An Investigation into Campus Safety and Security

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Abstract

In recent years South African universities have dominated headlines due to violent student protests, gender-based violence, and even murders. There is a growing need for these institutions to improve safety on campus not only for students but for staff and security personnel as well. This paper investigates the possible root causes of an unsafe campus environment. With the use of primary data, the paper proves the correlation between students' perceived level of safety on campus and aspects such as their gender, their knowledge of their institutions' operating procedures and emergency protocols, the type of access control system used by their university as well as their feelings towards authority. Using this data, recommendations for improving campus safety and security are made and a conceptual framework for enabling a proactive campus security environment is developed. The framework can be used as a tool for further studies into proactive campus security.

Keywords
Security, universities, systems, crime, safety

1. Introduction

Safety on most South African campuses seems increasingly elusive and unattainable. Despite the constitution providing everyone the right to be free from all forms of violence, in recent years, universities have been plagued with increasing levels of violence with minimal response from the Department of Higher Education (Lebitse, 2019).

Murder rates have increased during the past three years. South Africans have little faith in the police as well as the criminal justice system as a whole (StatsSA, 2018). The Global Corruption Barometer (GCB) Africa found that the South African Police Service (SAPS) is considered the most corrupt institution in the country (Manyathela, 2018). This indicates the levels of distrust that citizens have towards law enforcement. High levels of distrust lead to people taking the law into their own hands or rebelling. This was evident in some recent student murder cases. In one incident, when a student was accused of killing his roommate, other students decided to take the law into their own hands and severely assault the accused.

Poverty and inequality are major contributors to high crime rates in developing countries. South Africa is known as one of the most unequal countries in the world. According to the Palma ratio, the top 10% of the population spent 8.6 times more than the bottom 40% in 2006; this ratio reduced to 7.9 in 2015 (StatsSA, 2016). According to the Living Conditions Survey 2014/15, there were 35.1 million adults (aged 18 years and older) in South Africa in 2015 and 49.2% of these people were living below the poverty line (StatsSA, 2019). These large gaps between rich and poor citizens of the same country allow for a crime culture to fester. This crime culture trickles down from a national level to various institutions within the state, including universities.

In recent years, universities have experienced some of the largest protests in decades. This slew of protests started in October 2015 with the #FeesMustFall movement. This movement began as a response to the government's

proposal to substantially increase tuition in tertiary institutions. Although the intention may have been for students to carry out peaceful demonstrations, this quickly turned violent with buildings set on fire, petrol bombs, and violent exchanges with private security as well as the South African Police Service (Glum, 2016). Right before the start of the 2019 academic year, the South African Union of Students (SAUS) called for a national shutdown of university campuses. The shutdown announced on 7 February 2019; was called in response to issues of historic debt, financial exclusion, problems around National Student Financial Aid Scheme (NSFAS) funding and allowances, and accommodation issues (Knight, 2019). Unfortunately, as the academic year commenced, tensions grew higher. This led to a slew of arrests and even resulted in the death of one student as he was allegedly killed by private security personnel hired by the university. Students have repeatedly demanded that private security is removed from campuses, and after the death of a student at the alleged hands of private security, these calls grew louder (Knight, 2019).

South Africa has a notably high crime rate (Businesstech, 2018). Therefore, the trickle-down effect on universities is not surprising. One of the leading contributors to the country's high crime rate is gender-based violence. Gender-based violence can be physical, sexual, emotional, financial, or structural, and can be perpetrated by intimate partners, acquaintances, strangers, and institutions (World Health Organization, 2005). For this article, the focus will be on physical and sexual acts of violence as these are the most commonly reported and documented than the rest. In April 2016, a 'reference list' naming alleged rapists at Rhodes University, widely referred to as the #RUReferenceList (Charles, 2016), was published on social media. This was a catalyst for protests across the country as students from other universities called for an end to the institutionalized "rape culture" at universities. Students felt that university policies allowed perpetrators to get away with an insignificant punishment and did not provide adequate support for rape survivors.

As tensions have risen on campus, the question has arisen: Who is responsible for ensuring safety and security at tertiary institutions? The government or the universities themselves? The Minister of Higher Education and Training, Naledi Pandor, stated that violence committed by security officers, police and student protesters is of key concern to the Department of Higher Education and Training. In a press statement, she announced that R10-million will be used to conduct an audit on security infrastructure and healthcare facilities at higher learning institutions (Knight, 2019). The audit will be conducted in co-operation with students and management from universities and TVET colleges.

This paper investigates all the factors that contribute to an unsafe campus environment and looks for ways in which to eliminate or minimize these factors. The focus will be on how universities can implement a systematic approach to safety and security improvements to ensure the safety of all stakeholders in the university. Ideally, there should be a baseline of minimal security requirements and social programs implemented by all universities. These security requirements include infrastructure, equipment, technology, the skilled level of security personnel, the standardization of security measures as well as the levels of communication of security personnel at different areas of the various institutions.

Strategies used to enhance safety and security should be preventative and not reactive. The paper will investigate how universities can be proactive when it comes to security. The result should benefit not only the students but ultimately the university as well. The following section details review from various studies, section 3 gives the approach used, section 4 presents the findings, section 5 discusses the outcomes and section 6 concludes.

2. Literature Review

Research into the field of safety and security at universities is sporadic and in some cases oversimplified. This literature reviews safety and security at universities, behaviors that lead to criminal activities, and behaviors that can deter criminal activity. Due to the nature of this paper, cybersecurity will not be explored.

An article published by Campus Life Security states that the key to improving safety and security on university campuses is to have a digital floor plan (Hugman, 2017). A digital floor plan in a security scenario is one that can be used to cover three key aspects of campus security. The first being to consistently capture all details of the security system in one place (Hugman, 2017). This would enable security teams to track and update camera positions, as well as tracking which access control points and doors are in use. Secondly, the system can be used to collaborate with administrators, educators, and public safety authorities (Hugman, 2017). This would be useful during student protests when campus security must collaborate with both private security and the South African Police Service. Using a digital floor plan would allow all parties to gain a clear view of the layout more quickly and identify potential risk areas. The third and final key aspect of campus security addressed by a digital floor plan is asset life cycle management. The team will have better visibility into system life expectancy, depreciation, and replacement costs before they become a surprise expense for the university (Hugman, 2017). Security systems

are only as good as they are up-to-date and operating to specification. The failure of a security camera in the case of an incident can be of serious consequence. A digital floor plan puts everyone on the team on the same page and ensures that systems are used efficiently and effectively.

An article published by Nation Wide Security Corporation explores ways to keep students safe using security systems. One of these systems is an emergency communication pedestal. Emergency communication pedestals can include all types of enclosures, intercoms, and lights that would allow students to push a button to get the help they need (Nationwide Security Corporation, 2019). These special pedestals can be installed all over campus, giving students a way to contact emergency services immediately. This would help students feel safer as well as deter possible criminal activity as the response time would be significantly quick. Warning lights and sirens on the systems could also be used to trigger evacuations in cases of fires, shootings, bomb threats, or any other unexpected material risk.

When most people think about campus security, the first thing that comes to mind is access control. An article, by Genetec (2020), focuses particularly on improving access control through three mechanisms. Namely; automating door schedules to secure campuses, simplifying the management of cardholder permissions, and achieving better visibility with a unified security view (Genetec, 2020). This can be achieved by setting building and classroom doors to automatically lock or unlock based on a school's schedule. These settings would apply to internal access control, once people have been allowed access to the campus from the main entry points. Only when permitted, students and staff can access locked buildings or rooms. This will allow operators (trained security personnel) to remain focused on other important tasks. If there is a breach or a door is left open, the access control system will alert them so they can quickly respond. Security departments can then set up system rules such as 'if the student is in this class/program, give them access to this cardholder group'. At the beginning of each semester, students automatically receive the right access privileges. A school can set a multitude of different cardholder groups. Each group can have specific building access rules, and each building can be associated with many groups (Genetec, 2020). These rules can depend on criteria like whether the cardholder is a student or faculty member, or when and where they need to go within the building for lectures, etc. Lastly, it is imperative that all the systems used for security, at all different points, can be integrated to give a full view of the system. Operators should be able to monitor video surveillance, access control, automatic license plate recognition systems, and police radios with built-in GPS all from a map of the campus. It is important to recognize that technological and physical security solutions will not, on their own, solve campus safety and security. It is important to address the underlying reasons for perpetrating the crimes.

An investigation conducted at the University of Zululand explores the contributing factors to crimes committed in South African Universities as well as the impact of these crimes. One of the major factors that embolden perpetrators is the "under-reporting of crimes" (Makhaye, 2017). Under-reporting leads to a distorted picture of crime on campus. When crimes are reported, the details of the crimes can be recorded and the data can help to determine crime hotspots, peak crime periods, and whether or not more security is needed. However, the under-reporting of crime leads to incorrect assumptions which reduce efficiencies of the security system. Therefore, it's important to encourage victims to report all incidents. This can be done by ensuring the process of reporting incidents is simple and fair. It is also the responsibility of the institution to ensure that all students and staff know where to go to report incidents and how their reports will be handled. Under-reporting is especially prevalent in cases of gender-based violence (GBV).

Gender-based violence is prevalent in South African universities. Despite being one of the most common forms of human rights violations in the country, gender-based violence has not attracted as much research interest as other forms of abuse of human rights. The result is that there is a poor understanding of, and insight into this phenomenon which, in turn, constrain efforts to develop effective interventions to eliminate gender-based violence (Davids, 2020). The causal factors of GBV are complex and intricate, but they are often locked in deep social and patriarchal constructs. A study conducted for an article, on gender-based violence, found that most universities have focused on the passive approach of developing policies to address sexual harassment (a precursor to GBV) (Davids, 2020). This is problematic as institutions should actively try to prevent GBV from happening instead of only focusing on policies and procedures to follow once the crime has been reported.

During the height of the #FeesMustFall movement, the director of protection services at Nelson Mandela University (NMU) was tasked with investigating how security was managed and would continue to be managed, at universities and other educational institutions, with demands being made about in-sourcing and unionizing their security forces (Bosch, 2020). The investigation found that companies appointed from outside institutions were

not properly performing such basic roles as incident reports and follow-up investigations. From this revelation and other findings from the investigation, the following deductions can be made:

1. Institutions must have core security teams that should be insourced. These security teams can then be supported by a contract workforce as continue as it creates employment opportunities and it brings in personnel with specialized skills. However, the management of this contract workforce and its success within the given scope is highly dependent on the terms of the contract and operational management of the said contract.

2. Technology plays an increasingly important role in security. However, the best and most appropriate technology should be slowly put in place over a 3 to a 5-year period (Bosch, 2020). This would give institutions enough time to upskill security teams and train them to understand what the actual objectives are.

A report reflecting on current problems and practices in system security distinguishes between reactive and proactive security. Reactive security deals with vulnerabilities as they are being exploited while proactive security means to make vulnerabilities un-exploitable by removing them from a system entirely (Huth & Nielson, 2019). An optimal security system would use proactive security as the first line of defense and have reactive security systems to support this. There are three parts to achieving the desired level of security (Perry, 2010), first is the vulnerability assessment, which is identifying any excesses or deficiencies that may be present in the system. Ideally, this should be completed by a security professional. The second is cost/benefit analysis to determine if the recommendations are affordable, feasible, and practical. The third is the test of a system, which ensures that everything is working properly, to determine if changes need to be made to achieve the desired level of security.

Standardization is defined as an activity that gives rise to solutions for repetitive application to problems in various disciplines (Akyar, 2012). An article from the Latest Research into Quality Control journal analyses the importance of Standard Operating Procedures for standardization. Although this article was written in the context of production processes, the principles could still apply to security processes. Standard Operating Procedure (SOP) is a process document that describes in detail the way that an operator should perform a given operation. SOPs are essential for standardization, as they will ensure the quality of processes regardless of the operator performing the task (e.g., before granting someone access to campus they must provide security with X. If they do not have X, they must follow a secondary process to obtain X). For standardization to apply in this context there can be no deviations.

SOPs typically have operational and technical content and can be written for emergency response interventions to coordinate different disciplines (e.g. campus security, South African Police Services, private security teams) during an emergency. They must be comprehensive. This means that they must have enough meaning to fully explain a job. Generally, SOPs are written by one person and revised by one or more people, the final form is given by a person (Bodur, 2018). Ideally, it should be written as a team.

Over and above having SOP's for daily security tasks, security teams must have SOPs for unexpected events. Some organizations have SOPs in place, but nobody uses them. In such situations, it is often because standards are out of date and have lost their realities, so people know that it is not right to use them (Dew, 2008). SOPs have an important place in the disaster and emergency management system, especially when they're written with input from the people that will carry out the tasks, complete, updated, and easy to understand. SOPs are written before an unexpected event is essential in risk or disaster management.

In the United States, the preparedness of universities to deal with gun violence and other emergencies were highlighted by the Virginia Tech massacre in April 2007 and also by the subsequent shootings on the Delaware State University, Louisiana Technical College, and Northern Illinois University campuses (Calitz, et al., 2020). After these shootings, the United States university campus climate showed a sudden shift. Instead of asking about class size and campus social life, prospective students and especially parents asked questions about emergency notification systems and lockdown procedures (Calitz, et al., 2020).

The United States faces a unique school mass shooting problem that South African universities have not yet had to face. The main concern in South African universities, as of late, has been protest action turning violent. An article published by North-western University hypothesizes that the risk of violence at protests can be estimated as a function of individual moralization and perceived moral convergence (Mooijman & Hoover, 2020). Behavioral experiments showed that people are more likely to endorse violent protest for a given issue when they

moralize the issue. Moralizing, in this context, can be described as one seeing their point of view on an issue as moral and any other point of view as immoral. This suggests that the key to de-escalating protests may lie in increasing and diversifying people's social networks. This would allow people with different views to socialize and form positive relationships with people who think differently than them.

In South Africa, the #FeesMustFall violence showcased how unprepared university security was to handle such an uprising and the accompanying destruction of university property, stoning of vehicles, and petrol bombs used in clashes with police and private security hired to assist university security (Chutel, 2016). Therefore, it has become more important for universities to upgrade their security systems, as well as to plan for unexpected events.

In the context of ensuring a quality life in university campuses, risk management (mentioned previously) is just one component of security management. Security management represents the systematic implementation of policies, procedures, and practices related to the management of communication, consultation, context establishing, as well as evaluation, handling, monitoring, and re-evaluation of security. With this in mind, it is important to establish what the basic requirements of a university security system are. An article published by the University of Sibu in Romania identifies some basic requirements of a security system in a university (Oprean, et al., 2017). Interested readers can refer to the article.

From the study of Oprean et al (2017), it is clear to see the importance of administrative controls are just as important as technological and physical controls for an effective security system. Notably, what is absent from the requirements of Oprean et al (2017) are controls to make the university culture feel like a safe space in the minds of students, staff, and security personnel alike. This culture can be developed through co-production.

Co-production is a practice in the delivery of public services in which citizens are involved in the creation of public policies and services (Meijer, 2011). It is contrasted with a transaction-based method of service delivery in which citizens consume public services that are conceived of and provided by governments. In a university context, public service deliverers can be seen as the universities themselves and citizens can be seen as the staff and students. Co-production has been lauded for its potential to better understand, prevent and address public problems; to increase the efficiency and effectiveness of public services (Meijer, 2011). A case study, conducted at the University of Georgia (UGA), on coproduction examines the co-production of students and campus security teams in the context of campus safety and security (Williams, et al., 2015). Findings suggest the following:

- Undergraduate students see themselves as young, maturing adults (Williams, et al., 2015). Inherent in this perception was an understanding that as young, maturing adults, mistakes and youthful indiscretions should be expected and not harshly punished with enforcement actions.

- Many students have a negative view of campus security personnel (Williams, et al., 2015). Interestingly this reflects a theme common in South Africa, of the public mistrusting policing authorities.

- The perception of an 'us versus them' scenario between undergraduate students and UGA security personnel. This theme was supported by the subthemes of lack of engagement with the other (students and security), student peer pressure, anti-snitching (tattle-telling or ratting out) sentiments of students, and fear of targeted enforcement actions (Williams, et al., 2015).

Ideally, institutions want all their stakeholders (students, staff, security, etc) to buy into the vision and mission of the said institution. Getting people to want to do the right thing is the goal. This notion falls under human prosociality. Prosociality refers to behaviors that are intended to benefit others. Prosocial behaviors can come in various forms. These include informing, comforting, sharing, and helping (Jensen, 2016). There are many other forms of prosocial behavior, even harming others can be prosocial (e.g. by punishing people who do not contribute positively to a group, co-operators can benefit). It is also the institutions' responsibility to promote prosocial behavior and this can be done through leading by example.

3. Methods
In the literature, probable root causes of an unsafe campus environment are identified. The correlation (or lack thereof) between these probable causes and students' perceived levels of safety will be investigated through an online questionnaire. The responses will then be analyzed using the Microsoft excel platform.

Data Collection

Primary data was collected using an online questionnaire. The questionnaire was posted online, and respondents were then directed to take the questionnaire using a link. 122 South African University students and recent graduates responded to the questionnaire. The questionnaire consisted of ten (mostly polar) questions designed to identify any positive or negative relationships between five categories and students' varying levels of safety on campus. The five categories were: gender, the type/s of access control used on campus, student protests, their feelings towards authority figures on campus, and their knowledge of campus procedures for reporting crimes and in case of emergencies. All 122 respondents completed the questionnaire.

To strengthen the reliability of the data, the link prevented participants from resubmitting responses once they completed the questionnaire. Diverse groups of students from many different universities were asked to participate in this survey to strengthen the validity of the research.

4. Findings and analysis

77% of the respondents were female, 22% were male, while 1% identified as other. Of the 10 questions asked on the survey two had a largely negative response. Interestingly, both of these questions were under the same category; security procedures. 72% of respondents indicated that their universities did not conduct emergency preparedness drills (figure 1) and 75% of respondents indicated that they did not know the channels to go through if they wanted to report a crime on campus (figure 2). 33% of respondents indicated that they felt unsafe while they were on campus. For this article, this group of respondents who felt unsafe will be referred to as group A while the other 67% will be referred to as group B. Only 10% of group A is male. More than 82% of this group have felt threatened by the South African Police Service. Analysis of the survey also shows that the type of access control system used has an impact on how safe students feel with the highest percentage of respondents feeling safe being attributed to a biometric access control system (figure 3).
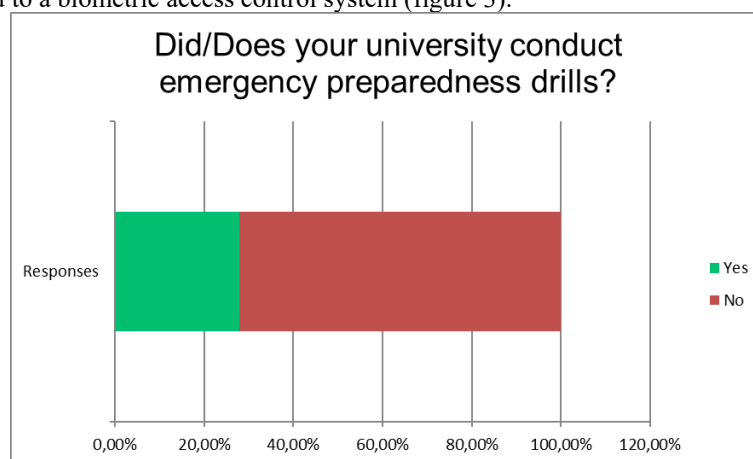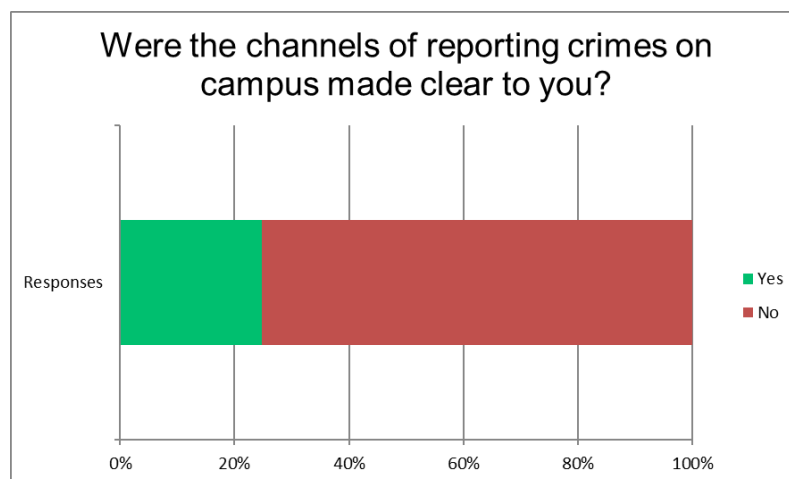

Figure 1: Question 7 responses
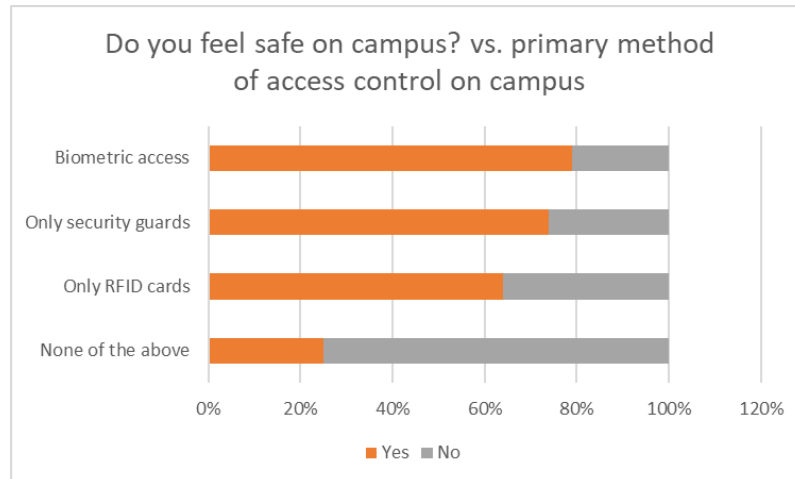

Figure 2: Question 8 Responses

Figure 3: Varying levels of safety compared against methods of access control

5. Discussion and Recommendations

From the data two main points can be made. The first being that many students are unaware of the standard procedures set out by their universities for the reporting of crimes as well as for emergencies. This uncertainty could be a direct contributor to the underreporting of crime as discussed in the literature. The second point is that the more access control systems used in a school, the safer students feel. At the heart of both of these aspects is the sharing of information.

Security is enhanced by the sharing of information. This could be the sharing of information from institutions to students, (e.g. emergency protocols), students to institutions (e.g. students reporting crimes), or students to security personnel (e.g. when students present their identification). Therefore, institutions need to ask themselves the following questions: Which information system is used on campus? How is information shared? How do we validate the information being shared?

It would be beneficial to take a systematic approach to campus security to improve campus security. A systematic approach is one that recognizes the interdependence of different sectors of security and acknowledges that isolated improvements alone will not improve safety on campus, however, all sectors of security must be improved for significant improvements to be made. The first key area for improving campus security should be establishing standard operating procedures for daily, routine as well as unexpected tasks. Procedures must have a standard to provide a baseline for how things should be done and then measure performance against that standard. Security personnel should be utilized in a way that will ensure that they are consistently applying their skills and knowledge for their tasks, instead of using them for menial tasks. Additionally, it would be beneficial for campuses to get feedback from students and security personnel during this process. Coproduction, as discussed in the literature, is a great method for ensuring that all parties have an input in systems and procedures that will affect them.

The data suggests that a lack of knowledge or sharing of information leads to reduced feelings of safety. Therefore, the second key area for improving campus security should be information sharing. Once standard operating procedures have been established for emergency protocols and reporting of crimes etc. these procedures must be actively shared with students. The active sharing of information, in this case, would include contacting students directly whether through emails or targeted campaigns to inform them of these procedures instead of just making the information accessible and relying on students to seek it out. An important information transaction also occurs at access control points. Technology can be used to make this transaction accurate, fast, and easy to perform.

The preceding key areas (establishing standard operating procedures and controlling the sharing of information) can be controlled entirely by the institution. The following improvement areas are those which can be influenced by the institution but not entirely controlled by it. These are all the external factors that lead to crime culture on campuses such as student protests, poverty, and gender-based violence. Situations such as these are best dealt with on a case-by-case basis. However, institutions can mitigate the impact of these in the following ways.
Student protests should not be seen as a negative issue. Often times protests are a catalyst for a mutually beneficial change. The problem is when these protests turn violent. Institutions could influence this by engaging with students as early as possible and keeping them informed throughout the decision-making process. Security

personnel, both internal and external, should be kept informed and should be present in all negotiations between students and faculty. The impact of poverty on-campus crime culture can be lessened by providing free meals on campus, negotiating free access to eBooks for students where it is possible, setting up temporary workshops to help students with NSFAS (National Student Financial Aid Scheme) applications, and encouraging students to seek out help such as student counseling. Finally, the impact of gender-based violence can be influenced by having a zero-tolerance policy for students and staff who break the code of conduct with regards to sexual harassment and other gender-based crimes. The data showed that a larger ratio of women felt unsafe on campus than men, therefore, it is important to engage directly with male staff and students to raise awareness on this issue.

A conceptual framework (figure 4) was drawn up to summarize the main points of the investigation. This framework maps out factors that universities must consider to implement proactive campus security. The participants are the universities themselves (including lecturers and security personnel), the government, and students. These three groups control factors that contribute to campus security. Universities must make means to mitigate the impact of the factors that they cannot control to achieve proactive campus security. This will then have a direct impact on universities as well as students.
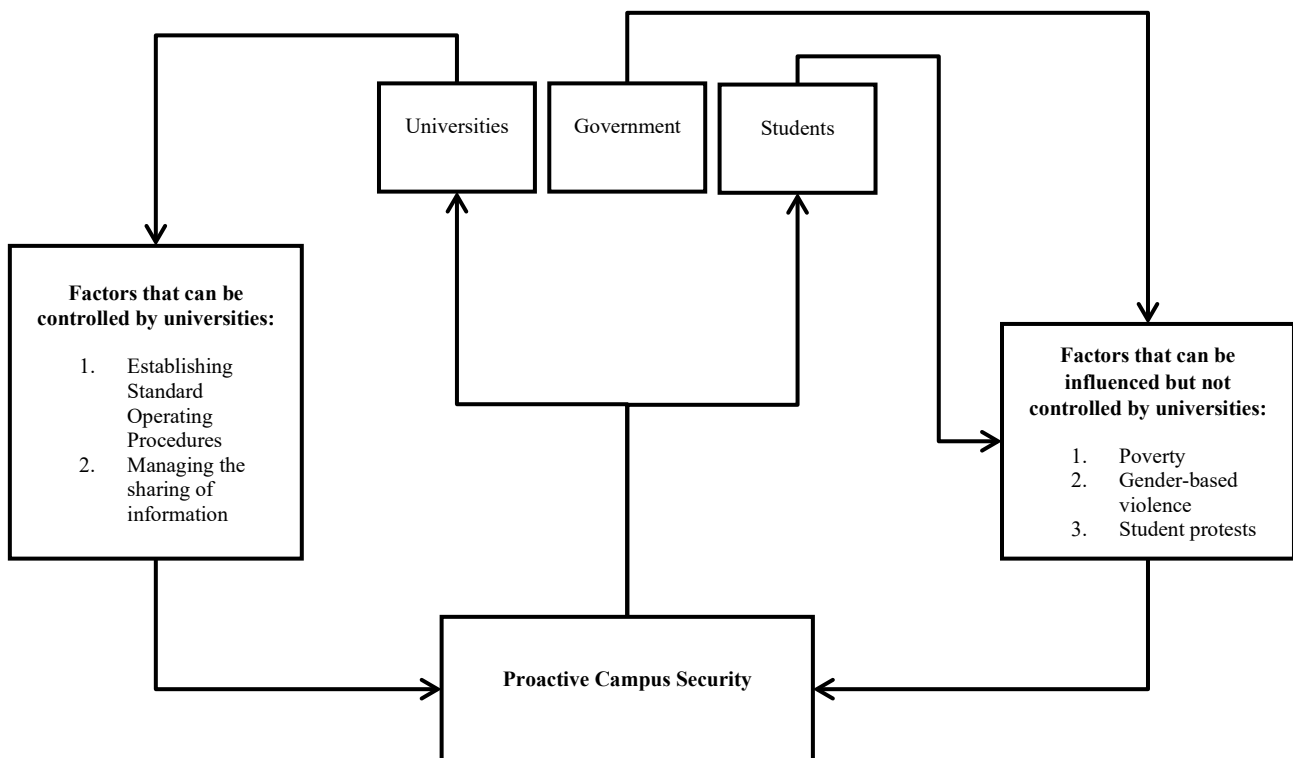

Figure 4: Conceptual Framework for Proactive Campus Security

6. Conclusion

A one-size-fits-all approach to designing a security system cannot be applied due to many external factors that influence campus security such as the location of the campus, demographics of attendees, and the budgets of different universities. Instead, this paper provides a framework for how universities and colleges can go about improving campus security. Using primary data from students and recent graduates from a variety of South African tertiary institutions, the paper was able to prove correlations between students' perceived level of safety on campus and a variety of causes.

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