Using DCEs to improve equity in access to socially marketed HIV prevention products in South Africa

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With: Matthew Quaife, Catherine Macphail, Katherine Kripke

Organised Session:

Can social franchising deliver sustainable and equitable public health programmes in LMIC? Empirical evidence and methodological opportunities.

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Equity in Social Franchising

- Today:
  - Social franchising model can cover provider costs (Matovu)
  - *But* still primarily reaching better off (a.o. Haemmerli, Montegu)
- *How can we optimise distribution across sectors?*
- *Could we induce users to self select across sectors by ability to pay?*
- *This paper:*
  - *Proposes using DCE to inform distribution and promotion strategy for new HIV prevention strategies to reach both the better and less well off.*

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Regional Communications Campaign, Archetypes

SCENE 2

We pick-up the story as Charlene makes her way into her modest home where her mother (who represents our final archetype – Florence) is in the kitchen trying to fix some food for her children. She scrapes a few ingredients together and Charlene insists that she sits down and Charlene finishes making the meal. It is at this point that she gives her mother some of the money she got from her older boyfriend. We see that her mother is grateful for the little money her daughter has given her but she is uneasy about where it comes from. We realise that Florence is not feeling well and it is at this point that Charlene enquires when she is going to go to the clinic.

(compliments of Carla Lopez, PSI/STAR)

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HIV SELF-TESTING AFRICA

DCEs as approach to identify market segments

- Discrete choice experiments
- Complementary approach; proof of concept
- Context: HIV prevention Trial - Topical PreP for women in South Africa
  - Estimated 12% prevalence and increasing
  - Women 1.4x more like to be HIV positive than men
  - Adolescent girls 8x more likely to be HIV positive than boys of the same age
  - Products to be distributed now shelved, but for relevant for new HIV prevention product distribution, e.g. HIV self tests; Oral PreP.
- Intensive formative phase
- 1017 adult women near Johannesburg, South Africa, 2005

CHOICE **Attribute**	**A**	**B**
Itholakala kuphi E fumaneha kae Distribution channel	 Chemist/Pharmacy	 Supermarket
Indlela yokuzilanda Mokgwa wa ho lata Collection method	 From a box	 From a dispensing machine
Umlayezo kwisishuqulu Molaetsa o mo paketeng Message on package	 Extra Pleasure	 Pregnancy Prevention
Intengo Hlwahlwa Price	**Free,** **0 Rand**	 10 Rand
CHOICE	1	2

DCEs as method to identify market segments

- Discrete choice experiments
- **Design**
  - 4 attributes, 4 levels
  - Unlabelled forced choice based on desire to acquire their preferred HIV prevention product.
  - Each participant received
    - 3 scenarios of 2 alternatives
  - across 20 blocks

Outlet type			
 Chemist	 Spaza shop	 Clinic	 Supermarket
Collection method			
 In a private room	 From a person behind a counter	 From a dispensing machine or box	 From a shelf
Advertising message			
 Women's Empowerment	 Pregnancy Prevention	 Extra Pleasure	 HIV Prevention
Price			
Free, **0 Rand**	 5 Rand	 10 Rand	 20 Rand

Analysis

- Preferences were analysed using:
  - MNL
  - RPL
  - Latent Class model with 2 -4 classes, and
  - Latent Class RPL model.
- Market segmentation was explored based on:
  - preferred HIV prevention product (microbicide, diaphragm, condom)
  - women's liquidity:
    - current employment chosen rather than household asset index
  - cohabitation.
- Estimated models were evaluated using BIC/n.

Table 2 Comparison of Socio Demographics Characteristics from 2005 and 2015 in the same location

Description: comparison 2005 2015

Variable	Mean 2005	Mean 2015	t-test for difference (** p<0.05)
Age	31.53	29.33	**
Ever used contraception	72%	72%	
Employed (full or part time)	35%	39%	
Cohabiting	55%	19%	**
Condom use at last sex	31%	43%	**
Age at first sex	17.83	17.88	
Has children	80%	82%	
Sample size	1016	202	

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Results 1:
Model selection

- BIC/n:
  - LC w 2 classes best fit
  - ***And makes sense***
- Not shown:
  - MNL,
  - MNL w interactions,
  - Interaction terms in RPL models

Variable	3. Latent Class				4. RPL		5. LCRPL			
Main effects	Class 1		Class2				Class 1		Class2	
Outlet type	*Coeff.*	*Sig.*	*Coeff.*	*Sig.*	*Coeff.*	*Sig.*	*Coeff.*	*Sig.*	*Coeff.*	*Sig.*
Clinic	0.456	***	0.293		9.456	***	0.459	**	0.176	
Pharmacy	0.175		0.578	***	9.568	***	-0.313		0.870	***
Spaza (corner shop)	-0.146		-0.804	***	-11.076	***	0.311		-1.050	***
Supermarket	-0.485	***	0.038		-9.594	**	-0.564	***	0.488	**
Collection Mode										
Free box or dispensing machine	0.034	**	-0.331	**	-1.162		0.002		0.061	
a counter	-0.239	**	-0.145		-5.207	***	-0.295		-0.231	
In a private room	0.078		0.166		4.736	**	0.282	*	-0.021	
From a shelf	-0.113		0.165		5.897	*	0.070		0.248	
Advertising message										
HIV prevention	0.336	**	-0.069		3.674	*	0.555	**	-0.269	*
Pregnancy prevention	0.239	*	-0.098		0.796		-0.144		0.270	**
Enhanced Pleasure	-0.321	**	-0.365	***	-11.247	***	-0.431	*	-0.521	***
empowerment	-0.254		0.532	***	2.973		0.134	-	0.626	***
Price	-0.096	***	0.017		-1.170	***	-0.118	**	-0.004	
BIC/n	**1.311**				1.414				1.552	

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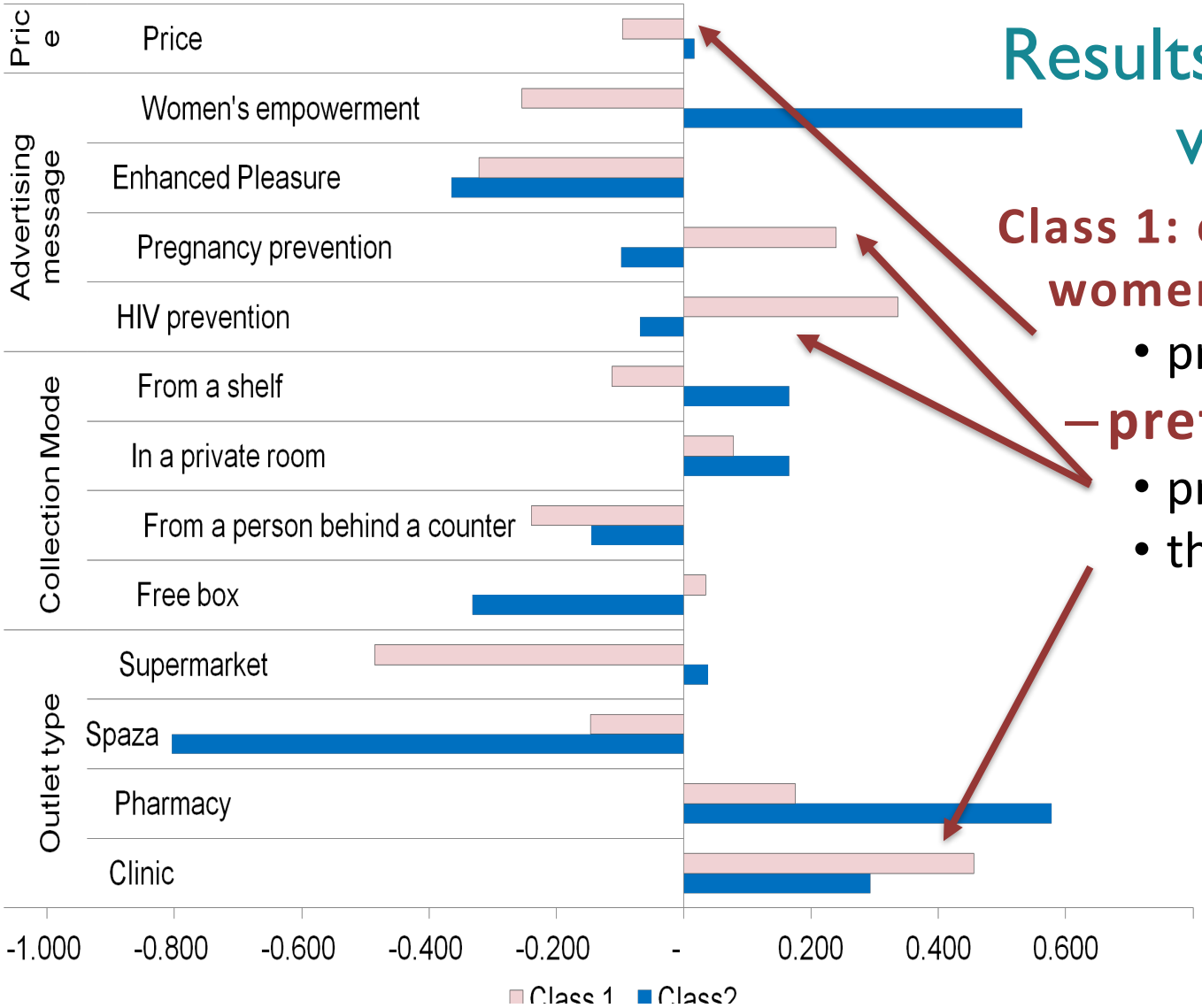
Results 2: Market Segments

- Class 1 (Housewives):
  - Unemployed, cohabiting
  - 52% of women
- Class 2:
  - Employed, not cohabiting
  - 48% of women
- Distribution preferences ***not*** significantly different for specific products

4. LC (2 classes)

Variable	Coeff.	Sig.
Constant	- 0.056	
Prefers microbicide (r.t. condoms)	- 0.178	
Prefers diaphragme (r.t. condoms)	- 0.086	
Employed	- 0.483	***
Cohabiting	0.257	**
% of sample	52%	



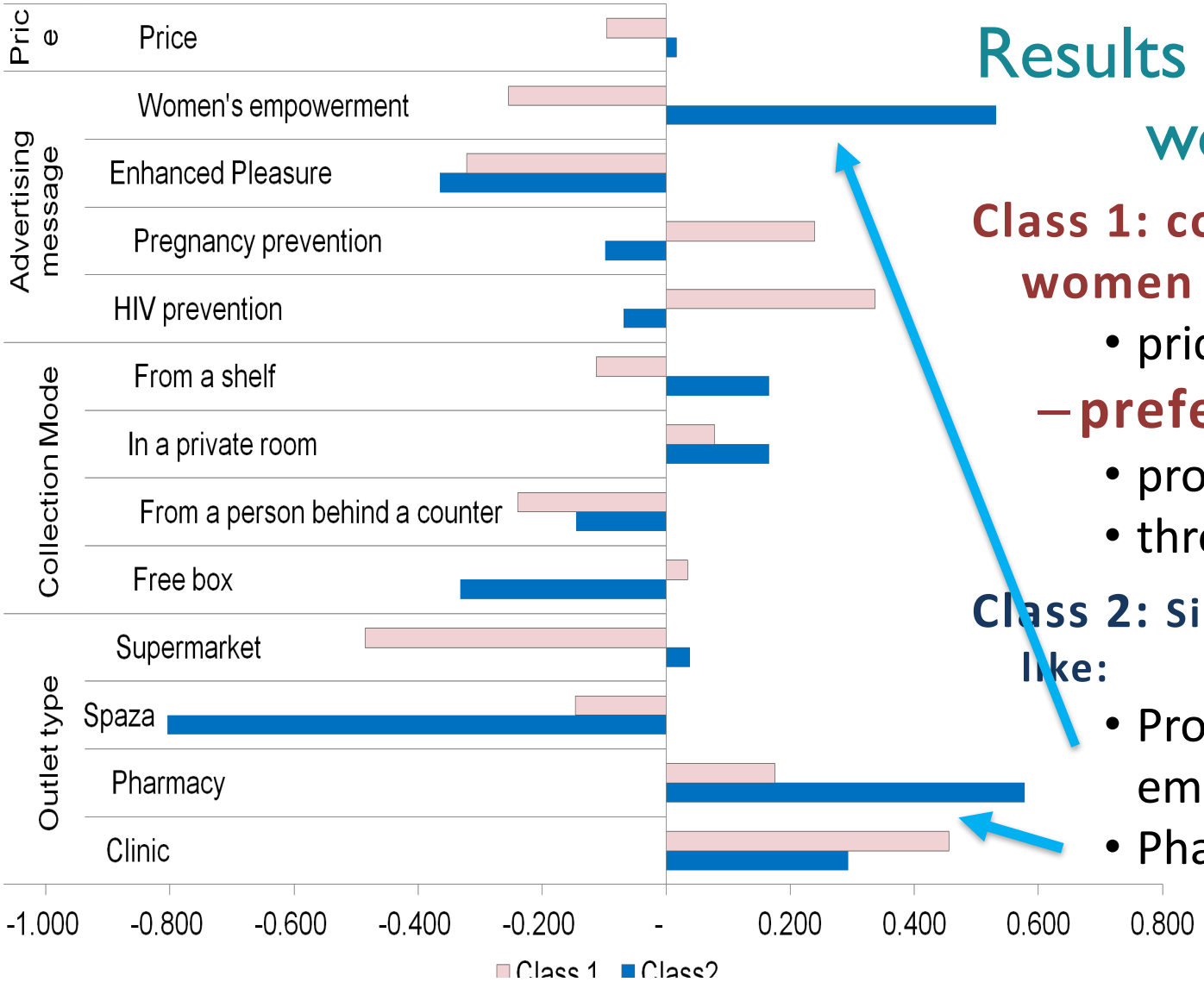
Results 3: What do which women want?

Class 1: cohabiting unemployed women concerned about:

- price

– **prefer**

- promotion for health impact
- through the public sector



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Class 2: Single working women like:

- Promoted for women's empowerment
- Pharmacy distribution

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- promotion for health impact
- through the public sector

Class 2: Single working women like:

- Pharmacy distribution
- promoted for women's empowerment

All dislike Extra pleasure

Limitations of approach

- Need to undertake DCE
  - Takes time and budget
  - Based on hypothetical scenarios
    - BUT……

Conclusion

- **DCE, analysed with Latent class models:**
  - very clear policy guidance (w.r.t. RPL):
- **Could be useful for market segmentation & social marketing.**
- **Ultimately increase programme sustainability and equity by accounting for SES preference heterogeneity**
  - *BUT Proof of concept of DCE as market segmentation tool:*
  - *Further evidence needed if DCE informed distribution truly more:*
    - *Accessible and Sustainable and Equitable*

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Thank you

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