



Predictors of Harmful, Hazardous or Dependent Alcohol (HHDA) use in South African adults: National Dietary Intake Survey (NDIS) of 2022 (unpublished)

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Presentation by Dr Marieke Theron



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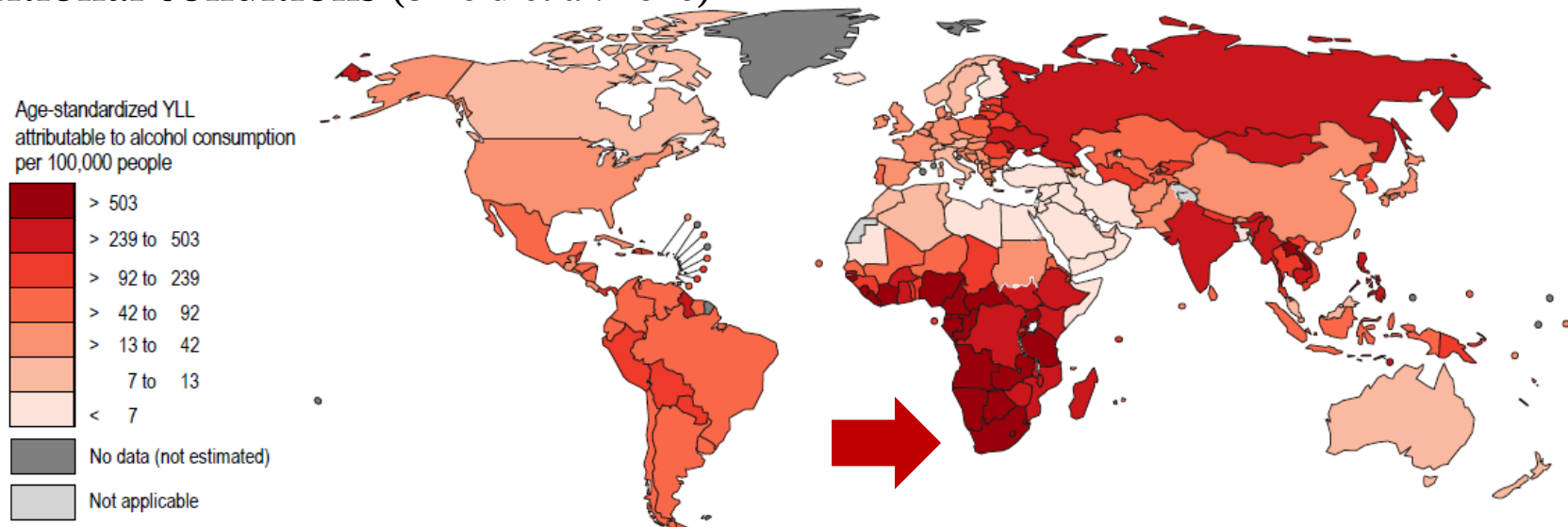
National
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NO CONFLICT OF INTEREST TO DECLARE

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INTRODUCTION

- South Africa - 64 million people – low to middle income country (LMIC)
- South Africa has 7% alcohol attributable fraction (AAF) of all deaths in 2012 (Matzopolous et al 2022)
- Global AAF is 5.3% of all deaths (Shield et al. 2020)
- WHO 2024 - 50.9% of men heavy episodic drinkers (HEDs) and 30.3% of women HEDs who drink alcohol in South Africa (WHO, 2024). [UK is 49.5% and 24.8%]
- Highest Years of Life Lost (YLL) due to alcohol -communicable diseases, maternal, perinatal and nutritional conditions (Shield et al. 2020)



METHODOLOGY

Aims & Objectives

Overall aim: To improve understanding of the foods and drinks consumed by various LSM, age and gender groups in South Africa, and to understand factors that influence their intake.

Specific Objectives:

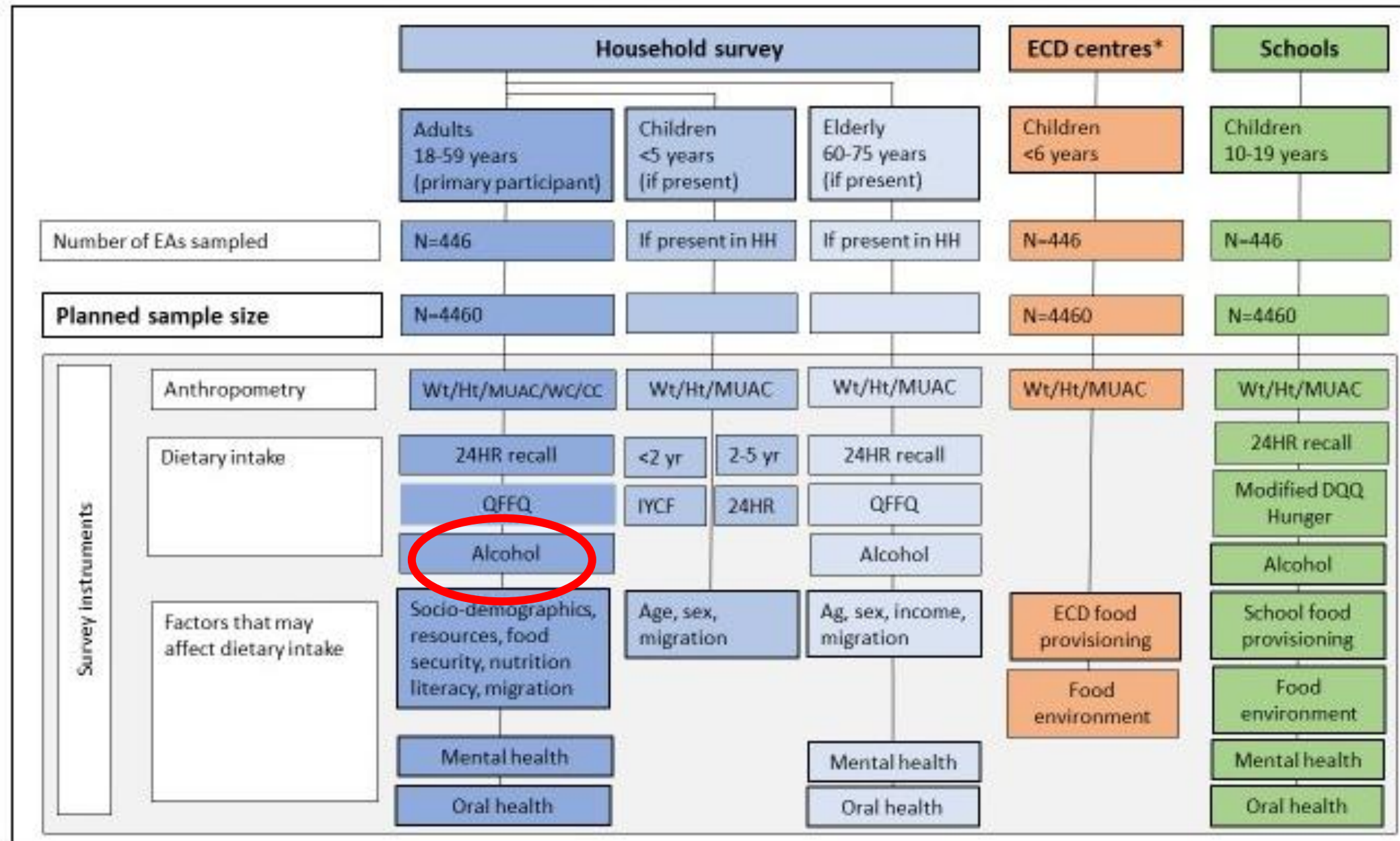
- Explore associations between socio-demographic factors, distance to alcohol outlets, type of alcohol consumed and HHDA use.
- Public perception of stricter alcohol regulations.

Design: The NDIS followed a cross-sectional, multistage, randomised sampling strategy.

Sampling: Used the Statistics SA Master Sample Frame (2019):

- Geographic type (urban, traditional or farm)
 - Estimated dwelling units per Enumerator Area (EA)
 - Included 446 EA's
 - Each EA chose 10 households, starting randomly and choosing every 6th house.
 - Planned a sample size of 4 460.
 - Achieved a sample of 3 406 after cleaning of data.
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SAMPLING (PLANNED: n=4460 ACHIEVED n=3406)



METHODOLOGY

Inclusion:

- Adults (18-59 years)
- Who lived (i.e. slept and ate) for more than four nights per week in a selected household
- Foreign nationals in households

Exclusion criteria:

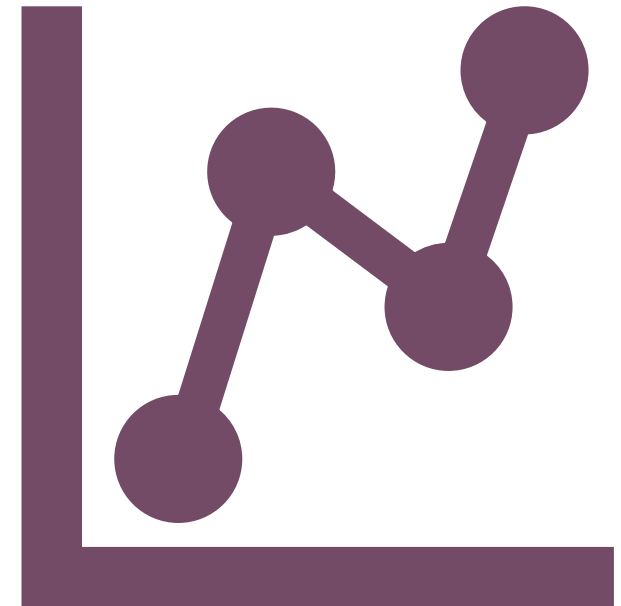
- People suffering from dementia
- Problems recalling memories from the last month
- People who were intoxicated at the time of the interview
- People who had lowered mental capacity
- Teenage headed or only ≥ 60 -year-old present

Instruments and measures of alcohol questionnaire nested within NDIS survey:

- Socio-demographics
 - Income
 - AUDIT (score of 8 or more indicating HHDA use) (Babor et al. 2001)
 - HED females 4 std alc. drinks and males 6 (Parry et al. 2014)
 - How far is it to the nearest 'shebeen' or other place that sells alcohol to your house?
 - What type (e.g. vodka/beer etc.) of alcohol do you drink when you have alcohol?
 - 7 Questions relating to alcohol regulations (1-5 Lickert scale) (WHO, 2019)
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DATA COLLECTION AND MANAGEMENT

- Data collection 1 March 2022 - 26 September 2022
- Data editing and alignment of different questionnaires were done using STATA, Excel and R software
- Data analysis October 2022 -March 2023
- Data was password protected,
 - anonymised and
 - only 3 people were allowed to work with the raw data



ETHICS

- Ethics approval was obtained from the UWC* Biomedical Research Ethics committee on 22 June 2021 (ethics reference number: BM21/4/12).
- Some of the collaborating higher education institutions (HEIs) needed their own ethics approval from their relevant research ethics committees (UNISA, UP, UFS and SMU). SU, NWU, UL, UNIZULU and UNIVEN did not require separate ethics approval to participate in the survey.
- Informed consent was obtained by trained fieldworkers before participants were interviewed.



*University of the Western Cape (UWC), University of South Africa (UNISA), University of Pretoria (UP), University of the Free State (UFS), Sefakho Makgatho Health Sciences University (SMU), Stellenbosch University (SU), North-West University (NWU), University of Limpopo (UL), University of Zululand (UNIZULU), University of Venda (UNIVEN).

STATISTICAL ANALYSIS

Descriptive and inferential analysis using R-software (by statistician).

Logistic regression using AUDIT score <8 or ≥ 8 as dependent variable.

Independent variables used in regression analysis:

- Age categories
- Population groups
- Sex
- Level of education
- Employment status
- Geographical area
- Province
- Type of alcohol consumed
- Distance to nearest alcohol outlet

Aspects accounted for in logistic analysis:

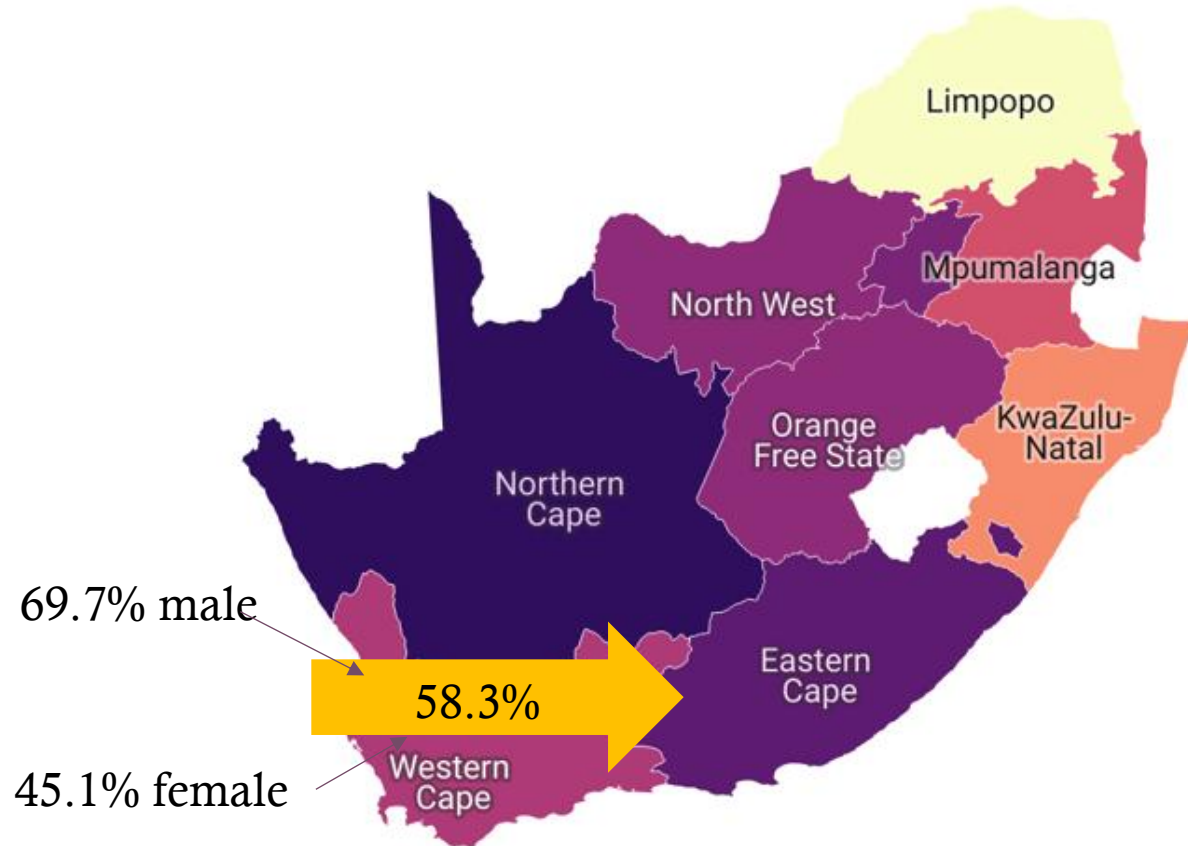
- Explicit stratification by province, population group, socio-economic status and geographical area.
 - Clustering at the level of the EAs.
 - Survey design and calibration weights. R software was used, with the package "survey"
 - Weighting was done post-stratification.
 - Data represents the population being studied and reduces inherent biases, ensuring representation of hard-to-reach demographic groups.
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RESULTS

- 50% of SA adults consume alcohol (past 30 days)
- 63.6% Male, 36.7% Female
- 25-35-year-olds highest prevalence
- Northern Cape highest prevalence of alcohol consumers at 62.1%
- EC 58.3%, GP 55.7%, NW, FS
- Non-metro urban 55.3%
- White 57.4%, Mixed race 53.6%, Black African 49.6%

South Africa

Percentage of alcohol users per province

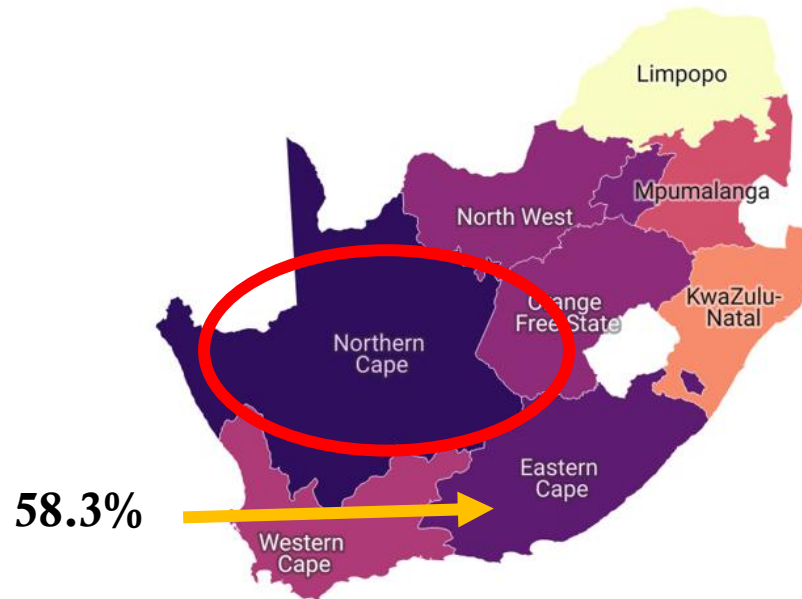


RESULTS

Prevalence of alcohol consumers per province (past month)

South Africa

Percentage of alcohol users per province

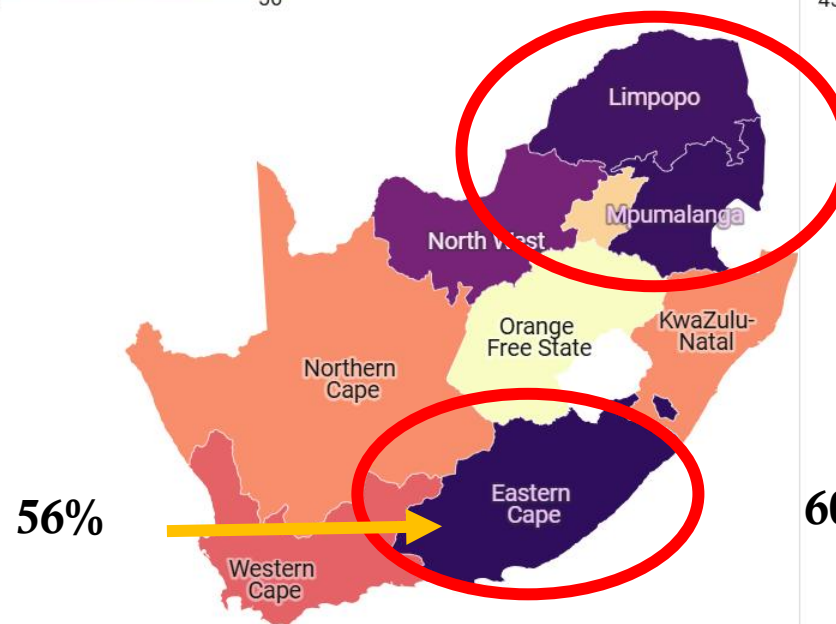


Total mean: M:63.6% & F:36.7%

Heavy Episodic Drinking prevalence Males ≥ 6 std drinks, Females ≥ 4 std drinks

South Africa

Prevalence of Heavy Episodic Drinking

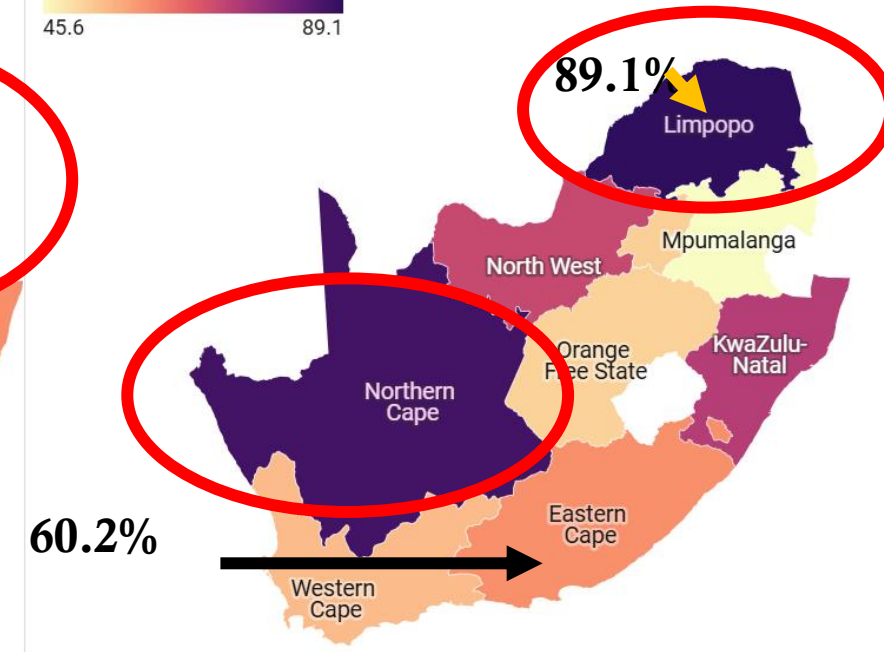


M:55.3% & F:33.4%

Harmful, Hazardous or Dependent Alcohol use prevalence (≥ 8 AUDIT)

South Africa

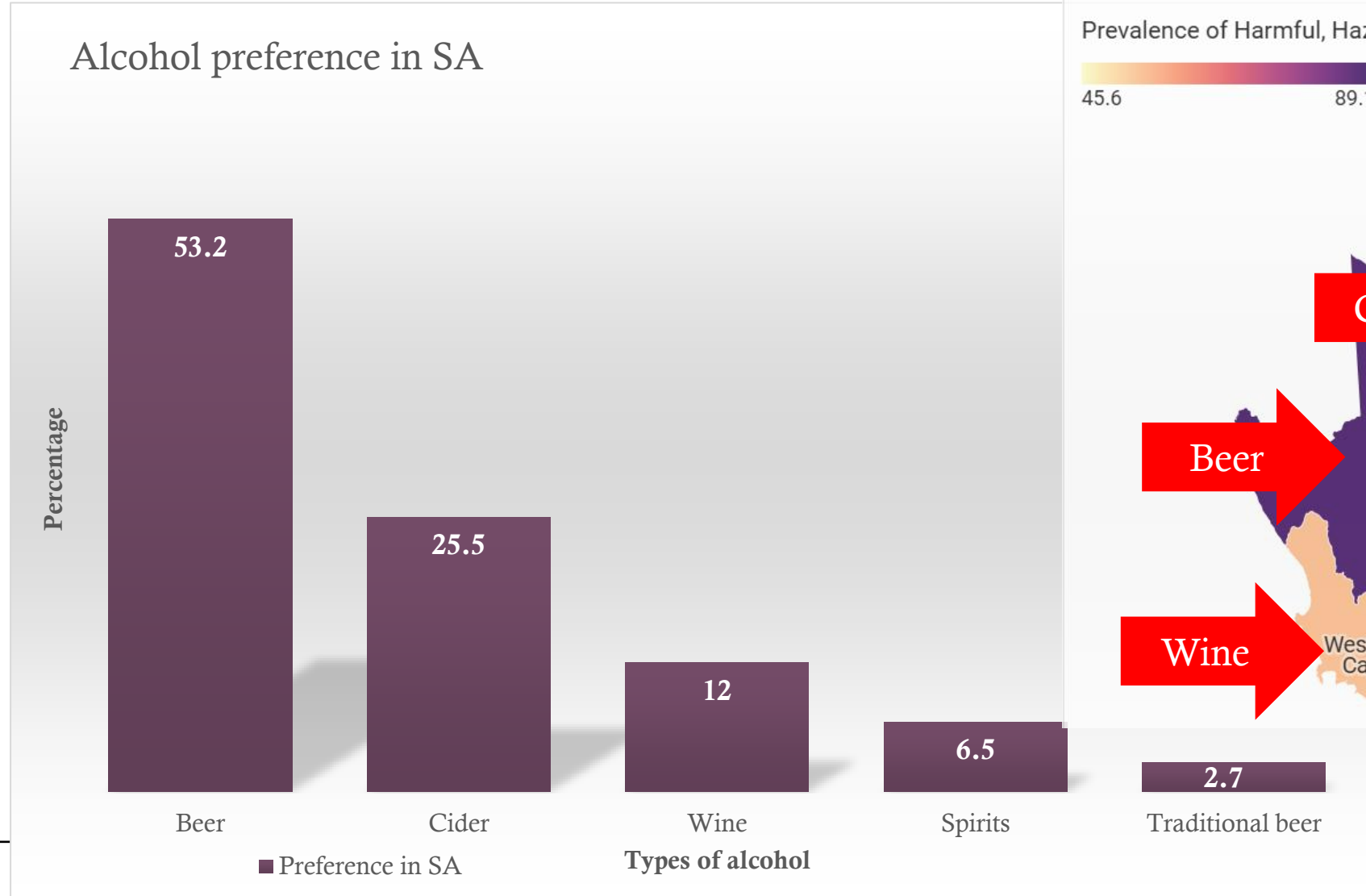
Prevalence of Harmful, Hazardous or Dependent alcohol use



M:76.3% & F:33.1%

*Limitation of data: Limpopo only had a sample size of 97 adults and NC of 88 adults when only drinkers were included.

RESULTS-PREFERRED ALCOHOL IN SA



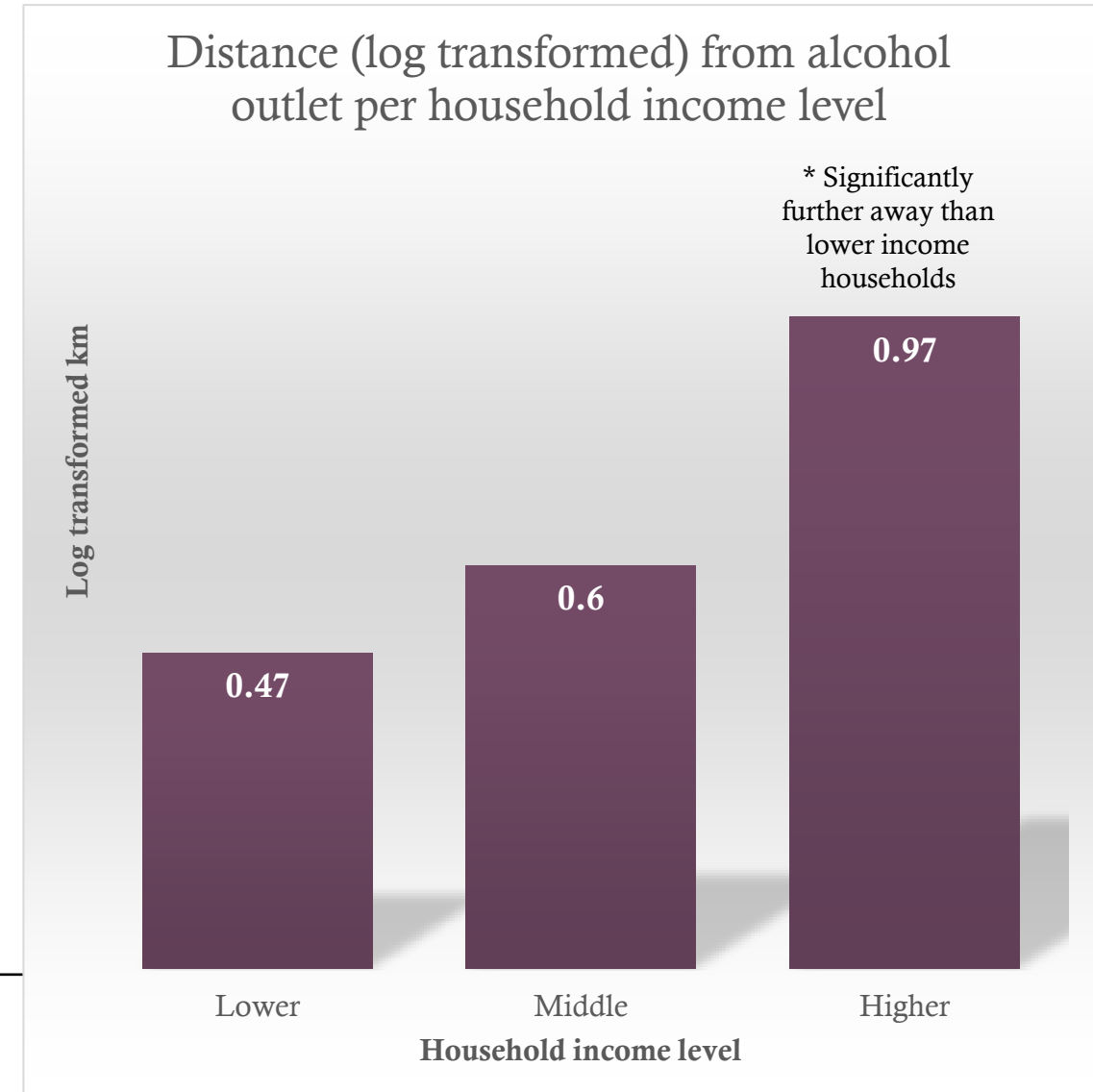
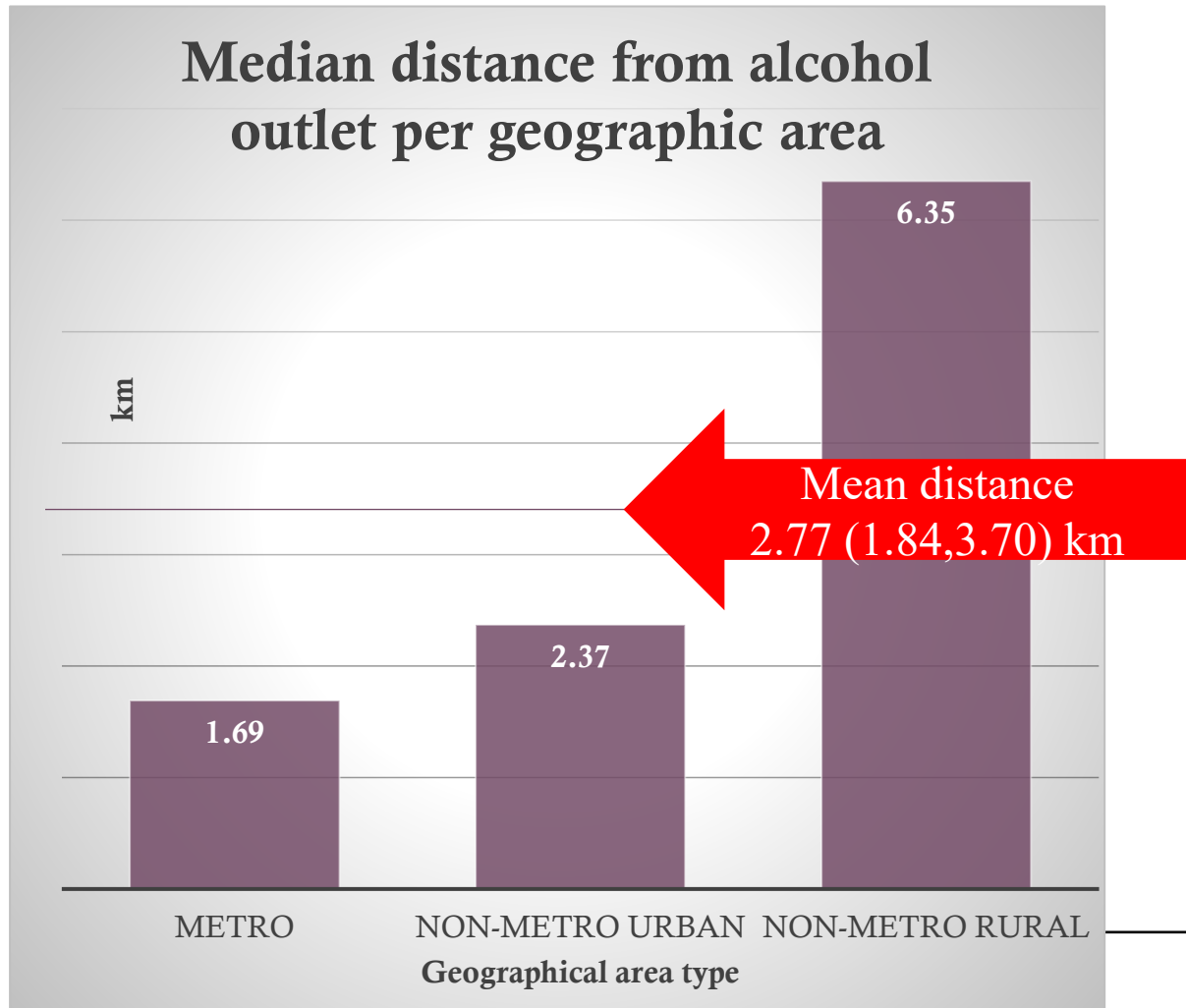
South Africa

Prevalence of Harmful, Hazardous or Dependent alcohol use



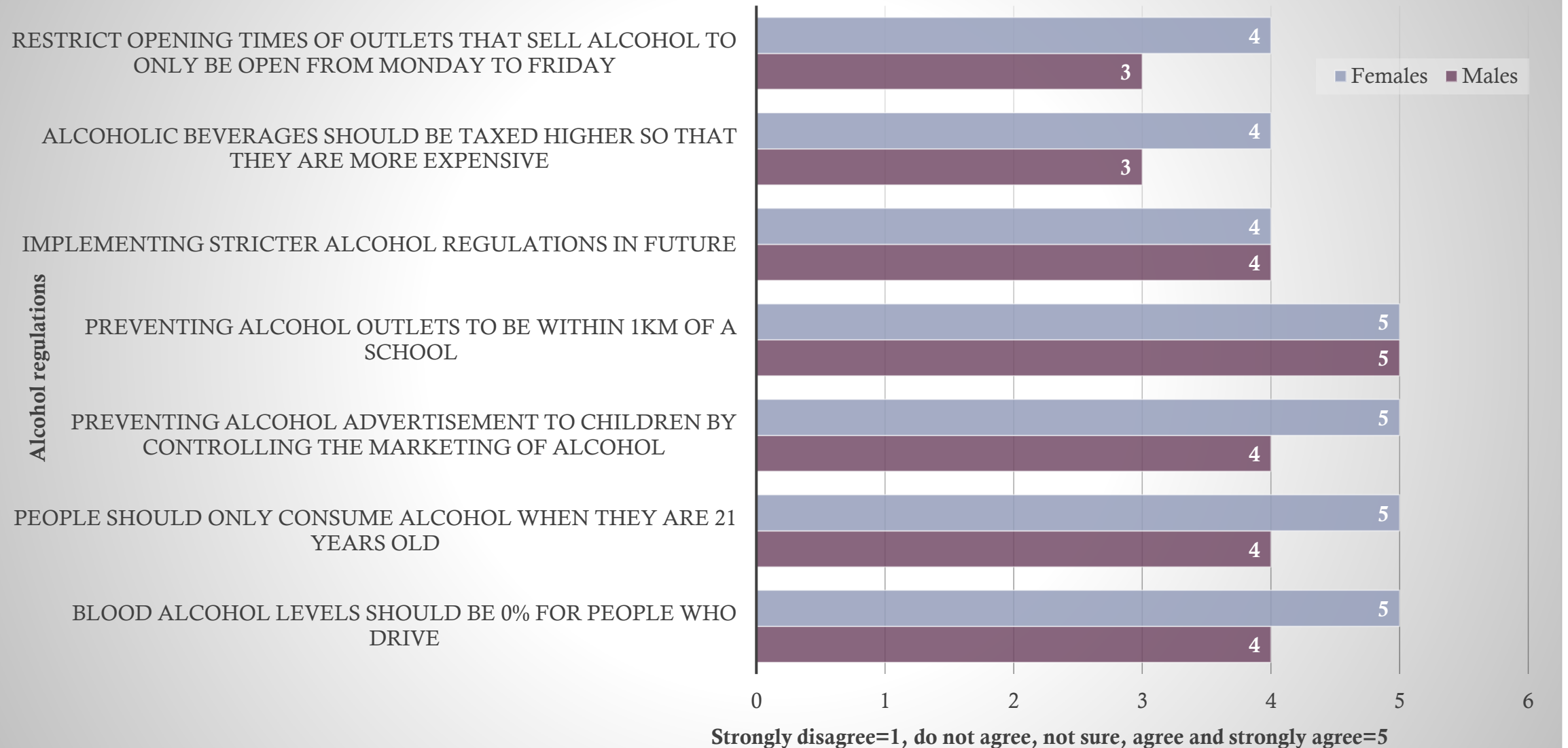
DISTANCE TO ALCOHOL OUTLETS

'How far is it to the nearest 'shebeen' or other place that sells alcohol from your house?'



RESULTS-PERCEPTION OF ALCOHOL LAWS

Agreement of possible alcohol regulation to be stricter in South Africa



RESULTS-LOGISTIC REGRESSION

The following covariates showed an association with HHDA use:

Significant Covariates	Associated with HHDA use:	Odds ratio (p-value)	
Geographical area	Non-metro urban (+) compared to metro.	1.85 (0.006)	Large towns that fall outside of cities, not classified as farms or tribal settlements.
Distance from outlets	The further away from an outlet the lower the odds.	0.88 (0.012)	
Province	Gauteng & Mpumalanga (-) compared to Western Cape.	0.50 (0.043) 0.25 (0.003)	
Sex	Female (-) compared to males.	0.41 (<0.001)	
Type of alcohol	Cider (-) compared to beer.	0.48 (0.002)	
Age group	55-59 (-) than 18-24-year-olds	0.30 (0.020)	
Population group	Indian (-) than Black African	7.12 (<0.001)	

STRENGTHS AND LIMITATIONS

Strengths

- Cluster-randomized study design, thus results are representative of the SA population

Limitations

- Self reported data on alcohol consumption
- Used perceived distance to physical alcohol outlets
- Limpopo and Northern cape have small number of sample when looking at drinkers only.



DISCUSSION

- The Eastern Cape had the second highest alcohol use prevalence
- HED 4.4 and 3.1 percentage points higher than WHO 2024 estimates, total prevalence of HED in SA is 47.2%
- EC showing the highest HED prevalence in SA with 56%.
- **Alcohol consumers:** nearly 80% males and 33% females are HHDA users (EC 60.2%)
- **SA population:** nearly half of adult males and 1-in-10 of females are HHDA users
- Lower income households are closer to alcohol outlets than higher income households
- Females support stricter alcohol regulations

50.9% of men are HEDs and 30.3% of women who drink alcohol in South Africa (WHO, 2024)

2017 South African Survey (SABSSM) reported **27.5% and 4.8%** HHDA use for the general population (Pengpid et al. 2021)

Being within a 1.6 km radius, significantly increased the number of days in which study participants consumed alcohol (Auchincloss et al. 2022)

Males 21.1 percentage points higher than 2017 survey.
Females 7.2 percentage points higher.

CONCLUSION

- This nationally representative sample of SA found higher prevalence of HHDA use than previous research.
- Half of SA males consume alcohol in HHDA way (Approx. 9.5 million people)
- 1-in-10 SA females consume alcohol in HHDA way (Approx 2.4 million people)
- **South Africans support more stringent alcohol policies:**



Target beer products by increasing price (Excise taxes increase/ Minimum Unit Pricing)



Reducing alcohol proximity in non-metro urban areas (suburbs), lower SES areas



Interventions needed in to curb HED in Eastern Cape (SBIRT tool)

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