



# **Perceived Risk and Condom Use in Sub-Saharan Africa**

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# **Presenter Disclosures**

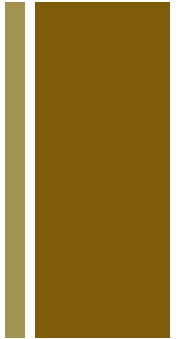
**Julie Cederbaum**

**The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:**

**NO RELATIONSHIP TO DISCLOSE**

# + Introduction

- SSA adolescents are confronted with multiple behavioral, physiological, and socio-cultural factors that are known to contribute to their vulnerability to sexual and reproductive health issues
- Behavior models identify several factors that influence sexual risk behaviors: perceived susceptibility, costs and benefits of engaging in particular behaviors, social norms, one's sense of self, and rational/volitional decision-making
- To date, few have examined how perception of risk may be associated with condom use

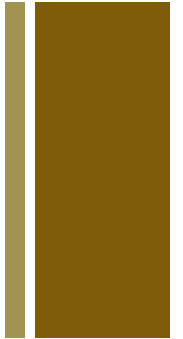


# + SSA Adolescents and Sexual Risk

- 80% of SSA adolescents are sexual active by the age of 20
- Among sexually experienced 15-19 year olds both married and unmarried, young men are more likely than women to have had more than two partners in the past year
- Contraceptive use at first sex among teenager in SSA follow a similar trend: 10% of men and only 4% of women reported condoms use at last intercourse
- A number of factors contribute to the increase rate of risky behaviors among SSA adolescents:
  - Rural areas are less likely to report knowing where to obtain condoms
  - Urbanicity (closely associated with higher education and greater access to services and media exposure) can increase the likelihood of condom use

# + SSA Adolescents and HIV Risk

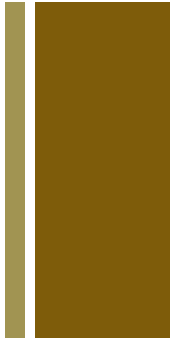
- SSA adolescents represent a sexual disparate numbers of youth living with HIV/AIDS
- Approximately 4.3% of young women and 1.5% of young men aged 15-24 years in SSA were living with HIV at the end of the year of 2005
- These youth constitute 50% of all new HIV infection in Africa
- Young women are nine times more likely than men to become infected



# + Knowing Someone with HIV

- Finding related to influence of knowing someone with HIV/AIDS are mixed.
- A study in SSA looked at personal knowledge of a close relative or household member and condom use at last sexual act: knowing someone infected with HIV/AIDS did not increase rates of condom use (Camlin & Chimbwete, 2003)
- Studies have also found that those who reported knowing someone with AIDS are significantly more likely to report ever having had sex (Anderson, Beutel, & Maughan-Brown, 2007; Cederbaum, Marcus, & Hutchinson, 2007)
- A study of Ghanaian men found that individuals who perceived themselves to be at high risk of HIV infection were more likely than others to have used condoms during intercourse (Estrin, 1999)

# + Health Belief

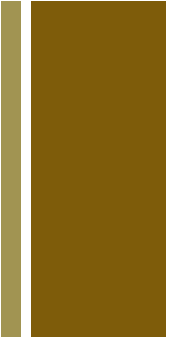


Studies have linked perceived risk to sexual risk behaviors; they have found that behavior change is influenced by:

1. The extent to which an individual feels personally at risk of contracting a disease;
2. That they perceive to have serious consequences;
3. That they are aware of ways to avoid infection;
4. That they believe the benefits of taking preventative actions outweigh the cost and;
5. They believe that such measures work.

## + Purpose

To explore the factors that contribute to adolescents' perception of risk to HIV and determine if these perceptions are consequentially associated with condom use behavior



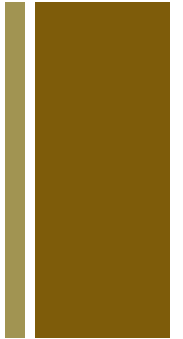


# + Methods

- Using data derived from the National Survey of Adolescents (2004- 2005) we examine the perception of risk to HIV and sexual risk behaviors of adolescents living in four SSA countries: Burkina Faso, Ghana, Malawi, and Uganda\*
- National representative data were collected through household based survey of adolescents between 12-19 years
- Two stage stratified sample designed selecting urban and rural households were used.
- Individuals survey were administered to adolescents household
- Original sample sizes per country were 5, 955 in Burkina Faso, 4,430 in Ghana, 4,031 in Malawi, and 5,112 in Uganda; overall individual response rates ranged from 86.6 percent in Uganda to 95.2% in Burkina Faso\*

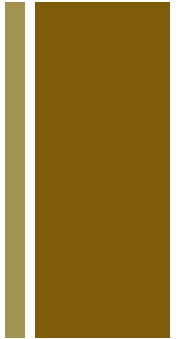
# + Measures

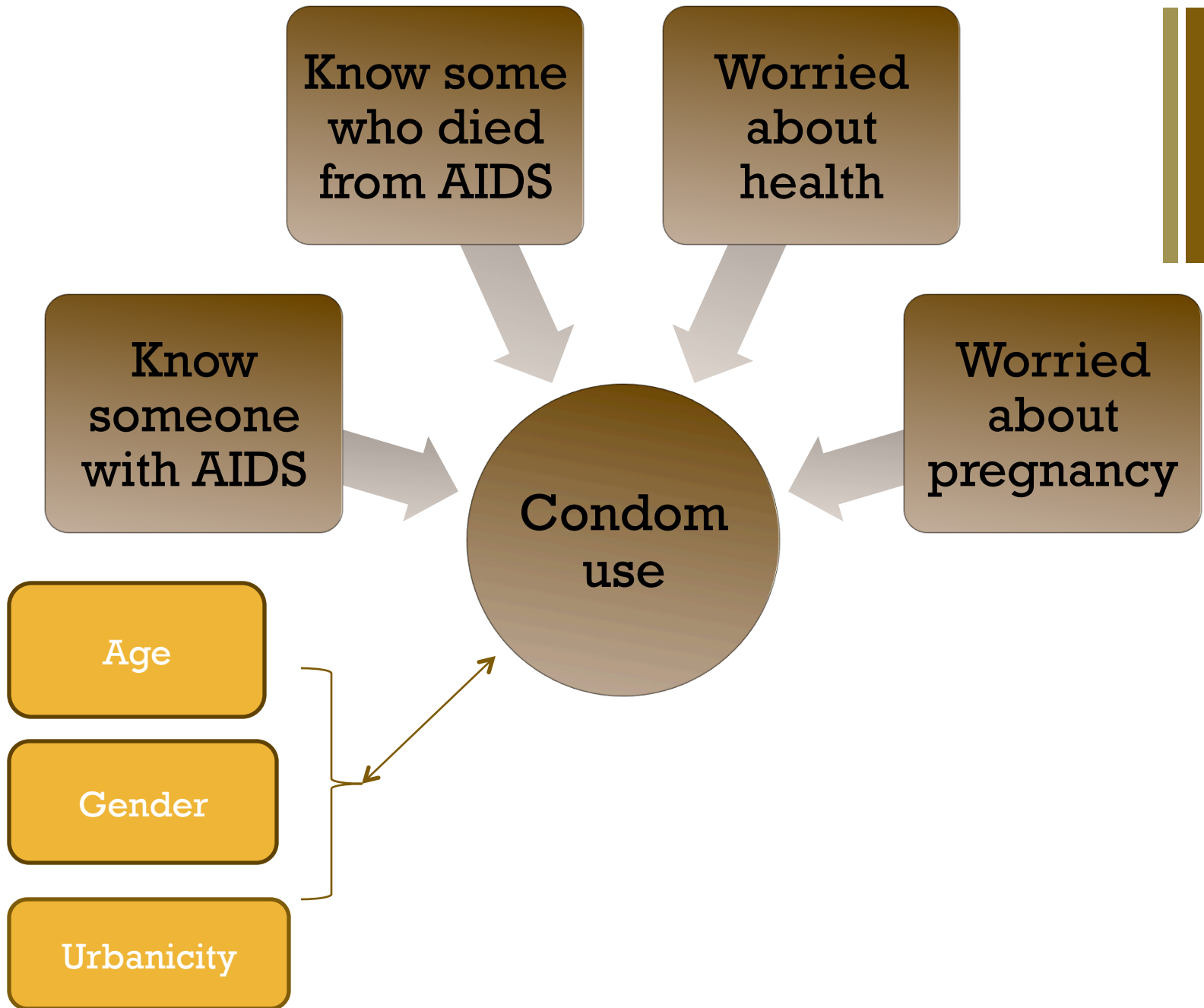
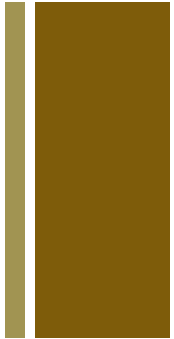
- **Personal experience with AIDS:** “Do you personally know someone who has the virus that cause AIDS?”  
“Do you personally know someone who died of AIDS or who people said died of AIDS?”
- **Health and pregnancy worries:** At this point in your life, how worried are you about each of the following? [a] your health, [b] getting (someone)pregnant (very worried, somewhat worried, not worried at all)
- **Condom use:** “The first time you had sexual intercourse, was a male condom used?”  
“The last time you had sexual intercourse with this person, was a male condom use
- **Demographics:** age, gender, and urbanicity



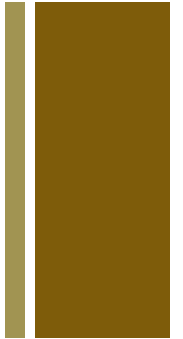
# + Statistical Analyses

- Multinomial logistic regression analyses were completed simultaneous with class estimation to account for class measurement error
- An models were run separately to determine the appropriate number of classes for perceived risk in each country; for each, an initial 1-class (no covariates) model was assessed followed by a series of models with covariates specifying increased number of classes representing risk
- Data sparseness was considered as a salient factor for model identification. Sample weights were included in analyses to adjust for survey non-response and sample selection probabilities.
- FIML procedures were used to address missing data within the data



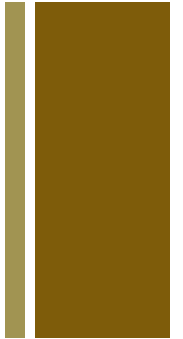


## + Results: Demographics



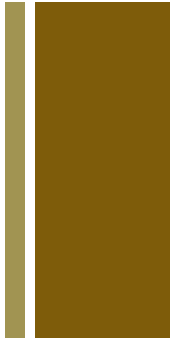
<b>Country</b>	<b>Final Sample Size</b>	<b>Age (mean years)</b>	<b>Gender (% male)</b>	<b>Urbanicity (% urban)</b>
Burkina Faso	1163	17.2	41.2	27
Uganda	1065	17	48.3	13
Malawi	857	17.5	46.3	46
Ghana	444	16.9	60.9	21

# + Burkina Faso



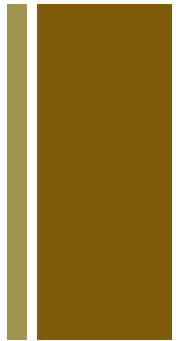
	<b>High Perceived Risk/ High exposure to people w/AIDS</b>	<b>High perceived risk / Low exposure to people w/AIDS</b>
<b>Class Prevalence</b>	49.6	50.4
<b>Know someone with AIDS</b>		
No	0.449	0.961
Yes	0.551	0.039
<b>Know someone who died from AIDS</b>		
No	0.094	0.703
Yes	0.906	0.297
<b>Worried about Health</b>		
Not Worried	0.123	0.186
Somewhat Worried	0.213	0.204
Very Worried	0.664	0.610
<b>Worried about being pregnant</b>		
Not Worried	0.567	0.515
Somewhat Worried	0.158	0.191
Very Worried	0.276	0.294

# + Uganda



	<b>High Perceived Risk/ High exposure to people w/AIDS</b>	<b>Moderate Perceived Risk/ High exposure to people w/AIDS</b>
<b>Class Prevalence</b>	90.8	9.2
<b>Know someone with AIDS</b>		
No	0.129	0.796
Yes	0.871	0.204
<b>Know someone who died from AIDS</b>		
No	0.013	0.437
Yes	0.987	0.563
<b>Worried about Health</b>		
Not Worried	0.437	0.507
Somewhat Worried	0.277	0.196
Very Worried	0.286	0.297
<b>Worried about being pregnant</b>		
Not Worried	0.272	0.581
Somewhat Worried	0.183	0.176
Very Worried	0.545	0.243

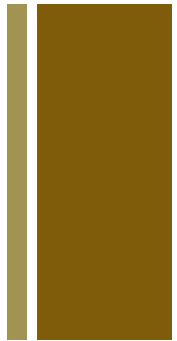
# + Ghana



	<b>Moderate Perceived risk/High Exposure to people w/AIDS</b>	<b>Moderate Perceived Risk/Low Exposure to people with AIDS</b>
<b>Class Prevalence</b>	29.1	70.9
<b>Know someone with AIDS</b>		
No	0.000	0.998
Yes	0.100	0.002
<b>Know someone who died from AIDS</b>		
No	0.262	0.651
Yes	0.738	0.349
<b>Worried about Health</b>		
Not Worried	0.376	0.374
Somewhat Worried	0.320	0.225
Very Worried	0.304	0.401
<b>Worried about being pregnant</b>		
Not Worried	0.405	0.403
Somewhat Worried	0.194	0.132
Very Worried	0.401	0.465



# + Malawi



	<b>Moderate Perceived Risk/High Exposure to People w/ AIDS</b>	<b>Low Perceived Risk/ Low Exposure to People with AIDS</b>
<b>Class Prevalence</b>	83.8	16.2
<b>Know someone with AIDS</b>		
No	0.339	1.000
Yes	0.661	0.000
<b>Know someone who died from AIDS</b>		
No	0.046	0.664
Yes	0.954	0.336
<b>Worried about Health</b>		
Not Worried	0.582	0.670
Somewhat Worried	0.150	0.114
Very Worried	0.268	0.216
<b>Worried about being pregnant</b>		
Not Worried	0.410	0.505
Somewhat Worried	0.158	0.120
Very Worried	0.432	0.375

# + Results – Odds Ratios

	<b>Burkina Faso</b>	<b>Uganda</b>	<b>Ghana</b>	<b>Malawi</b>
Covariates	High PR w/ AIDS vs. High PR	High PR w/AIDS vs. Moderate PR w/ AIDS	Moderate PR w/ AIDS vs. Moderate PR	Moderate PR w/ AIDS vs. Low PR
Urban	1.26 (0.68-2.35)	0.74 (0.27-2.05)	0.77 (0.47-1.27)	<b>2.44</b> <b>(1.17-5.07)*</b>
Age	1.11 (0.96-1.27)	1.06 (0.89-1.25)	1.01 (0.86-1.20)	1.12 (0.99-1.27)
Male	1.36 (0.82-2.27)	0.77 (0.39-1.53)	1.36 (0.82-2.27)	<b>2.60</b> <b>(1.56-4.33)*</b>
Condom Use	<b>2.26</b> <b>(1.30-3.94)*</b>	<b>5.10</b> <b>(2.14-12.17)*</b>	0.82 (0.50-1.32)	1.09 (0.64-1.83)

\* $p < .05$

All OR are at a 95% CI

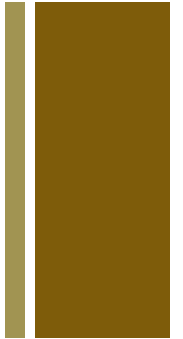
# + Study Limitations

- The data are self-reported; adolescents may have over or underrepresented condom use
- Secondary analyses of existing data so measures fit the constructs, but because they were not the primary focus of the data collection, may be weaker
- These four countries have some differences in their approach to HIV risk reduction education and thus the concern about HIV risk and HIV myths likely vary

# + Conclusion

- Knowing someone living or who has died of AIDS, alone, did not increase the likelihood adolescents' reports of condom use
- Although there were inconsistencies across the four countries, those with the highest perceived risk were more likely to report condom use
- We conclude, therefore that adolescents need to believe they are at risk for a negative outcome to engage in the risk reduction behaviors
- For only one country, Malawi, did the demographic characteristics matter – being male and from an urban environment both increased the likelihood of risk perception.

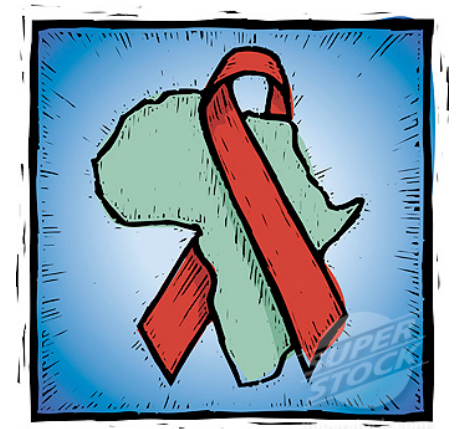
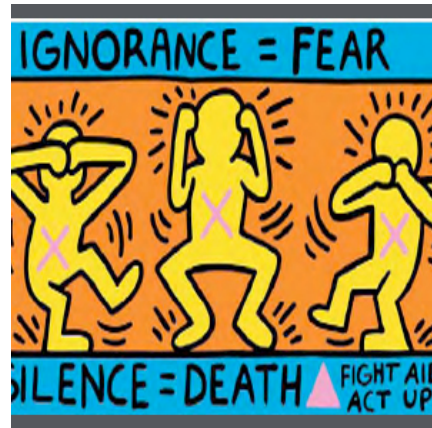
# + Implications



- While knowing someone with AIDS is commonplace for many, we cannot perceived that this alone will influence someone's behavior
- We need to continue to work with youth to increase their understanding of the risk
- Interventions need to be tailored to each country as values and beliefs (specifically myths) vary widely



THANK  
YOU!



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