# Modeling Dynamics of Intimate Partner Violence in South Africa

**Sara Peterson |** University at Buffalo

# 2012

Bryn Lennon, 2012

EXIT
2016
Siphiwe Sibeko, 2016

in South Africa, three woman are killed by an intimate partner **every day**

# Intimate Partner Violence (IPV)

*“any behavior within an intimate relationship that causes physical, psychological or sexual harm to those in the relationship”*

**-WHO, 2012**

# Intimate Partner Violence (IPV)

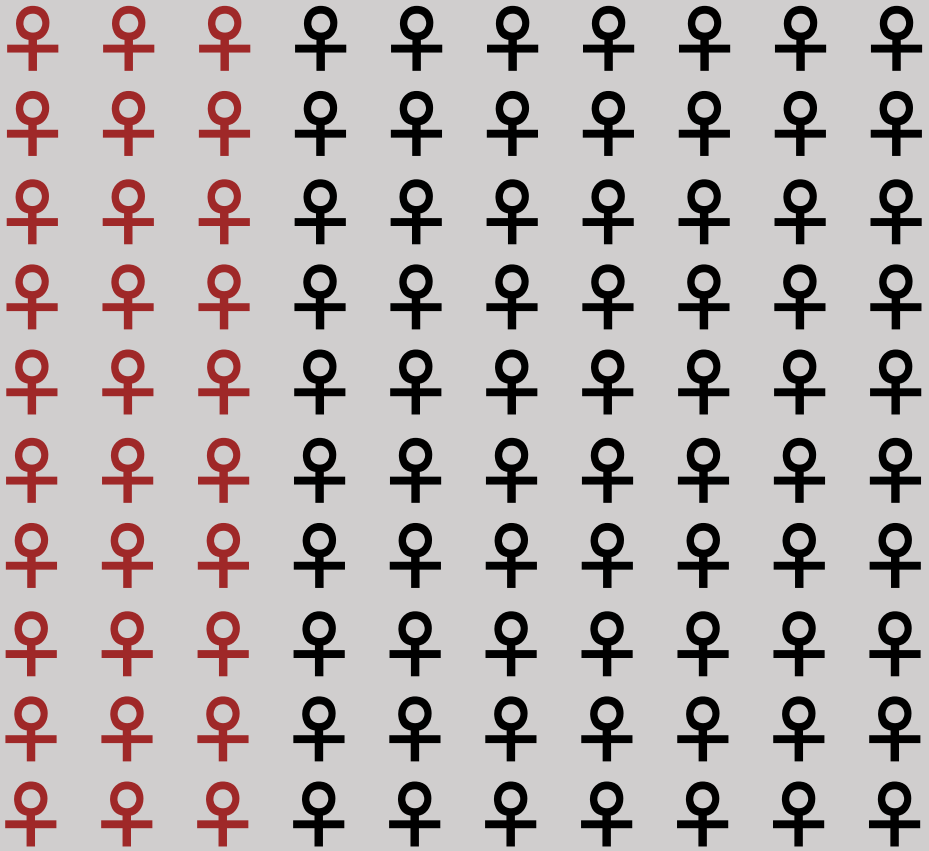
- Physical violence
- Sexual violence
- Emotional (psychological) abuse
- Controlling behaviors

# IPV is a GLOBAL PHENOMENON

- All nationalities
- All cultures
- All religions
- All socioeconomic statuses

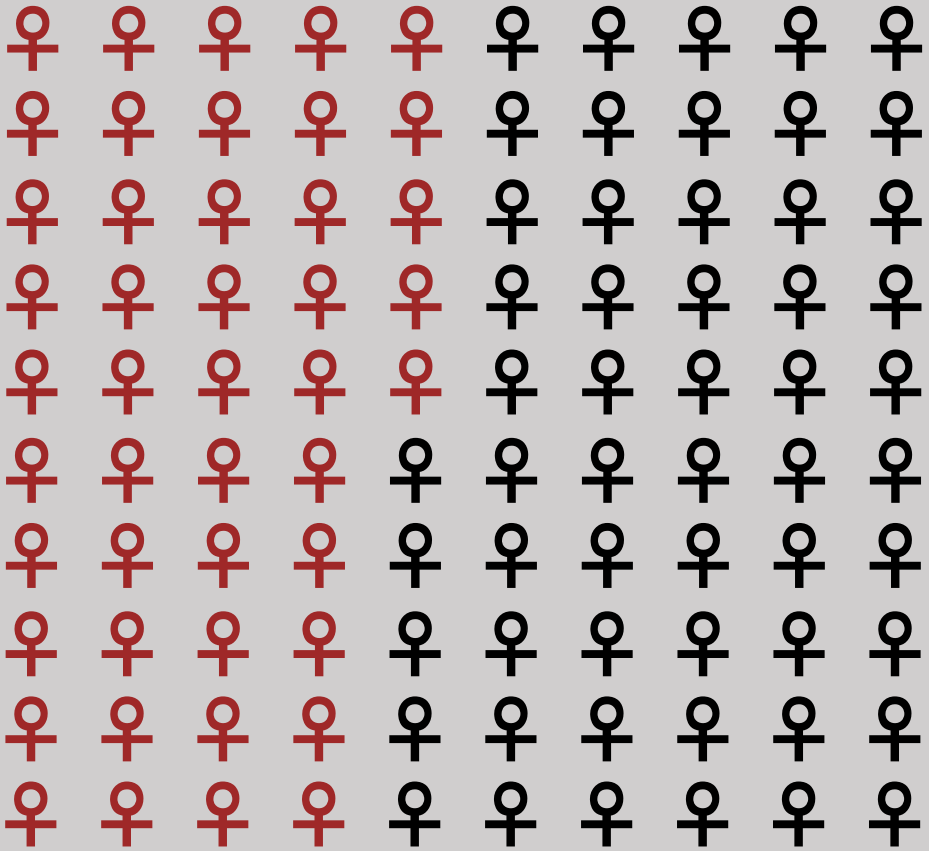
# Worldwide

# 30%



# South Africa

**45%**



# IPV in South Africa | Consequences

- **Serious health outcomes**
  - Mental health outcomes
  - Physical health outcomes
  - Linked to South Africa's HIV / AIDS epidemic
- **Persistence despite legislative efforts**
  - Despite Domestic Violence Act, rates of IPV have remained stable and high

(Jewkes et. al., 2010)
(Morei, 2014)

# Theoretical Frameworks of IPV in South Africa

Historical theoretical divide

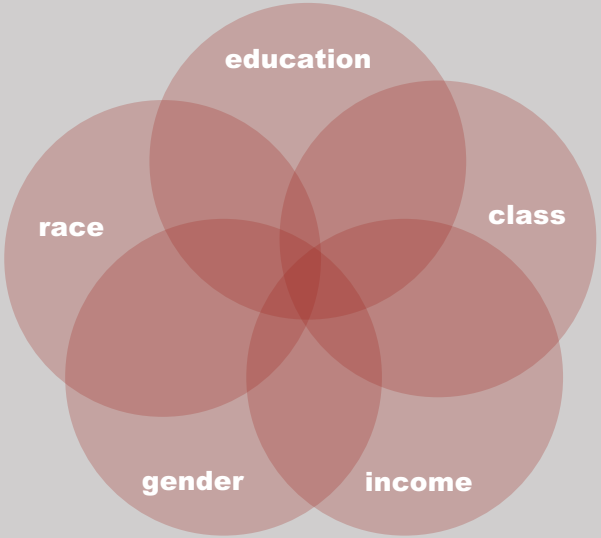
**FEMINIST THEORIES**

- Broad structural factors
- *Apartheid; gender inequalities*

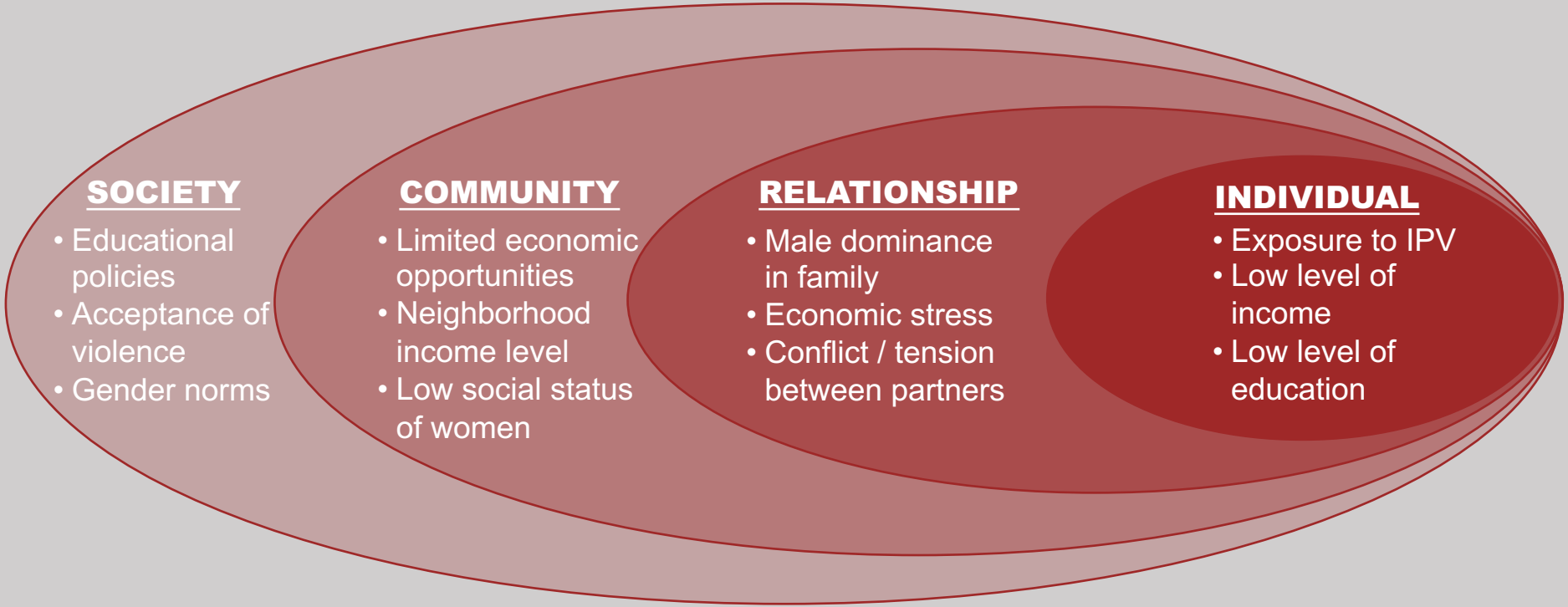
**FAMILY VIOLENCE THEORIES**

- Immediate surrounding environment
- *Learned social behaviors; scarcity of resources*

Contemporary emphasis on **intersectionality**

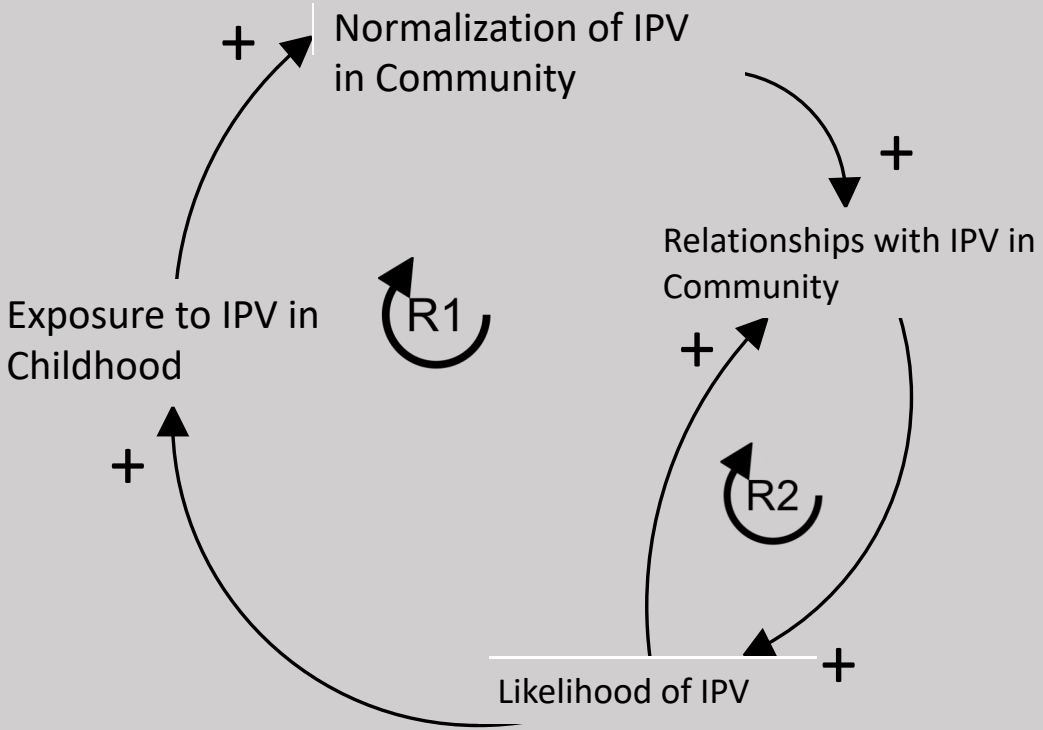


# Social Ecological Model of IPV in South Africa

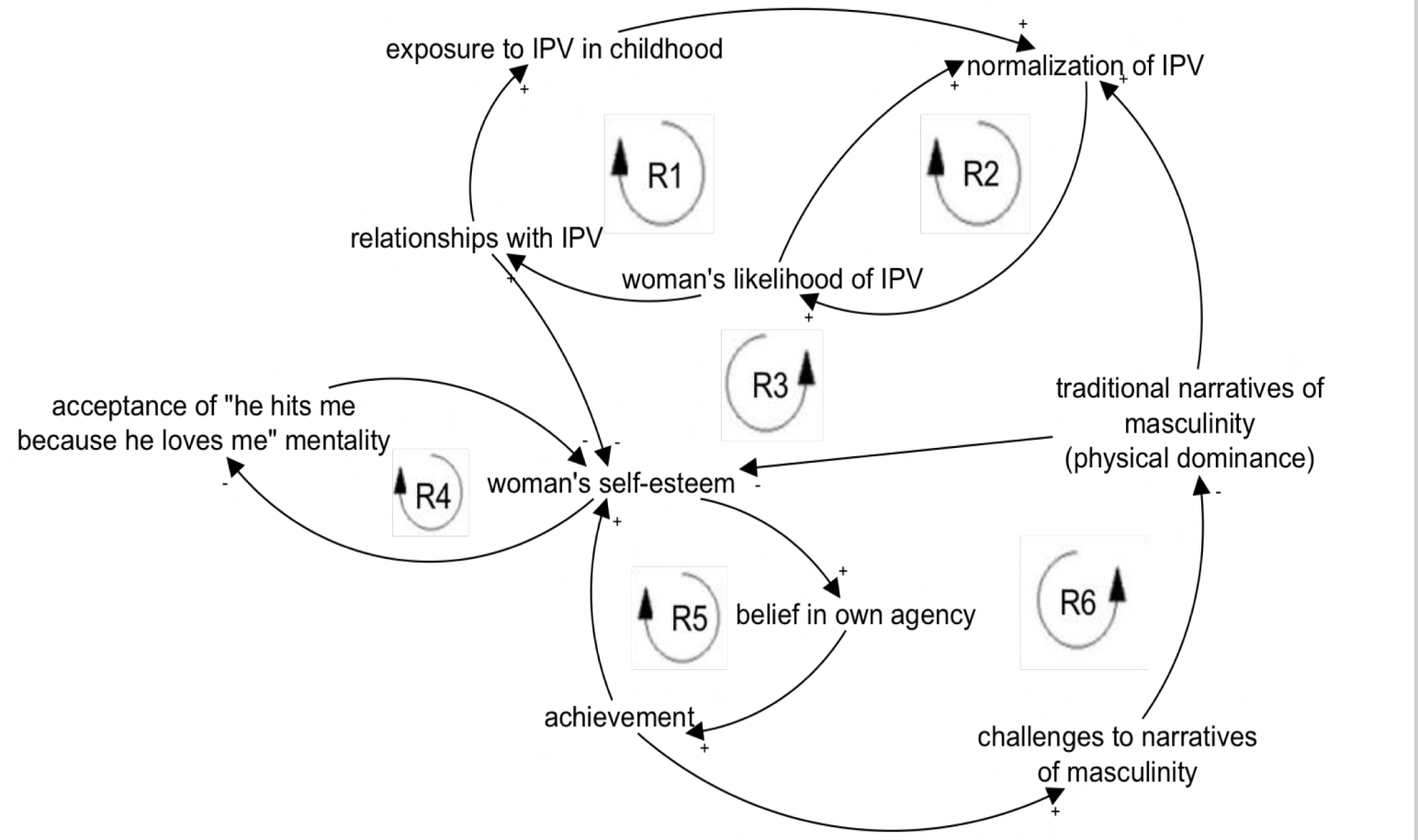



**SEM offers combinatorial complexity without dynamic complexity → systems approaches are well suited for systemic problem!**

# Systems Approaches to IPV | Simple CLD

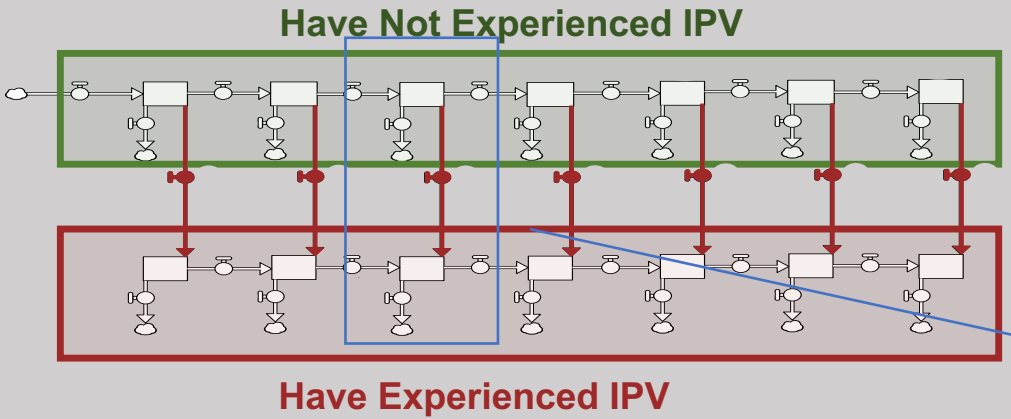


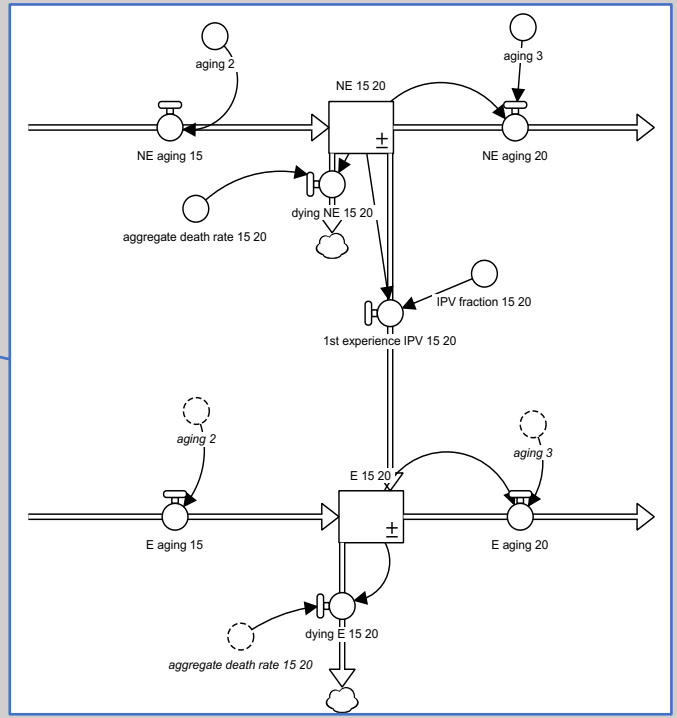
# Systems Approaches to IPV | CLD



# Systems Approaches | Modeling Exposure to IPV

## Aging Chain Model of South African Population

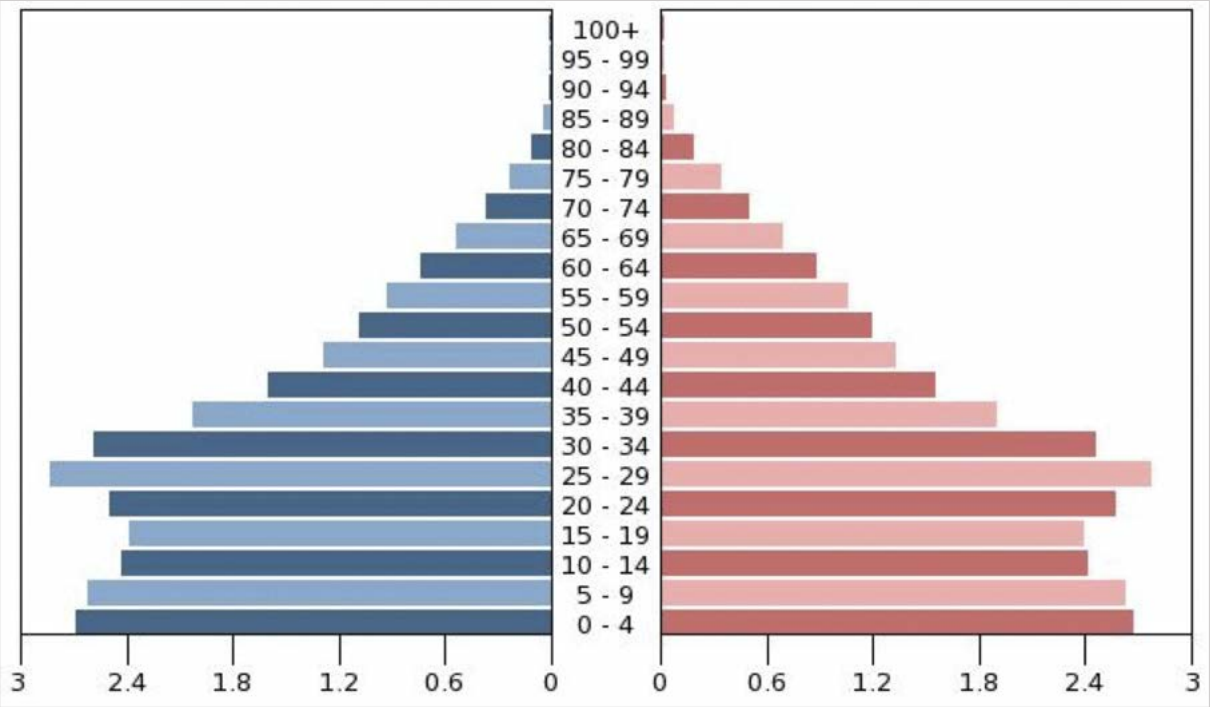



Detail of Single Age Cohort

# Assumptions of Model | Population

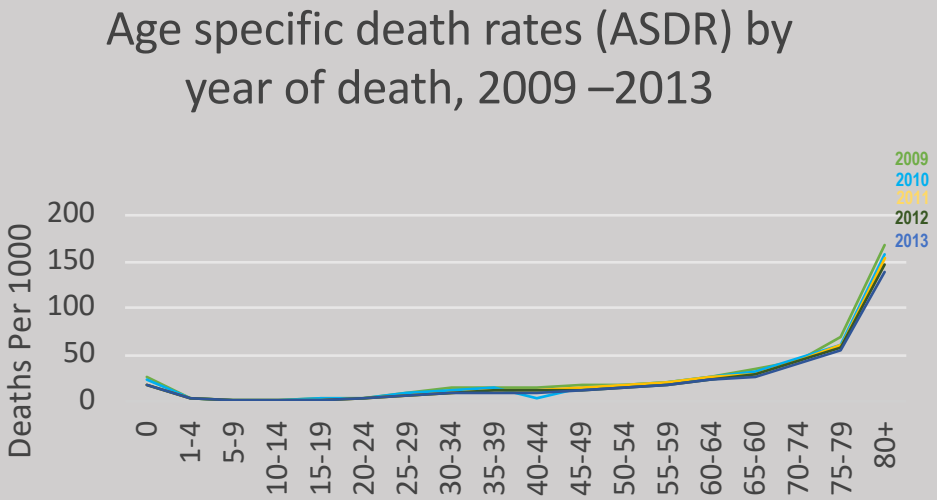
- Sample population based on demographics of South African population (female)
  - Disaggregated age groups:
    **0-9**
    **10-14**
    **15-19**
    **20-24**
    **25-29**
    **30-49**
    **50+**




**South African Population Pyramid**

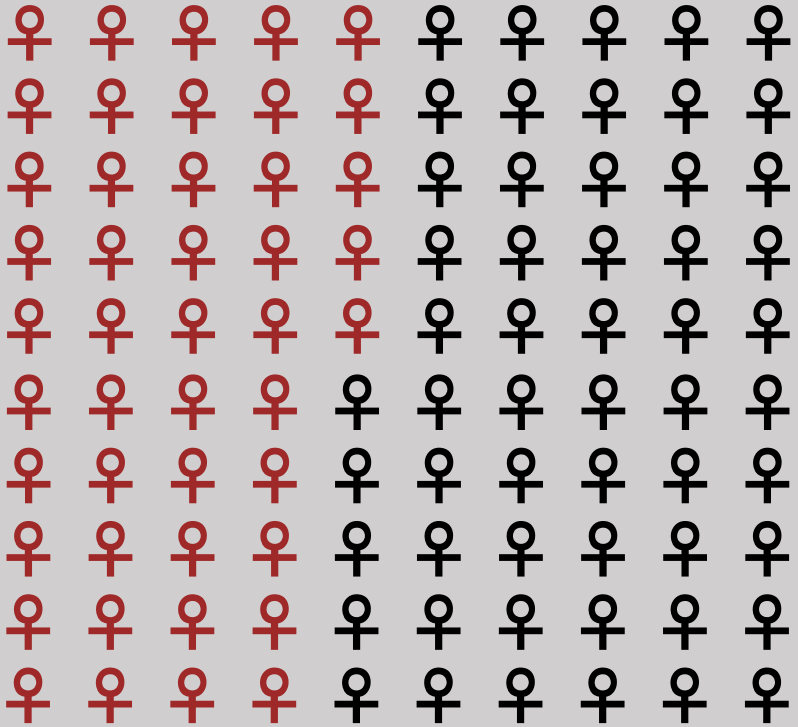
# Assumptions of Model | Age Specific Death Rates

| Age group | Deaths per 1000 |
|---|---|
| 0-10 | 6.3333 |
| 10-15 | 1 |
| 15-20 | 1 |
| 20-25 | 3 |
| 25-30 | 5 |
| 30-50 | 9.5 |
| 50+ | 41.14 |



# Assumptions of model | 1st Experience IPV

**45%**: ESTIMATE OF TOTAL POPULATION HAVING EXPERIENCED IPV

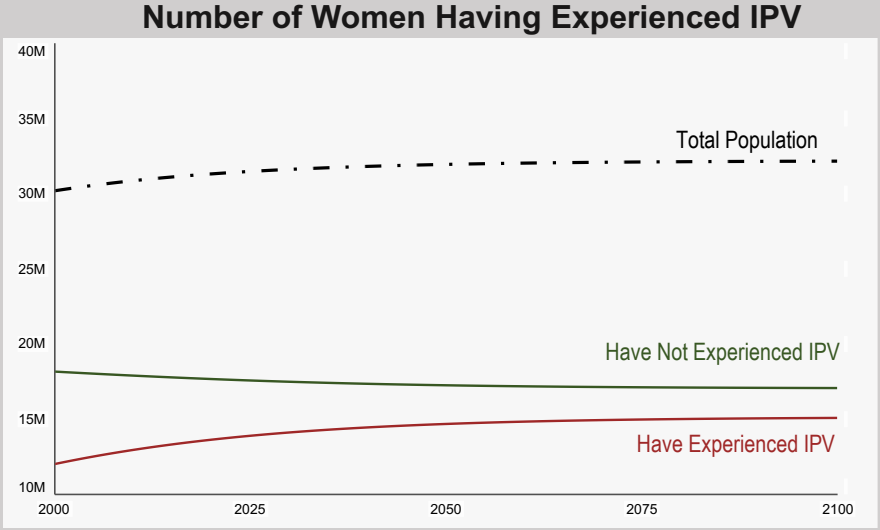


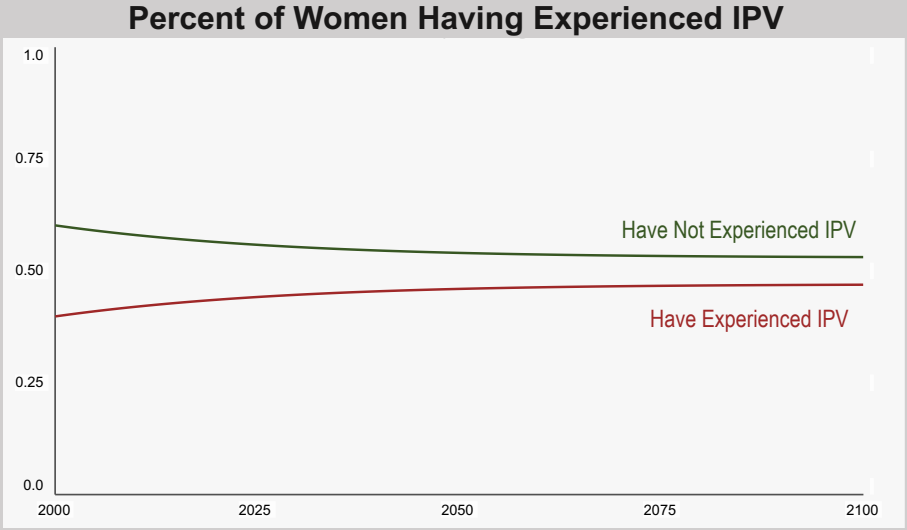
Age of **first experience of IPV is** important:

- most women experience IPV by age 25
- **42%** of South African females 13-23 reported experiencing dating violence *(WHO, 2012)*
- by age 16, 70% of South African girls view violence in relationships as acceptable *(Grassroot Soccer, n.d.)*

# Steady State Results | Birth rate = 0.1458

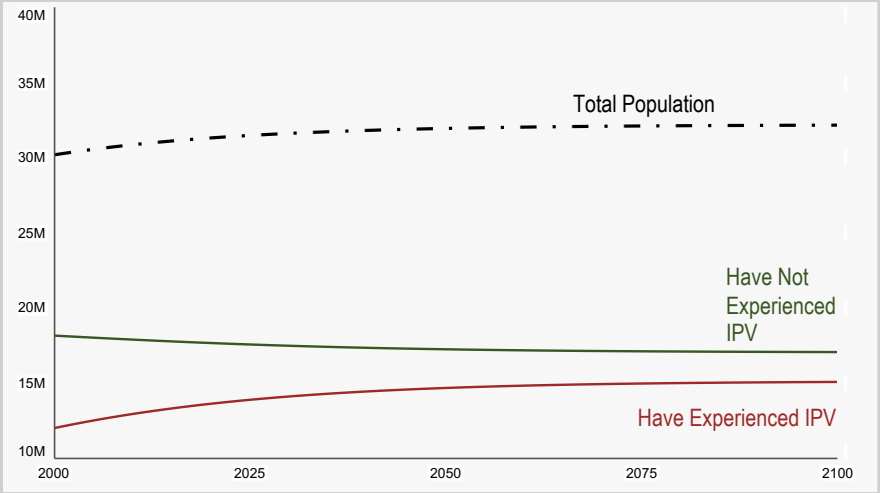
(Total Fertility Rate of 2.187 children per woman over 15 years)



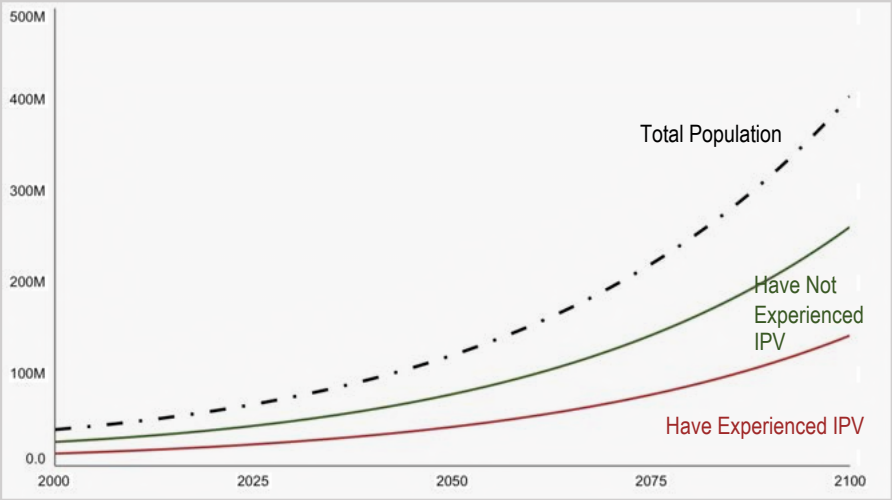



# **Growing Population |** Steady State vs. Birth rate = 0.25

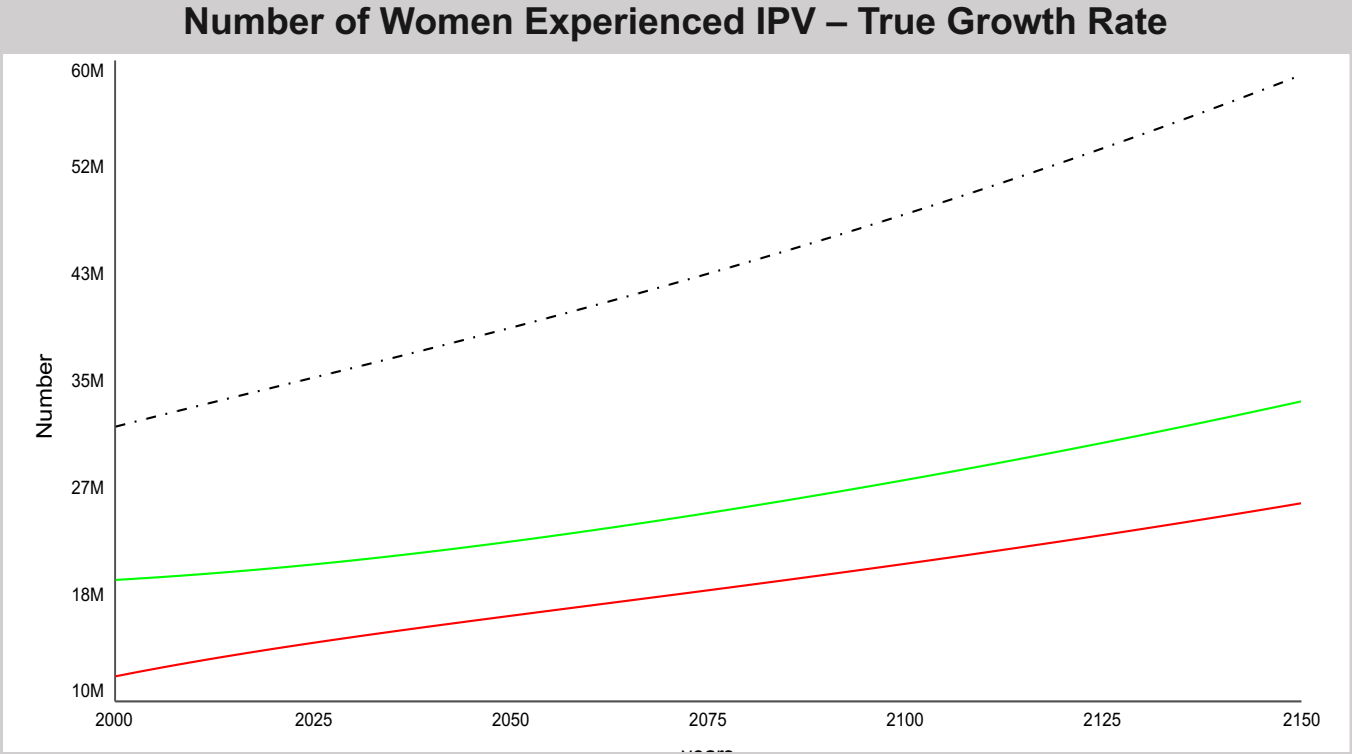
**Number of Women Experienced IPV - Steady State**




**Number of Women Experienced IPV – Birth rate = .25**



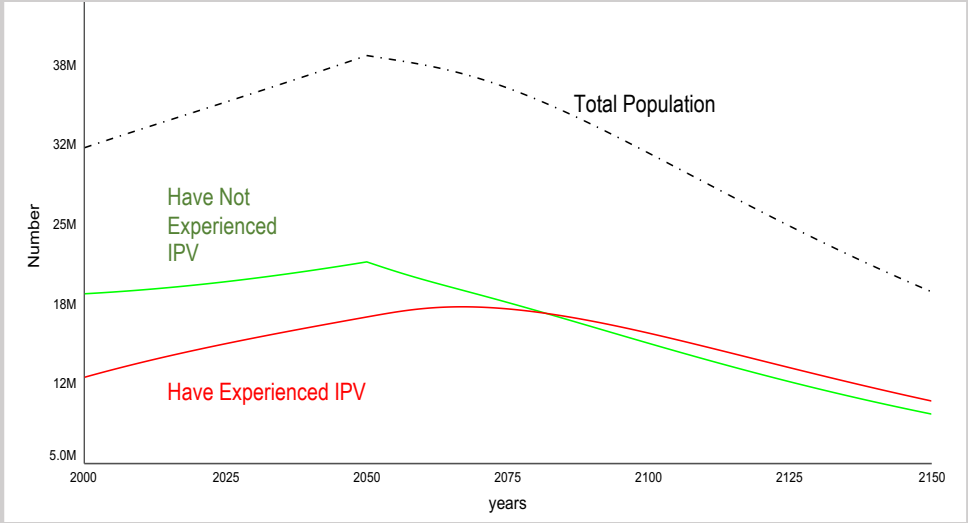
# South Africa's True Growth | Birth rate = 0.1606



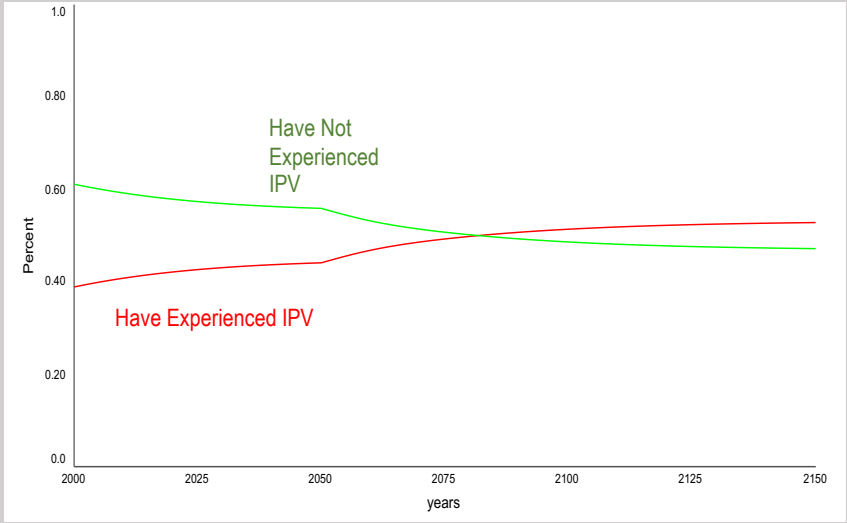

South Africa's true growth rate yields **constant 43%** of total population having experienced IPV

# **Declining Birth Rates|** Step Test: decrease of 0.05 in 2050

**Number of Women Experienced IPV:**
Step test decrease of 0.05 in 2050

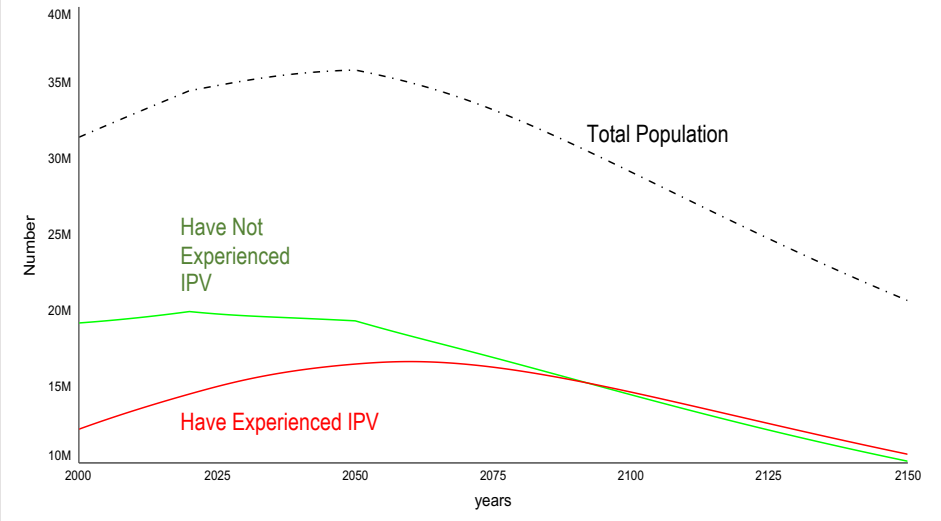



**Percent of Women Experienced IPV:**
Step test decrease of 0.05 in 2050



# Declining Birth Rates| Step Test: decrease of 0.02 in 2020 & 2050

**Number of Women Experienced IPV:**
Step test decrease of 0.02 in 2020 & 2050




**Percent of Women Experienced IPV:**
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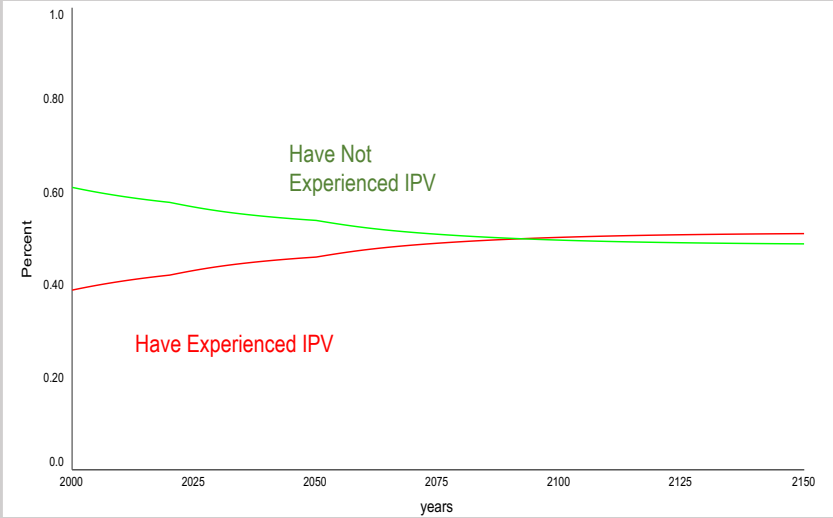
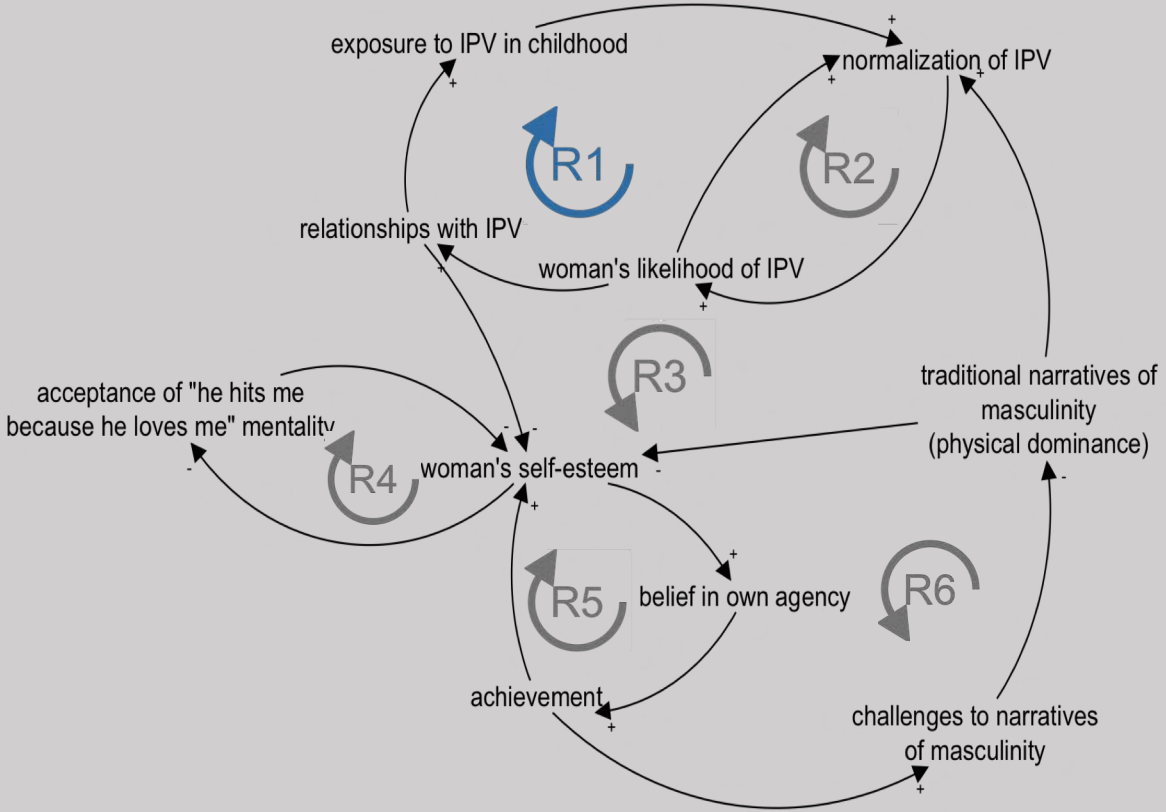


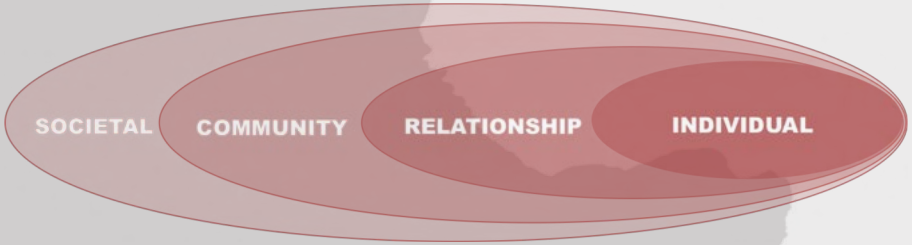
# Systems as a Framework for Understanding IPV

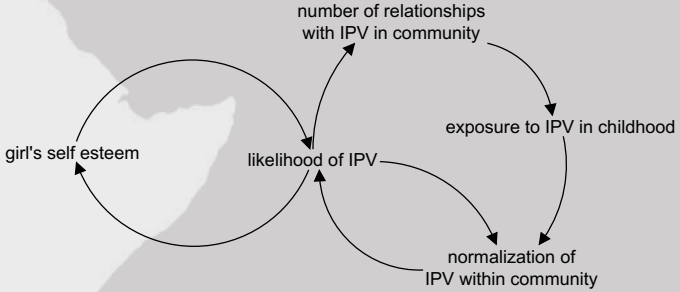



Preliminary model explores first loop of dynamic hypothesis

Insight suggests importance of adopting dynamic approach to a pervasive, sustained public health issue

# Systems as a Framework for Understanding IPV+




WHAT

HOW

# thank you

**Sara Peterson**
University at Buffalo
sarapete@buffalo.edu

## REFERENCES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