

Supplementary Material for Socio-economic determinants of alcohol consumption for South Africa

Table S.1

Weighted¹ Descriptive Statistics for drinking and binge drinking in South Africa (NIDS Wave 4)

Variable	Pooled Sample					Male				Female			
	Total Sample: n (%)	Drinker: n (%)	Non- drinker: n (%)	Binger: n (%)	Non- binger: n (%)	Drinker: n (%)	Non- drinker: n (%)	Binger: n (%)	Non- binger: n (%)	Drinker: n (%)	Non- drinker: n (%)	Binger: n (%)	Non- binger: n (%)
Observations: n ² (%)	28 401 (100%)	22 723 (100%)	6 417 (100%)	9 445 (41.6%)	4 215 (65.7%)	13 276 (58.4%)	2 201 (34.3%)						
Observations: n (%)	—	6 530 (28.7)	16 193 (71.3)	3 008 (46.9)	3 409 (53.1)	4 288 (45.4)	5 157 (54.6)	2 186 (51.9)	2 029 (48.1)	2 241 (16.9)	11 035 (83.1)	8 222 (37.3)	1 379 (62.7)
Race													
African	22 598 (78.2)	70.3	83.4	82.1	61.1	75.1	83.8	83.8	66.5	60.2	83.3	76.8	52.3
Mixed Heritage	4 087 (9.2)	12.2	7.4	12.4	12.0	9.7	8.3	9.9	9.5	17.3	6.8	20.1	15.9
Indian	403 (2.8)	2.3	2.9	1.3	3.2	3.0	2.7	1.7	4.3	1.0	2.9	-	1.4
White	1 313 (9.8)	15.2	6.3	4.2	23.7	12.2	5.2	4.6	19.7	21.5	7.0	3.1	30.4
Gender													
Female	15 909 (51.7)	32.2	63.7	24.1	38.1	—	—	—	—	—	—	—	—
Male	12 490 (48.3)	67.8	36.3	75.9	61.9	—	—	—	—	—	—	—	—
Age													
15—24	8 562 (27.2)	20.5	30.0	22.7	18.6	19.8	36.0	21.4	18.0	22.1	26.6	26.7	19.7
25—34	6 633 (24.9)	32.0	21.4	36.7	28.6	32.2	19.7	35.3	29.3	31.9	22.4	41.3	27.5
35—44	4 318 (18.2)	20.2	17.3	21.0	19.8	20.1	17.2	21.4	19.1	20.3	17.4	19.7	20.9
45—54	3 631 (13.1)	14.4	12.7	12.9	15.4	15.0	11.5	14.5	15.5	13.0	13.4	8.0	15.3
55—64	2 717 (9.1)	7.7	9.9	4.9	9.9	8.1	8.7	5.5	10.6	6.8	10.6	2.9	8.6
65 and older	2 484 (7.5)	5.2	8.7	1.8	7.7	4.8	6.9	1.9	7.5	5.9	9.6	1.4	8.0
Mean	37.0	36.9	37.2	34.2	38.9	37.0	35.0	35.0	39.1	36.5	38.4	31.8	38.7
Marital status													
Married	5 541 (27.5)	26.4	28.0	19.8	31.6	26.0	29.9	20.5	31.4	27.2	26.9	17.6	31.9
Living with partner	1 943 (6.6)	8.0	5.9	9.0	7.3	7.6	5.2	7.9	7.3	8.8	6.3	12.6	7.2
Widow/widower	2 242 (7.4)	4.6	9.3	3.0	5.8	3.6	3.0	3.1	4.1	6.7	12.8	2.9	8.5
Divorced or separated	540 (3.1)	4.7	2.4	3.3	5.9	4.6	1.7	3.3	5.8	5.0	2.8	3.3	6.0
Never married	14 633 (55.4)	56.3	54.4	64.9	49.4	58.2	60.2	65.2	51.4	52.3	51.2	63.6	46.4
Province													
Western Cape	3 564 (12.1)	16.0	9.8	14.3	17.3	13.1	10.4	13.1	13.1	22.3	9.5	18.0	24.2
Eastern Cape	3 193 (12.0)	10.8	13.1	10.1	11.1	11.2	12.4	10.0	12.1	9.6	13.5	10.5	9.3
Northern Cape	2 128 (2.3)	3.0	1.9	3.2	2.9	2.7	2.0	2.8	2.6	3.7	1.8	4.4	3.3
Free State	1 622 (5.2)	6.4	4.5	9.3	4.3	5.8	4.7	8.9	3.0	7.7	4.5	10.7	6.3
Kwa Zulu Natal	7 927 (19.5)	13.7	22.2	12.6	14.5	15.9	20.7	13.2	18.3	9.1	23.1	10.6	8.5
North West	1 809 (6.8)	7.6	6.3	9.0	6.6	8.2	6.2	10.0	6.5	6.3	6.3	6.0	6.6
Gauteng	3 616 (25.0)	28.1	23.5	26.6	29.3	27.8	25.8	26.5	29.1	28.9	22.1	26.9	29.8
Mpumalanga	2 055 (7.6)	7.5	7.6	7.7	7.3	7.9	7.5	7.8	8.0	6.6	7.7	7.3	6.3
Limpopo	2 375 (9.5)	6.9	11.1	7.2	6.7	7.4	10.3	7.7	7.3	5.8	11.5	5.6	5.7
Geographical region³													
Traditional	11 268 (32.2)	22.1	37.4	23.6	21.0	24.5	35.3	24.8	24.0	17.4	38.5	19.7	16.1
Urban	15 151 (63.3)	73.0	58.1	72.5	73.5	69.9	59.8	71.0	69.2	79.2	57.2	77.3	80.4
Farming	1 779 (4.5)	4.9	4.5	3.9	5.5	5.6	4.9	4.2	6.8	3.4	4.3	3.0	3.5
Religion													
No religion	1 674 (7.3)	11.5	5.3	12.8	10.5	14.5	9.3	15.4	13.6	5.2	3.1	4.6	5.5
Christian	18 711 (82.5)	77.8	84.6	75.4	79.5	73.1	79.5	72.0	74.1	87.5	87.5	86.2	88.1
Jewish	49 (0.5)	0.9	0.3	0.2	1.5	1.4	0.3	0.2	2.4	0.1	0.2	0.4	-
Muslim	119 (1.3)	1.2	1.4	0.7	1.6	1.4	1.8	0.5	2.3	0.8	1.1	1.4	0.6
Hindu	98 (1.3)	1.2	1.3	1.0	1.4	1.5	1.1	1.3	1.7	0.7	1.5	0.1	0.9
African traditional	1 890 (6.7)	6.9	6.7	9.7	4.9	7.9	7.5	10.5	5.6	4.7	6.2	6.9	3.7
Other	121 (0.4)	0.5	0.4	0.2	0.6	0.2	0.5	0.1	0.3	1.0	0.4	0.4	1.2

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Variable	Pooled Sample					Male				Female			
	Total Sample: n (%)	Drinker: n (%)	Non- drinker: n (%)	Binger: n (%)	Non- binger: n (%)	Drinker: n (%)	Non- drinker: n (%)	Binger: n (%)	Non- binger: n (%)	Drinker: n (%)	Non- drinker: n (%)	Binger: n (%)	Non- binger: n (%)
Observations: n² (%)	28 401 (100%)	22 723 (100%)	6 417 (100%)	9 445 (41.6%)	4 215 (65.7%)	13 276 (58.4%)	2 201 (34.3%)						
Observations: n (%)	—	6 530 (28.7)	16 193 (71.3)	3 008 (46.9)	3 409 (53.1)	4 288 (45.4)	5 157 (54.6)	2 186 (51.9)	2 029 (48.1)	2 241 (16.9)	11 035 (83.1)	8 22 (37.3)	1 379 (62.7)
Education													
No schooling	2 246 (5.4)	4.1	6.0	2.8	4.8	3.9	4.2	2.8	5.0	4.3	7.1	2.7	4.5
Some primary school (Gr R-7)	4 851 (15.0)	13.3	16.1	15.0	12.1	14.4	17.6	15.5	13.6	11.0	15.2	13.6	9.7
Some high school (Gr 8—11)	10 836 (40.4)	35.7	43.4	38.3	33.6	36.7	45.0	37.8	35.1	33.8	42.4	39.7	31.2
Matric	3 863 (16.6)	18.0	15.0	19.8	16.8	17.3	14.2	19.4	15.3	19.6	15.5	21.1	19.3
Post-schooling	4 153 (22.6)	28.9	19.5	24.1	32.7	27.7	19.0	24.5	31.0	31.3	19.8	22.9	35.3
Employment													
Not economically active	11 581 (40.5)	26.9	47.5	22.8	29.8	23.7	41.5	19.9	27.1	33.7	50.9	31.8	34.1
Discouraged work-seekers	460 (1.7)	1.3	1.1	1.1	1.4	1.2	0.9	1.1	1.3	1.4	1.2	1.3	1.6
Unemployed_strict	2 924 (11.3)	12.5	11.0	13.8	11.6	11.4	9.5	12.8	10.1	14.8	11.9	16.8	14.1
Employed	9 269 (46.5)	59.3	40.4	62.3	57.2	63.7	48.1	66.2	61.5	50.1	36.0	50.1	50.2
Household size													
Mean (including children)	4.7	4.1	4.9	4.2	4.0	3.8	4.4	3.9	3.7	4.7	5.2	5.2	4.4
Exercise													
Never	15 716 (63.8)	56.8	67.3	57.2	56.7	53.4	53.4	53.7	53.4	64.1	75.2	67.9	62.2
≤ 1–2 times a week	3 950 (21.3)	23.9	19.9	22.4	25.1	25.4	24.8	23.2	27.5	20.6	17.2	20.0	21.1
≥ 3 times a week	3 035 (14.9)	19.3	12.8	20.4	18.2	21.2	21.8	23.1	19.1	15.3	7.6	12.1	16.7
Self-perceived health													
Excellent	7 279 (32.7)	33.5	31.9	36.6	31.3	34.0	37.2	37.1	31.2	32.5	28.9	35.1	31.5
Very good	7 118 (28.9)	28.1	29.5	28.7	27.9	29.4	29.5	28.9	30.1	25.3	29.5	27.7	24.2
Good	6 928 (27.1)	28.6	27.2	26.3	30.2	27.7	24.7	25.4	29.7	30.4	28.7	29.0	31.0
Fair	2 127 (8.4)	7.6	8.6	6.8	8.1	6.6	6.5	6.6	6.5	9.8	9.7	7.3	10.7
Poor	852 (2.9)	2.2	2.8	1.7	2.5	2.3	2.1	2.0	2.5	2.0	3.2	0.9	2.6
Smoker													
Non-smoker	18 443 (79.6)	57.2	90.7	48.6	63.7	47.9	81.6	41.7	53.5	76.7	95.9	70.3	80.3
Smoker	4 266 (20.4)	42.8	9.3	51.4	36.3	52.1	18.4	58.3	46.5	23.3	4.1	29.7	19.7
Monthly household income per capita													
Mean	3750.5	4585.9	3091.3	3508.4	5433.9	4631.8	3373.9	3816.9	5419.8	4489.2	2929.9	2537.4	5456.7
Depression													
Less risk of depression	2 059 (8.4)	7.0	9.0	4.4	9.1	7.7	9.8	4.2	11.0	5.7	8.6	5.1	6.1
More risk of depression	20 662 (91.6)	93.0	91.0	95.6	90.9	92.3	90.2	95.8	89.0	94.3	91.4	94.9	93.9
Life satisfaction													
Unsatisfied	7 795 (34.2)	33.0	34.8	35.9	31.1	35.2	34.6	36.1	34.6	28.5	34.9	35.5	25.3
Intermediate satisfaction	7 301 (32.4)	30.8	33.3	30.6	31.2	31.1	31.6	31.1	31.7	30.0	34.2	29.3	30.5
Satisfied	4 968 (22.5)	25.2	21.1	24.5	25.9	24.5	22.9	24.4	24.4	26.8	20.1	24.7	28.2
Very satisfied	2 626 (10.9)	11.0	10.8	9.0	11.8	9.2	10.9	8.4	9.3	14.7	10.8	10.5	16.0

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Frequency of alcohol and drug abuse in neighbourhood													
Never	1 612 (8.7)	10.0	8.2	5.3	13.7	9.7	8.9	5.3	13.9	10.8	7.8	5.5	13.2
Very rare	2 347 (11.0)	10.3	11.0	7.4	12.6	10.4	10.6	7.7	13.0	10.0	11.1	6.5	11.9
Not common	2 453 (9.3)	9.0	9.3	7.1	10.4	9.5	8.7	7.3	11.4	7.8	9.7	6.3	8.7
Fairly common	4 839 (16.4)	15.6	17.1	16.1	15.1	15.7	17.4	16.5	15.0	15.2	17.0	14.7	15.4
Very common	14 057 (54.6)	55.1	54.4	64.1	48.2	54.7	54.4	63.2	46.7	56.2	54.4	67.0	50.8
Biological children living with you?													
No	2 296 (22.8)	—	—	—	—	—	—	—	—	21.6	23.1	18.5	22.6
Yes	8 112 (77.2)	—	—	—	—	—	—	—	—	78.4	76.9	81.5	77.4
Household spending on beer, wine and spirits in the last 30 days													
Mean	285.2	310.9	263.3	363.7	269.5	320.3	265.4	371.6	269.1	289.4	262.4	336.6	270.1
Mean household daily ⁴ spending on beer, wine and spirits per capita in ZAR	3.1	3.3	2.8	3.9	2.9	3.4	2.8	3.9	2.9	3.1	2.8	3.6	2.9
Pregnant (Female)⁵													
Yes	486 (5.1)	—	—	—	—	—	—	—	—	2.4	—	2.3	—
No	9 084 (94.9)	—	—	—	—	—	—	—	—	—	—	—	—

¹ Random sampling may not necessarily yield population representivity. Subsequently, survey weights can be adjusted to make data more representative of the population. In the case of NIDS, post-stratified weights were applied to account for overrepresentation of the elderly and under-representation of young adults (25–29-year-olds) and the Indian and White racial groups (Wittenberg, 2009). Post-stratified weights were calculated by applying a minimised cross-entropy estimation procedure to design weights, as outlined in Wittenberg (2009).

² Exact number of observations weighted to obtain population proportions.

³ Traditional households refer to households situated in villages in tribal areas while farming households refer to households situated on land allocated or used for commercial farming (Brophy, Branson, Daniels, Leibbrandt, Mlatsheni and Woolard, 2018).

⁴ Calculated as (Household spending on beer, wine, and spirits in the last 30 days/30 (days))/3.1 (average household size, excluding children).

⁵ Approximately 60% of females disclosed their current pregnancy status calculated as (9 570/15 909)*100 = 60.1%.

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Table S.2

Weighted logistic results for Female Drinking and Binge Drinking, controlling for biological children residing in the household (odds ratios, confidence intervals in parenthesis); (NIDS Wave 4)

	Female	
	Drinker (Model 7)	Binge Drinker (Model 8)
Race		
African	1	1
Coloured	1.81*** (1.27-2.58)	0.55** (0.32-0.93)
Indian	0.55 (0.15-2.05)	-
White	3.30*** (1.75-6.20)	0.15*** (0.05- 0.40)
Age		
15–24	1	1
25–34	1.27* (0.99-1.64)	1.09 (0.66-1.81)
35–44	0.89 (0.66-1.20)	1.03 (0.55-1.94)
45–54	0.68** (0.47-0.97)	0.55 (0.24-1.27)
55–64	0.52*** (0.32-0.85)	0.37** (0.15-0.89)
65 and older	0.53** (0.30-0.95)	0.34* (0.11-1.06)
Marital status		
Married	1	1
Living with partner	1.55* (0.94-2.56)	1.45 (0.85-2.47)
Widow/widower	1.03 (0.71-1.51)	0.49** (0.24-0.98)
Divorced or separated	1.73** (1.02-2.91)	0.95 (0.39-2.33)
Never married	1.85*** (1.37-2.49)	1.10 (0.71-1.72)
Province		
Western Cape	1	1
Eastern Cape	0.74 (0.47-1.16)	1.61 (0.86-3.03)
Northern Cape	1.30 (0.87-1.94)	1.54 (0.78-3.03)
Free State	1.71** (1.04-2.82)	2.66*** (1.45-4.89)
Kwa Zulu Natal	0.38*** (0.23-0.61)	1.68 (0.86-3.28)
North West	1.03 (0.55-1.91)	1.31 (0.66-2.60)
Gauteng	0.84 (0.54-1.29)	1.20 (0.67-2.13)
Mpumalanga	0.94 (0.54-1.61)	1.54 (0.80-2.96)
Limpopo	0.59** (0.35-0.98)	1.39 (0.66-2.95)
Geographical region		
Traditional	1	1
Urban	1.42** (1.06-1.89)	1.13 (0.71-1.80)
Farming	0.98 (0.58-1.65)	1.37 (0.60-3.13)
Religion		
No religion	1	1
Christian	0.44*** (0.28-0.67)	1.47 (0.79-2.75)
Jewish	0.73 (0.17-3.16)	-
Muslim	0.54 (0.16-1.83)	5.06*** (1.68-15.25)
Hindu	1.28 (0.25-6.62)	-
African traditional	0.68 (0.40-1.14)	2.40** (1.05-5.48)
Other	0.71 (0.24-2.15)	0.87 (0.14-5.23)
Education		
No schooling	1	1
Some primary school (Gr R–7)	0.59*** (0.41-0.86)	0.83 (0.38-1.83)
Some high school (Gr 8–11)	0.49*** (0.34-0.72)	0.78 (0.34-1.80)
Matric	0.58** (0.36-0.94)	0.95 (0.40-2.25)
Post-schooling	0.64* (0.40-1.03)	0.87 (0.37-2.05)
Employment		
Not economically active	1	1
Unemployed_discouraged	2.15** (1-.20-3.86)	0.62 (0.24-1.56)
Unemployed_strict	1.37** (1.06-1.77)	0.80 (0.48-1.34)
Employed	1.37*** (1.08-1.73)	0.79 (0.57-1.10)
Smoker		
Non-smoker	1	1
Smoker	3.47*** (2.32-5.18)	3.30*** (1.98-5.49)
Depression		
Less risk of depression	1	1
More risk of depression	1.04 (0.71-1.53)	1.46 (0.78-2.74)
Life satisfaction		
Unsatisfied	1	1
Intermediate satisfaction	1.03 (0.81-1.31)	0.81 (0.52-1.27)
Satisfied	1.32** (1.01-1.71)	1.12 (0.74-1.69)
Very satisfied	1.24 (0.84-1.83)	0.83 (0.41-1.67)

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Self-perceived health		
Excellent	1	1
Very good	0.98 (0.75-1.27)	1.00 (0.69-1.46)
Good	0.96 (0.74-1.25)	0.89 (0.60-1.33)
Fair	1.14 (0.83-1.57)	0.68 (0.38-1.22)
Poor	0.86 (0.44-1.67)	0.17*** (0.05-0.56)
Exercise		
Never	1	1
< 1 – 2 times a week	1.06 (0.82-1.35)	1.01 (0.62-1.65)
≥ 3 times a week	1.77*** (1.22-2.58)	2.19*** (1.32-3.63)
Frequency of alcohol and drug abuse in neighbourhood		
Never	1	1
Very rare	0.71 (0.39-1.30)	0.69 (0.27-1.79)
Not common	0.51** (0.29-0.89)	1.02 (0.38-2.70)
Fairly common	0.83 (0.53-1.30)	0.90 (0.38-2.10)
Very common	0.84 (0.54-1.29)	1.27 (0.55-2.90)
Biological children living in the household		
No	1	1
Yes	0.95 (0.73-1.23)	0.88 (0.57-1.34)
Household size	1.02 (0.98-1.05)	1.02 (0.96-1.08)
Monthly household income per capita	1.00 (1.00-1.00)	1.00 (1.00-1.00)
Observations	10 246	1 744
Goodness of fit¹	0.25	0.36

¹ Using Archer and Lemeshow (2006) to account for survey data design, as opposed to the standard Hosmer-Lemeshow goodness of fit statistic.