International Women's Day with WAI APAC

International Women's Day

Understanding attitudes, experience and risk factors for domestic violence

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The DHS Program
Demographic and Health Surveys

The Demographic and Health Surveys (DHS) Program has collected, analyzed, and disseminated accurate and representative data on population, health, HIV, and nutrition through more than **400 surveys in over 90 countries**.

A mother and daughters in Jimma, Ethiopia work with coffee beans after their house has received Indoor Residual Spraying (IRS) to reduce malaria transmission. Photo Credit: AIRS Ethiopia PMI

Using data provided by the DHS Program we wanted to:

- Investigate the **acceptance vs the experience** of domestic violence
- Determine the **controlling factors** of domestic violence
- Develop a tool that would **quickly and efficiently identify women who are at risk** of domestic violence

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A mother and daughters in Jhpiya, Ethiopia work with coffee beans after their house has received Indoor Residual Spraying (IRS) to reduce malaria transmission. Photo Credit: AIRS Ethiopia PMI

DHS Program data for acceptance and experience of domestic violence

- Acceptance: % of yes to at least one answer of:

It is the respondent's opinion that a husband is justified in hitting or beating his wife when:
BASE: For V744A to V744E is all women.

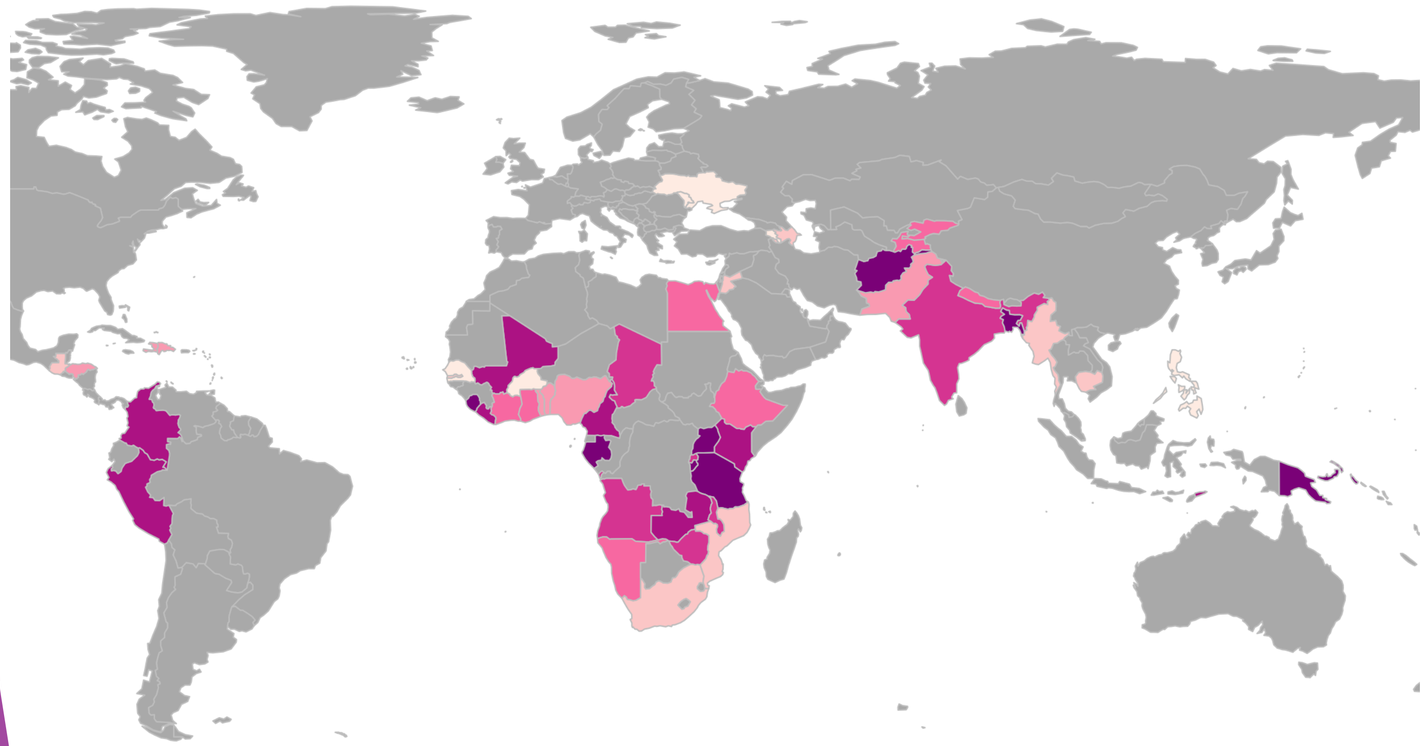
V744A	She goes out without telling him
V744B	She neglects the children
V744C	She argues with him
V744D	She refuses to have sex with him

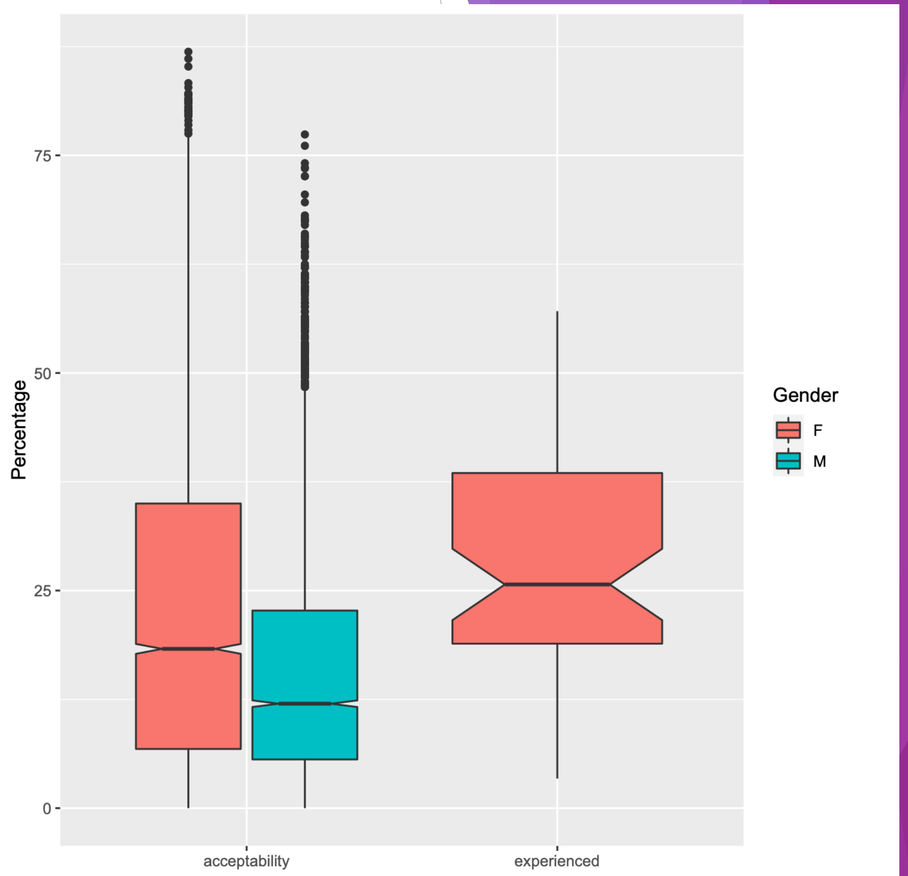
- Experience: % of yes to at least one answer of:

Physical violence
BASE: Women currently in union (V502 = 1).

D105A	Spouse ever pushed, shook or threw something.
D105B	Spouse ever slapped.
D105C	Spouse ever punched with fist or something harmful.
D105D	Spouse ever kicked or dragged.
D105E	Spouse ever tried to strangle or burn.
D105F	Spouse ever threatened with knife/gun or other weapon.
D105G	Spouse ever attacked with knife/gun or other weapon.
D105H	Spouse ever physically forced sex when not wanted.
D105I	Spouse ever forced other sexual acts when not wanted.
D105J	Spouse ever twisted her arm or pulled her hair.
D105K	Physical violence
D105L	Physical violence
D105M	Physical violence
D105N	Physical violence
D106	Experienced any less severe violence.
D107	Experienced any severe violence.
D108	Experienced any sexual violence.

Acceptance vs experience of domestic violence



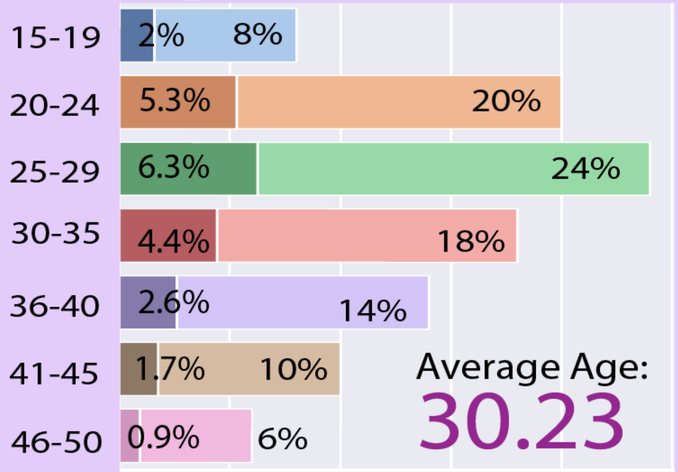


- Domestic violence is **widespread** amongst the countries surveyed by the DHS
- On average across all countries **26% of women** surveyed have experienced physical and/or sexual domestic violence
- Overall **more women than men** agreed that domestic violence was acceptable in certain circumstance

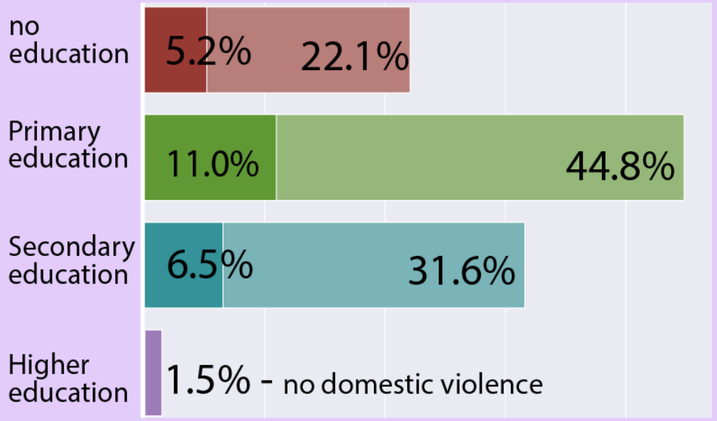
Demographic of Respondents

5120 female and married respondents in Congo between 2013-2014

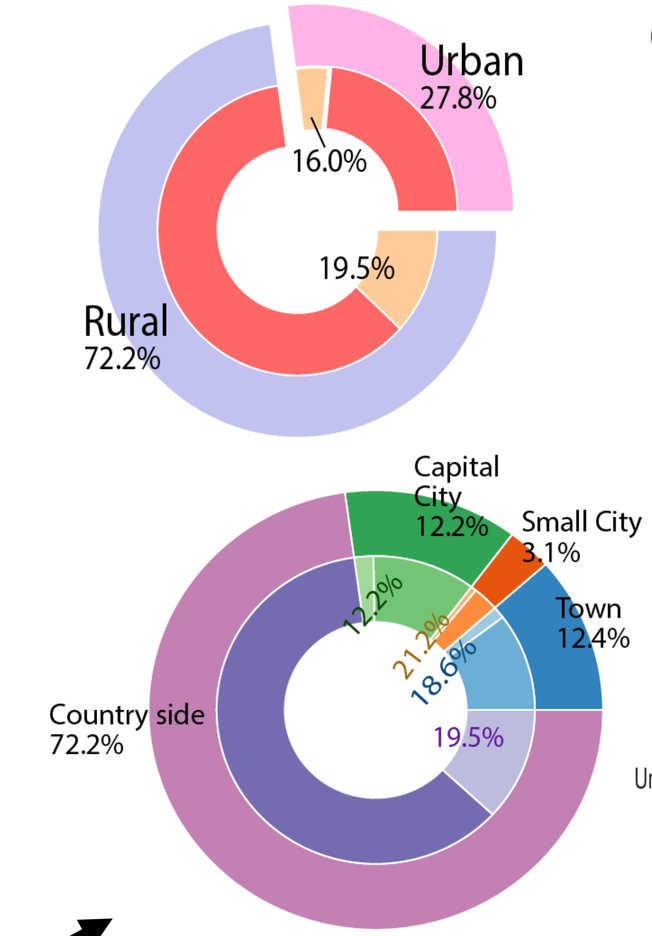
Age



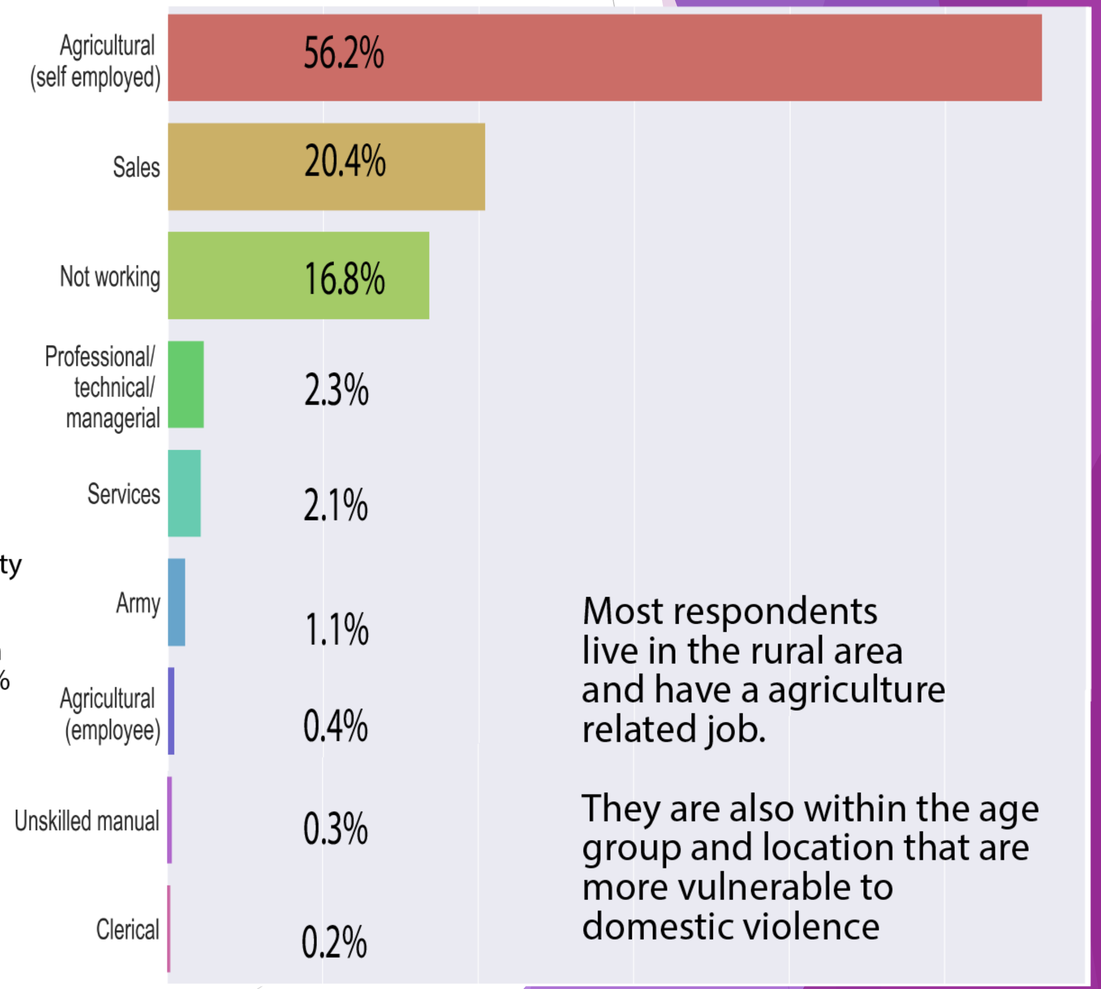
Education



Location



Occupation

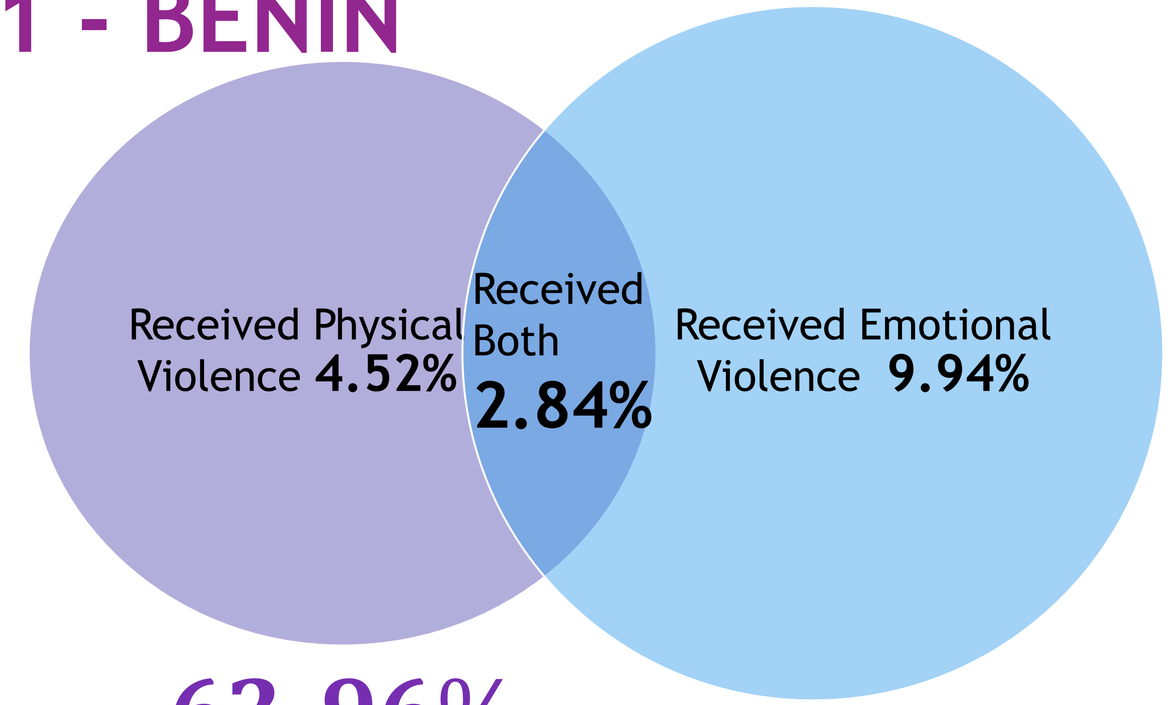


Most respondents live in the rural area and have a agriculture related job.

They are also within the age group and location that are more vulnerable to domestic violence

Probabilities for **experiencing** types of domestic violence

Case Study 1 - BENIN



$$P(B|A) = \frac{P(A \cap B)}{P(A)} =$$

62.96%

Probability of Experiencing Emotional violence **after** experiencing physical violence

BAYES' Theorem

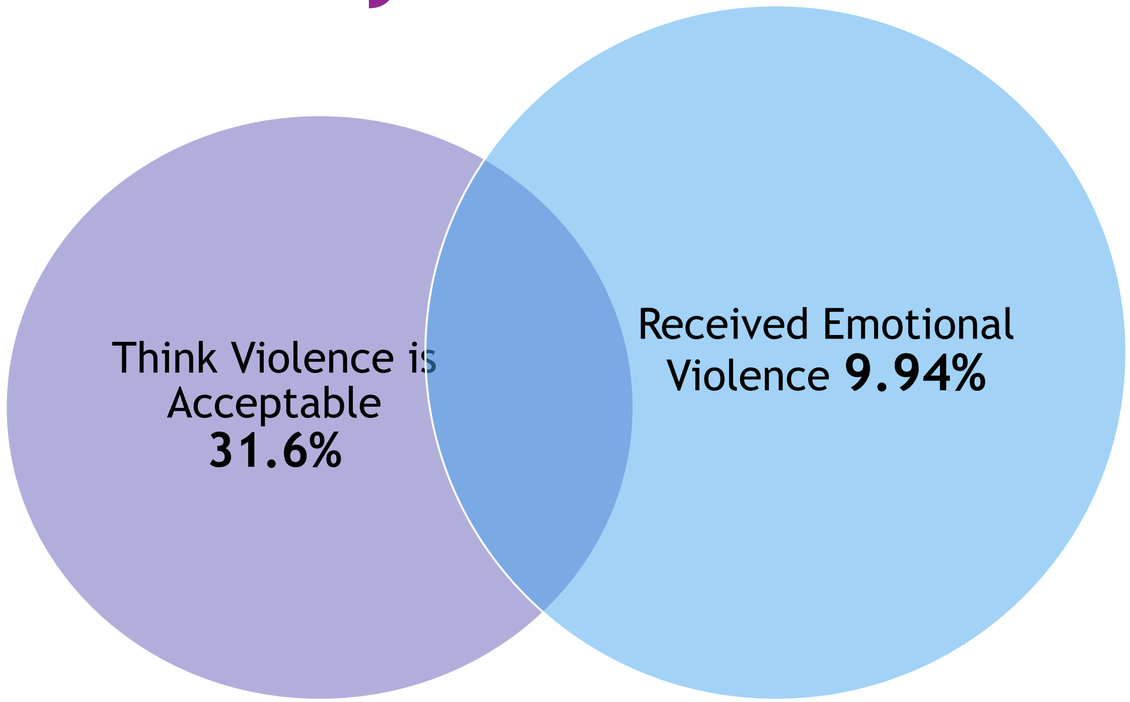
$$P(A|B) = \frac{P(B|A)\,P(A)}{P(B)} =$$

28.61%

Probability of Experiencing physical violence **after** experiencing emotional violence

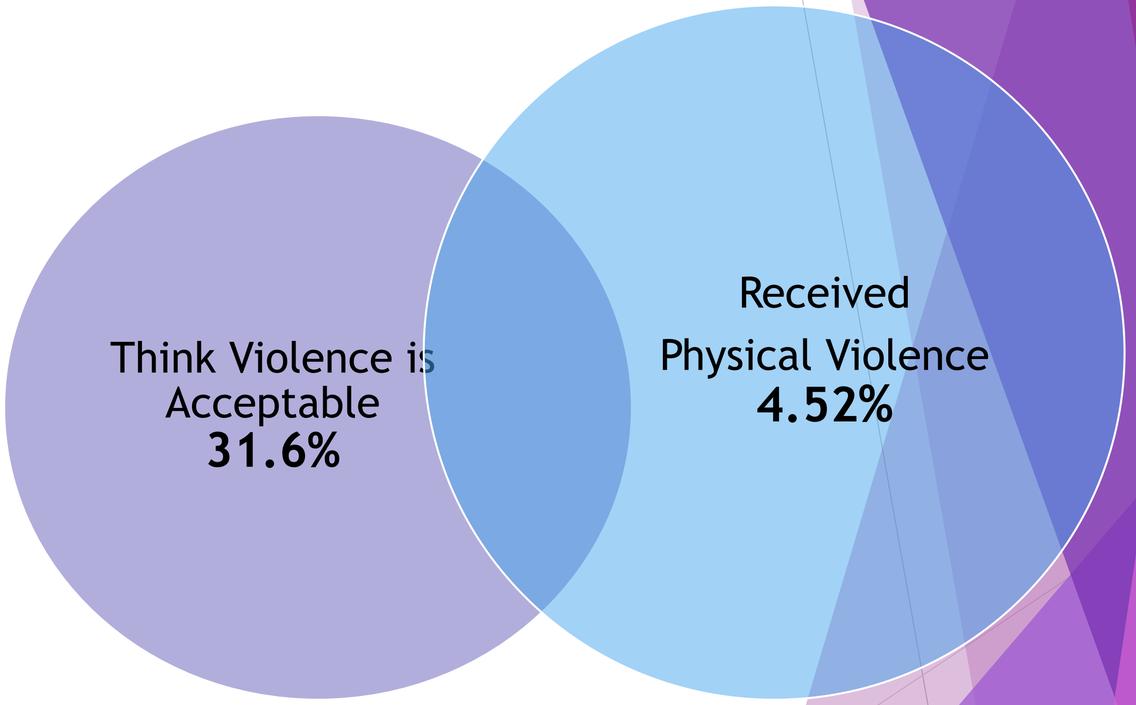
Probabilities for **accepting** types of domestic violence

Case Study 1 - BENIN



40.62%

Probability of Accepting violence after experiencing <u>emotional violence</u>

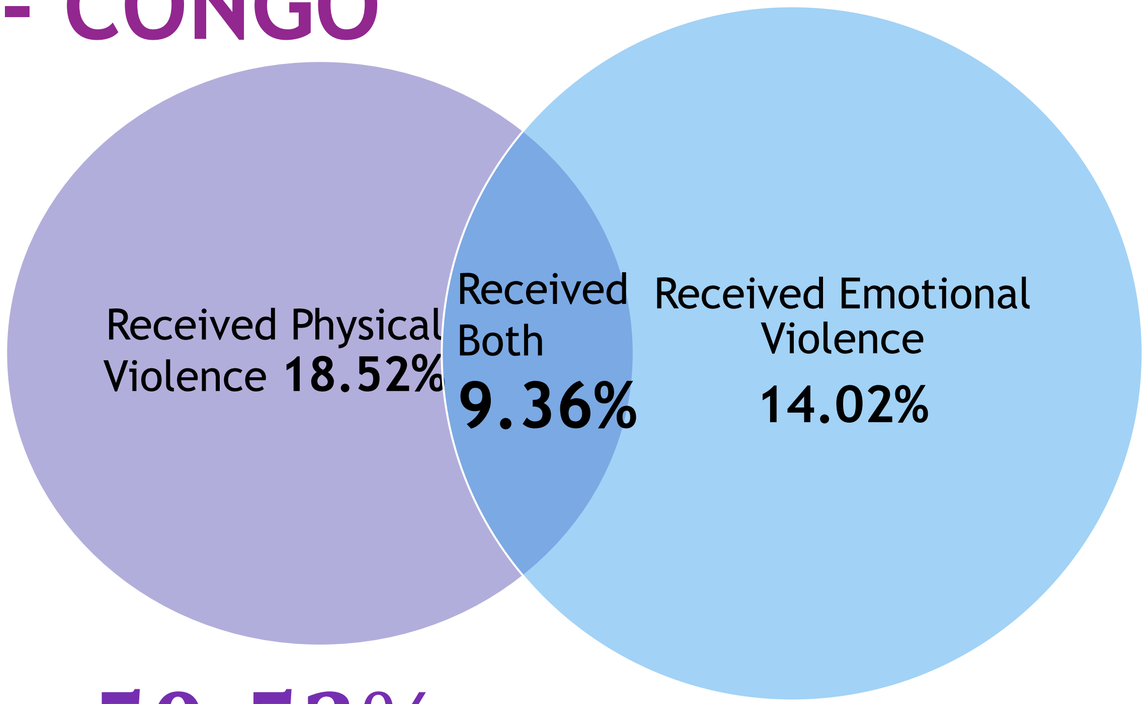


47.09%

Probability of Accepting violence after experiencing <u>physical violence</u>

Probabilities for **experiencing** types of domestic violence

Case Study 2 - CONGO



$$P(B|A) = \frac{P(A \cap B)}{P(A)} =$$

50.53%

Probability of Experiencing Emotional violence **after** experiencing physical violence

BAYES' Theorem

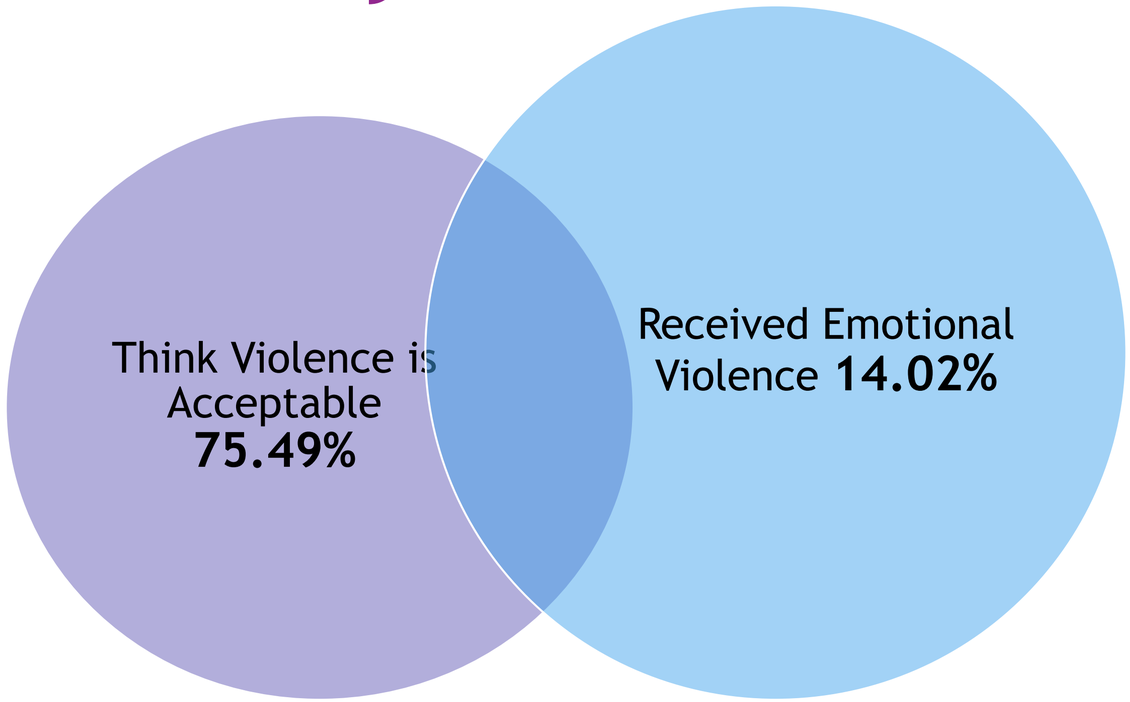
$$P(A|B) = \frac{P(B|A)\,P(A)}{P(B)} =$$

66.71%

Probability of Experiencing physical violence **after** experiencing emotional violence

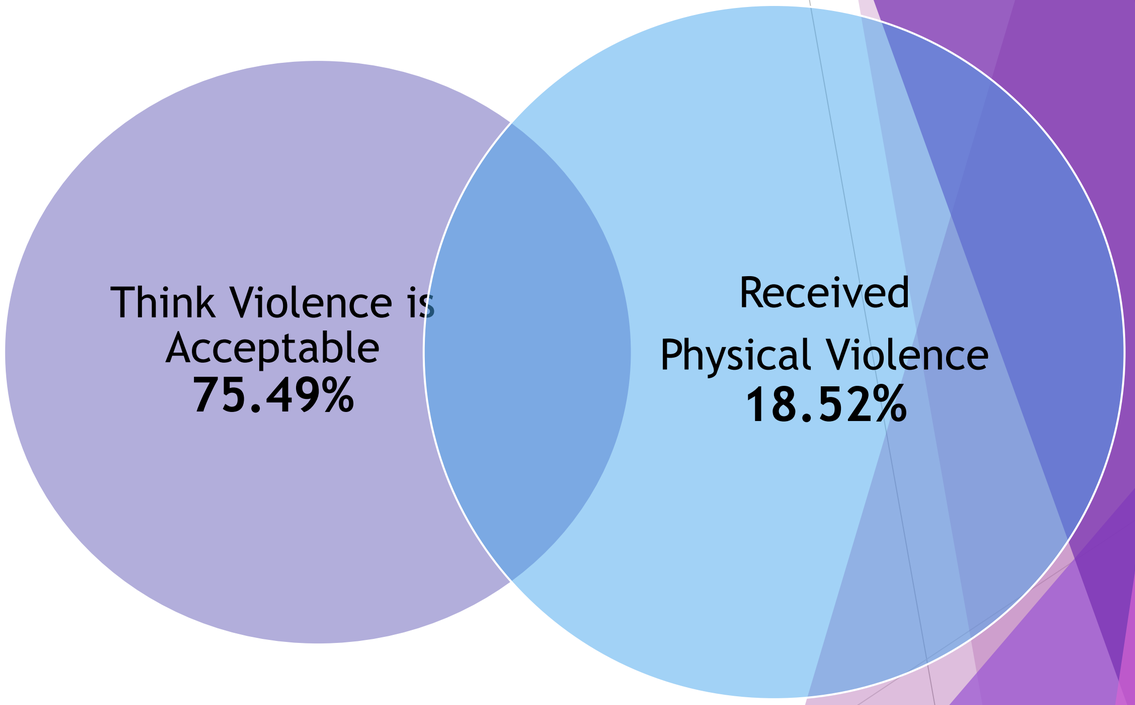
Probabilities for **accepting** types of domestic violence

Case Study 2 - CONGO



86.63%

Probability of Accepting violence after experiencing <u>emotional violence</u>

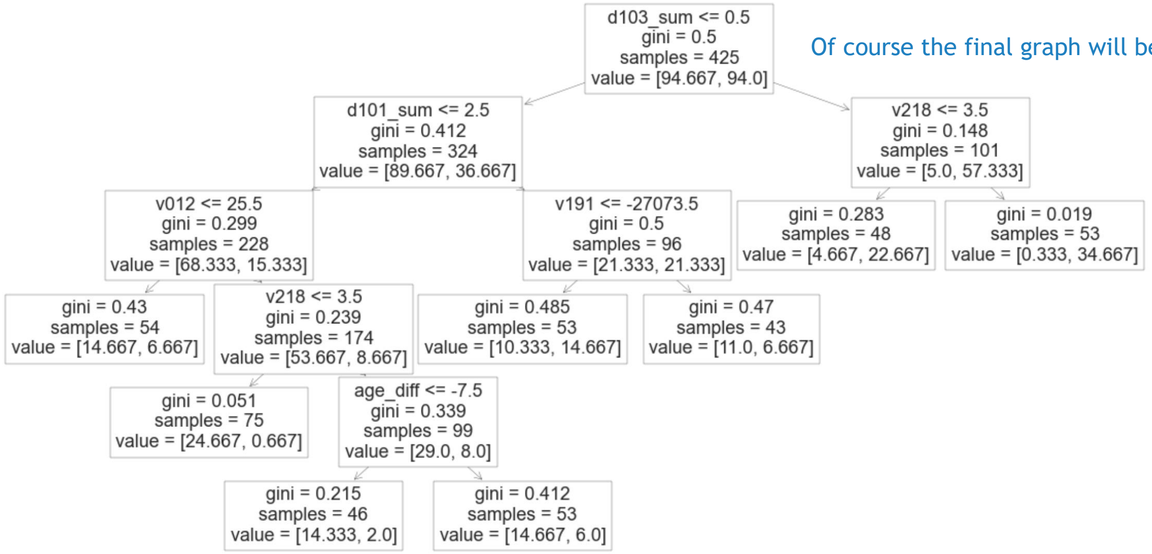


87.24%

Probability of Accepting violence after experiencing <u>physical violence</u>

Can we use these data to predict which women are at most risk of future violence?

Diagnostic AI-tool



Of course the final graph will be cleaner

- We aim to predict whether a woman is susceptible to experience domestic violence
- We want a diagnostic test that can be performed in less than two minutes either automatically, on paper, or given by a non-expert.
- We chose a decision-tree for its “white-box” approach. The decision-tree proposes a short series of questions. Each new question is personalized in function of the previous answer, so that the size of the questionnaire can be really small.
- We obtain reasonnably good results by asking less than five questions

Conclusion