

2nd place

Shané Swanepoel



Modelling for the causal analysis, prediction and control of gender-based violence in a relationship

Can the chain of gender-based violence (GBV) be broken?

GBV is not only a socio-economic problem, but is in fact a **COMPLEX SYSTEM** and should be viewed as any other complex system. The *complex dynamics in social differences and the interconnected relationships between gender and other factors* should be appreciated.



One woman is killed
EVERY 3 HOURS
in South Africa

38% OF WOMEN
worldwide are *murdered*
by a *known* male partner

**SOUTH AFRICA
HAS THE HIGHEST
RATES OF GBV
IN THE WORLD**

What is GBV?

GBV is a term used to describe the *violence against a person due to their gender*. All gender groups can be victims of GBV.

GBV originates from **GENDER ROLES** and **GENDER INEQUALITIES** in different societies.

Why is GBV a problem?

In the past 12 months approximately **70% OF ALL SEXUAL OFFENCES** in South Africa were committed against women.

The *rate of femicide* in South Africa is **5 TIMES HIGHER** than the *global average*.

No GBV prevention strategies are currently or have been completely successful in the past.

Violence is one of the main *causes of death* globally. This violence does not only impact its victims directly, but it can have an indirect impact on family members, friends, or even the community.

250 MILLION
women and girls suffer
from *intimate partner
violence* every
year



Project aim

- To identify the **root causes** of GBV.
- To identify any recurring and emerging **patterns** of GBV.
- To **predict** future GBV behaviour.
- To determine if and how GBV can be **controlled**.

Systems Dynamics

Systems dynamics is used to enhance the understanding of the working of complex systems.

IE Techniques

Systems Thinking
Systems thinking is used to understand specific problems from a holistic point of view and considers all the relationships that exist in a system.

Forecasting

Forecasting is used to predict future system behaviour based on historic data.

Approach

- Define** - The problem and the system objectives were identified by investigating the GBV environment in articles and statistical sources.
- Research** - Research about GBV and its root causes, systems thinking and system dynamics was conducted. Different analysis techniques were identified.
- Analyse** - The behaviour of GBV over time was analysed with behaviour-over-time graphs, multiple cause diagrams and system archetypes. Key leverage points were identified. Future system behaviour was forecasted.
- Develop** - Possible GBV intervention strategies were developed.
- Validate** - The research approach and systems analysis were validated.

Solution and validation

From the analysis, **six intervention** and **nine prevention strategies**, were identified and developed to *try and break the current chain of GBV in South Africa*. These strategies provide a better understanding of the areas within the GBV system where corrective measures could be implemented and could cause decreased GBV rates.



Root Cause
Analysis

Behavioural
Pattern Analysis

Forecasting

Shané Swanepoel | u17003556 | 2020



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA