. This should not merely be good constitutional practice but conceivably in due course policy or legislation regarding the use of such devices should support their use to enhance security. In order for this to be achieved, guiding principles ought to be established in concurrence with experts in numerous related fields. A primary concern is the challenging - budgetary implications. The GPS technology has been seen as a cost-cutting measure in some countries as savings may arise from its use as a human support service. It is outside the scope of this preliminary reflection to suggest specific criteria, since an activity of this sort will undoubtedly necessitate a multidisciplinary commitment, which goes beyond a purely juridical perspective. For example, exploration of the cost-effectiveness and suitable type of global positioning locator devices is still needed. Instead, the objective of this article was rather to call attention to this concern in an

attempt to motivate the required multidisciplinary exploration of the problem.

Bibliography

Literature

Ashcroft-Simpson 1999 *Education & Ageing*

Ashcroft-Simpson S "Nurses and the Use of Restraints" 1990 *Education & Ageing* 75-83

Barfield *Fundamentals of Wearable Computers*

Barfield W *Fundamentals of Wearable Computers and Augmented Reality* (Taylor & Francis London 2016)

Basdeo 2009 *PELJ*

Basdeo V "The Constitutional Validity of Search and Seizure Powers in South African Criminal Procedure" 2009 *PELJ* 306-331

Braathen *Albinism in Malawi*

Braathen SH *Albinism in Malawi: A Qualitative Study on Attitudes and Beliefs* (Masters-thesis University of Oslo 2005)

Croome *Taxpayers' Rights*

Croome BJ *Taxpayers' Rights in South Africa* (Juta Claremont 2010)

Cruz-Inigo *et al* 2011 *Dermatol Clin*

Cruz-Inigo AE *et al* "Albinism in Africa: Stigma, Slaughter and Awareness Campaigns" 2011 *Dermatol Clin* 79-87

Currie and De Waal *Bill of Rights Handbook*

Currie I and De Waal J *The Bill of Rights Handbook* 6th ed (Juta Cape Town 2013)

DEA *National Strategy*

Department of Environmental Affairs *National Strategy for the Safety and Security for the Rhinoceros Population* (DEA Pretoria 2010)

Gray *How does GPS Work?*

Gray L *How does GPS Work?* (Gareth Stephens New York 2014)

Hong, Zeeb and Repacholi 2006 *BMC Public Health*

Hong ES, Zeeb H and Repacholi MH "Albinism in Africa as a Public Health Issue" 2006 *BMC Public Health* 1-7

Hughes and Louw 2002 *BMJ*

Hughes JC and Louw SJ "Electronic Tagging of People with Dementia who Wander - Ethical Considerations are Possibly more Important than Practical Benefits" 2002 *BMJ* 847-848

Joint Economic Congress *China's Economic Future*

Joint Economic Congress, Committee of the United States *China's Economic Future: Challenges to US Policy* (Sharpe New York 1997)

Kaplan and Hegarty *Understanding GPS*

Kaplan ED and Hegarty CJ *Understanding GPS: Principles and Applications* (Artech House Norwood 2006)

Kim *Transportation Engineering and Planning*

Kim JT *Transportation Engineering and Planning - Vol II: Encyclopedia of Life Support Systems* (EOLSS Publishers Oxford 2009)

McComb *et al Monitoring Animal Populations*

McComb BC *et al Monitoring Animal Populations and their Habitats: A Practitioner's Guide* (CRC Press Boca Raton 2010)

McQuoid-Mason "Privacy"

McQuoid-Mason D "Privacy" in Woolman S *et al* (eds) *Constitutional Law of South Africa* 2nd ed, 2011 rev (Juta Cape Town 2008) ch 38

Michael, McNamee and Michael "Emerging Ethics of Humancentric GPS Tracking"

Michael K, McNamee A and Michael MG "The Emerging Ethics of Humancentric GPS Tracking and Monitoring" in *IEEE Proceedings of the International Conference on Mobile Business* (Copenhagen 25-27 July 2006) 1-12

Milner *Pinpoint*

Milner G *Pinpoint: How GPS is Changing our World* (WW Norton London 2016)

Mswela *Selection of Legal Issues*

Mswela MM *A Selection of Legal Issues Relating to Persons Living with Albinism* (LLD-thesis UNISA 2016)

Mswela 2017 *AHRLJ*

Mswela MM "Violent Attacks against Persons with Albinism in South Africa: A Human Rights Perspective" 2017 *AHRLJ* 114-133

Mswela and Slabbert 2013 *SAJBL*

Mswela MM and Slabbert MN "Colour Discrimination among People with Albinism in South Africa" 2013 *SAJBL* 25-27

Neethling *et al Law of Delict*

Neethling J *et al Law of Delict* 6th ed (LexisNexis Durban 2010)

Nellis *et al Electronically Monitored Punishment*

Nellis M *et al Electronically Monitored Punishment: International and Critical Perspectives* (Routledge London 2013)

O'Neill 2003 *BMJ*

O'Neill DJ "Tagging should be Reserved for Babies, Convicted Criminals, and Animals" 2003 *BMJ* 281

Pace *et al Global Positioning System*

Pace S *et al The Global Positioning System: Assessing National Policies* (RAND Corporation Santa Monica 1994)

Punetha and Mehta "Protection of the Child/Elderly/Disabled/Pet"

Punetha D and Mehta V "Protection of the Child/Elderly/Disabled/Pet by Smart and Intelligent GSM and GPS Based Automatic Tracking and Alert System" in IEEE *International Conference on Advances in Computing, Communications and Informatics* (24-27 September 2014 New Delhi) 2349-2354

Ranjana "India: Carrier Liability for Passengers"

Ranjana K "India: Carrier Liability for Passengers" Presentation at the *International Conference on Contemporary Issues in Air Transport, Air Law and Regulation* (21-25 April 2008 New Delhi)

Saranya and JesuJayarini 2017 *IRJET*

Saranya S and JesuJayarini P "An Efficient Tracking Device for Alzheimer Patient Using MiWi" 2017 *IRJET* 3365-3371

Swanepoel 1997 *CILSA*

Swanepoel JP "Warrantless Search and Seizure in Criminal Procedure: A Constitutional Challenge" 1997 *CILSA* 340-363

Khafa *et al Advances in Intelligent Systems*

Khafa F *et al* (eds) *Advances in Intelligent Systems and Interactive Applications* (Springer New York 2018)

Wilson *Safe Kids, Safe Families*

Wilson S *Safe Kids, Safe Families: Strategies for Keeping your Family Safe at Home, at School and on the Internet* (Collins Toronto 2005)

Case law

Bernstein v Bester 1996 2 SA 751 (CC)

Magajane v Chairperson, North West Gambling Board 2006 5 SA 250 (CC)

United States v Jones 565 US 400 (2012)

United States v Katzin No 12-2548 (3d Cir 2013)

Legislation

Children's Act 38 of 2005

Constitution of the Republic of South Africa, 1996

Criminal Procedure Act 51 of 1977

Protection of Personal Information Act 4 of 2013

South African Police Service Act 68 of 1995

Internet sources

Africa Wildlife Tracking date unknown <http://www.awt.co.za/>

Africa Wildlife Tracking date unknown *Africa Wildlife Tracking* <http://www.awt.co.za/> accessed 10 February 2018

Anon 2012 <https://www.news24.com/SciTech/News/Cape-farmer-counts-sheep-with-GPS-20120711>

Anon 2012 *Cape Farmer Count Sheep with GPS* <https://www.news24.com/SciTech/News/Cape-farmer-counts-sheep-with-GPS-20120711> accessed 13 April 2018

Bertagna 2010 https://www.eetimes.com/document.asp?doc_id=1278363

Bertagna P 2010 *How does a GPS Tracking System Work?* https://www.eetimes.com/document.asp?doc_id=1278363 accessed 10 February 2018

Brite House date unknown https://www.britehouse.co.za/Community/CSI/Documents/Rhino_Tagging.pdf

Brite House date unknown *Rhino Tagging* https://www.britehouse.co.za/Community/CSI/Documents/Rhino_Tagging.pdf accessed 13 April 2018

CSJ News Reporters 2017 <http://csjnews.org/2017/04/10/malawi-bust-attacks-persons-albinism/>

CSJ News Reporters 2017 *Malawi Deploys GPS Trackers to bust Attacks on Persons with Albinism* <http://csjnews.org/2017/04/10/malawi-bust-attacks-persons-albinism/> accessed 14 February 2018

FindLaw 2014 https://caselaw.findlaw.com/us-3rd-circuit/1679462.html#footnote_1

FindLaw 2014 *United States v Katzin* https://caselaw.findlaw.com/us-3rd-circuit/1679462.html#footnote_1 accessed 9 March 2018

Grosenbacher 2016 <https://www.laborandemploymentlawcounsel.com/2016/01/the-legality-of-tracking-employees-by-gps/>

Grosenbacher K 2016 *The Legality of Tracking Employees by GPS* <https://www.laborandemploymentlawcounsel.com/2016/01/the-legality-of-tracking-employees-by-gps/> accessed 10 February 2018

Kemp 2013 <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices>

Kemp DS 2013 *The Warrant Requirement for GPS Tracking Devices* <https://verdict.justia.com/2013/11/04/warrant-requirement-gps-tracking-devices> accessed 14 February 2018

Meyer 2015 <https://www.theatlantic.com/technology/archive/2015/03/supreme-court-if-youre-being-gps-tracked-youre-being-searched/389114/>

Meyer R 2015 *US Supreme Court: GPS Trackers are a Form of Search and Seizure* <https://www.theatlantic.com/technology/archive/2015/03/supreme-court-if-youre-being-gps-tracked-youre-being-searched/389114/> accessed 13 April 2018

Patterson 2013 <https://edition.cnn.com/2013/08/31/us/kal-fight-007-anniversary/index.html>

Patterson T 2013 *The Downing of Flight 007: 30 Years Later, a Cold War Tragedy Still Seems Surreal* <https://edition.cnn.com/2013/08/31/us/kal-fight-007anniversary/index.html> accessed 5 February 2018

SALC Staff Writer 2018 <http://www.southernafricalitigationcentre.org/2018/03/23/a-call-for-an-end-and-a-holistic-response-to-attacks-on-persons-with-albinism-the-macdonald-masambuka-case/>

Southern African Litigation Centre Staff Writer 2018 *A Call for a Holistic Response to Attacks on Persons with Albinism: The Macdonald Masumbuka Case* <http://www.southernafricalitigationcentre.org/2018/03/23/a-call-for-an-end-and-a-holistic-response-to-attacks-on-persons-with-albinism-the-macdonald-masambuka-case/> accessed 7 February 2018

Thomas 2016 <https://trackimo.com/real-time-tracking-kids/>
 Thomas A 2016 *Monitor Children in School with GPS* <https://trackimo.com/real-time-tracking-kids/> accessed 4 April 2018

Tracking System Direct 2010 <https://www.tracking-system.com/for-consumers/gps-personal-tracking-system/315-gps-tracking-livestock.html>
 Tracking System Direct 2010 *GPS Tracking Livestock* <https://www.tracking-system.com/for-consumers/gps-personal-tracking-system/315-gps-tracking-livestock.html> accessed 6 April 2018

Ward, Philipson and Bingham 2013 <https://www.telegraph.co.uk/news/health/news/10029205/GPS-tags-for-dementia-patients.html>
 Ward V, Philipson A and Bingham J 2013 *GPS Tags for Dementia Patients* <https://www.telegraph.co.uk/news/health/news/10029205/GPS-tags-for-dementia-patients.html> accessed 13 April 2018

List of Abbreviations

AHRLJ	African Human Rights Law Journal
BMC Public Health	BioMed Central Public Health
BMJ	British Medical Journal
CILSA	Comparative and International Law Journal of Southern Africa
DEA	Department of Environmental Affairs
Dermatol Clin	Dermatologic Clinics
GSM	Global System for Mobile Communications
GPS	Global Positioning System
IRJET	International Research Journal of Engineering and Technology
PELJ	Potchefstroom Electronic Law Journal
POPI Act	Protection of Personal Information Act
SAJBL	South African Journal of Bioethics and Law
SALC	Southern Africa Litigation Centre
US	United States