

## Predictors of COVID-19 Vaccine Hesitancy in South African Local Communities: The VaxScenes Study

### Authors

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## Supplementary materials

**Table S1: Four case study sites by province, ward, settlement type, population, and COVID-19 statistics as of 29 January 2021.**

Case Study Site	Province	Ward	Type	Population	Provincial COVID-19 Data*
Alexandra	Gauteng	Ward 76, Region E City of Johannesburg	Urban, informal	798 014 (2011 Census)	386 770 cases 10 195 deaths
Rylands Estate	Western Cape	Ward 46, Athlone, City of Cape Town	Urban	32 199	268 507 cases 10,247 deaths
Sweetwaters	KwaZulu Natal	Vulundlela, Umgungundlovu District Municipality	Semi-Rural	18 587	311 877 cases 8 443deaths
Wentworth	KwaZulu Natal	Ward 66, eThekweni Municipality	Urban	145 949 (2016 Census)	

\*Source:<https://sacoronavirus.co.za/2021/01/29/update-on-COVID-19-29th-january-2021/>.

**Table S2: Supplemental questions related to COVID-19 and COVID-19 vaccine.**

<b>Variables</b>	<b>Respondents</b> n (%)
<b>Do you think the following people in your community would want you to get a COVID-19 vaccine?</b>	
<b>Family and friend</b>	
Yes	701 (59.7%)
No	176 (15.0%)
Not sure	297 (25.3%)
<b>The local ward councillor/s</b>	
Yes	714 (60.9%)
No	88 (7.50%)
Not sure	371 (31.6%)
<b>Local leaders in political parties</b>	
Yes	692 (60.1%)
No	95 (8.25%)
Not sure	365 (31.7%)
<b>Traditional leaders</b>	
Yes	371 (32.4%)
No	186 (16.2%)

Not sure	589 (51.4%)
<b>Religious leaders</b>	
Yes	660 (57.3%)
No	146 (12.7%)
Not sure	346 (30.0%)
<b>Do you think most adults you know in this local community will get a COVID-19 vaccine, if government makes it available to them?</b>	
Yes	855 (73.1%)
No	84 (7.19%)
Not sure	230 (19.7%)
<b>What do you think would help ensure that as many people as possible in your community get the COVID-19 vaccine?</b>	
Make vaccines available as quickly as possible to all adults	880 (73.8%)
Ensure the COVID-19 vaccine is free	885 (74.2%)
Publicly vaccinate community leaders	726 (60.9%)
Provide more education about the COVID-19 vaccine	827 (69.3%)
Involve religious and community leaders in COVID-19 education programmes	800 (67.1%)
Encourage community participation through ward councilors	765 (64.1%)
Make information easily available online	704 (59.0%)
<b>If you hear confusing information related to the COVID-19 vaccine, who would you go to for reliable information?</b>	
A family member	154 (13.7%)

A friend or neighbor	29 (2.57%)
A nurse or doctor	594 (52.7%)
A community outreach worker (community health worker)	60 (5.32%)
A traditional healer	6 (0.53%)
An online search	238 (21.1%)
I don't check information that I receive	47 (4.17%)
<b>Where would you prefer to get a COVID-19 vaccine?</b>	
Hospital	222 (19.6%)
Health clinic	298 (26.3%)
Workplace	58 (5.12%)
Pharmacy	206 (18.2%)
Community centre, meeting hall, or local shopping centre	205 (18.1%)
I don't want the vaccine	144 (12.7%)
<b>Do you think people who do not get the COVID-19 vaccine are taking a risk with</b>	
Their own health	159 (13.6%)
The health of the wider community	68 (5.80%)
Both their own health AND that of the wider community	775 (66.1%)
They are not taking unnecessary risks	170 (14.5%)
<b>How much do you trust the National Government to manage the rollout of the COVID-19 vaccine for South Africa?</b>	

Not at all	254 (21.3%)
A little	274 (23.0%)
Moderately	396 (33.2%)
Very much	267 (22.4%)
<b>How much do you trust the pharmaceutical industry in its development of the COVID-19 vaccine?</b>	
Not at all	198 (16.6%)
A little	249 (20.9%)
Moderately	439 (36.9%)
Very much	305 (25.6%)
<b>How much trust do you have in the scientists advising National Government about COVID-19 vaccine?</b>	
Not at all	183 (15.4%)
A little	206 (17.3%)
Moderately	396 (33.3%)
Very much	405 (34.0%)
<b>Will you continue to wear a mask after you are vaccinated?</b>	
Yes	773 (94.6%)
No	28 (3.43%)
Not sure	16 (1.96%)

**Female**

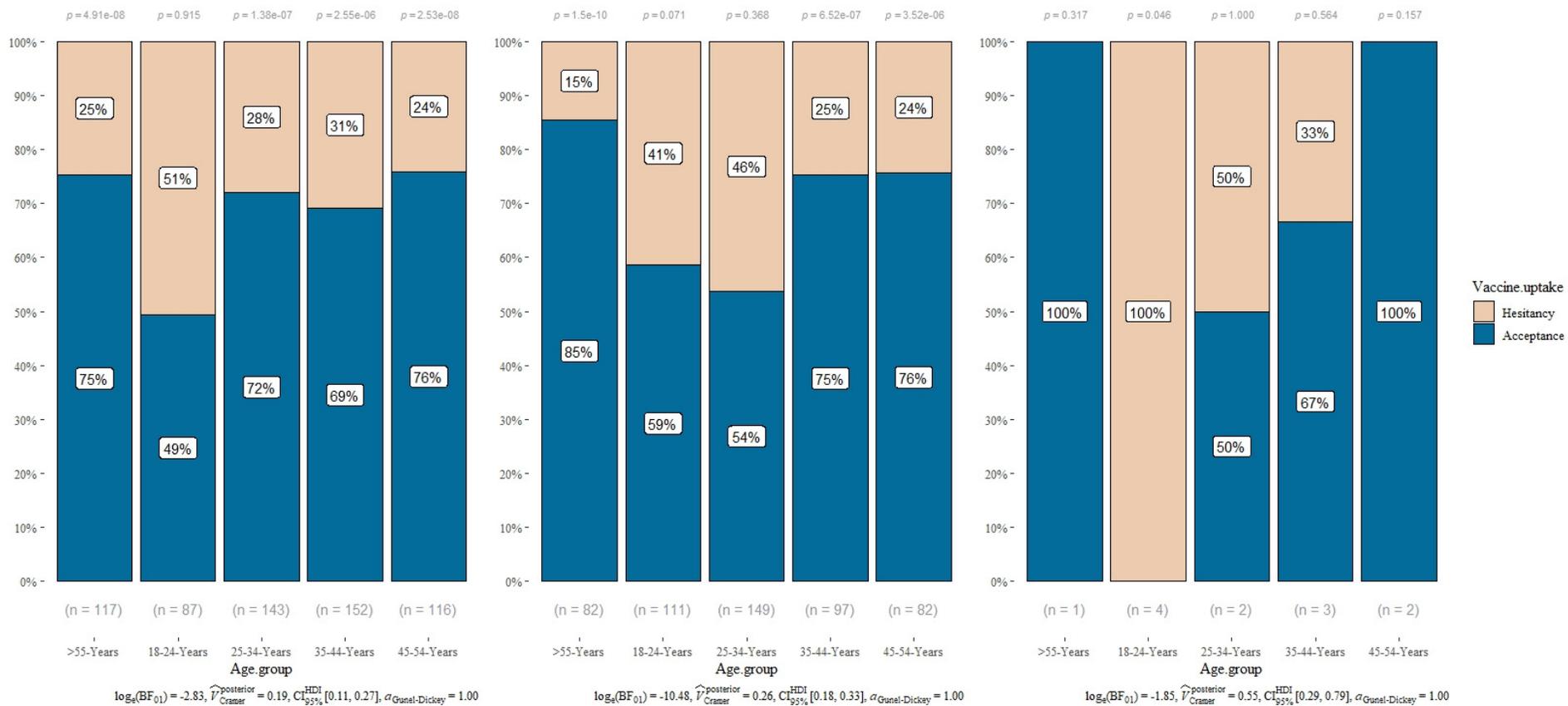
$\chi^2_{\text{Pearson}}(4) = 20.97, p = 3.21e-04, \hat{V}_{\text{Cramer}} = 0.17, \text{CI}_{95\%} [0.06, 0.23], n_{\text{obs}} = 615$

**Male**

$\chi^2_{\text{Pearson}}(4) = 33.85, p = 8e-07, \hat{V}_{\text{Cramer}} = 0.24, \text{CI}_{95\%} [0.14, 0.31], n_{\text{obs}} = 521$

**Other**

$\chi^2_{\text{Pearson}}(4) = 7.33, p = 0.119, \hat{V}_{\text{Cramer}} = 0.52, \text{CI}_{95\%} [0.00, 0.87], n_{\text{obs}} = 12$

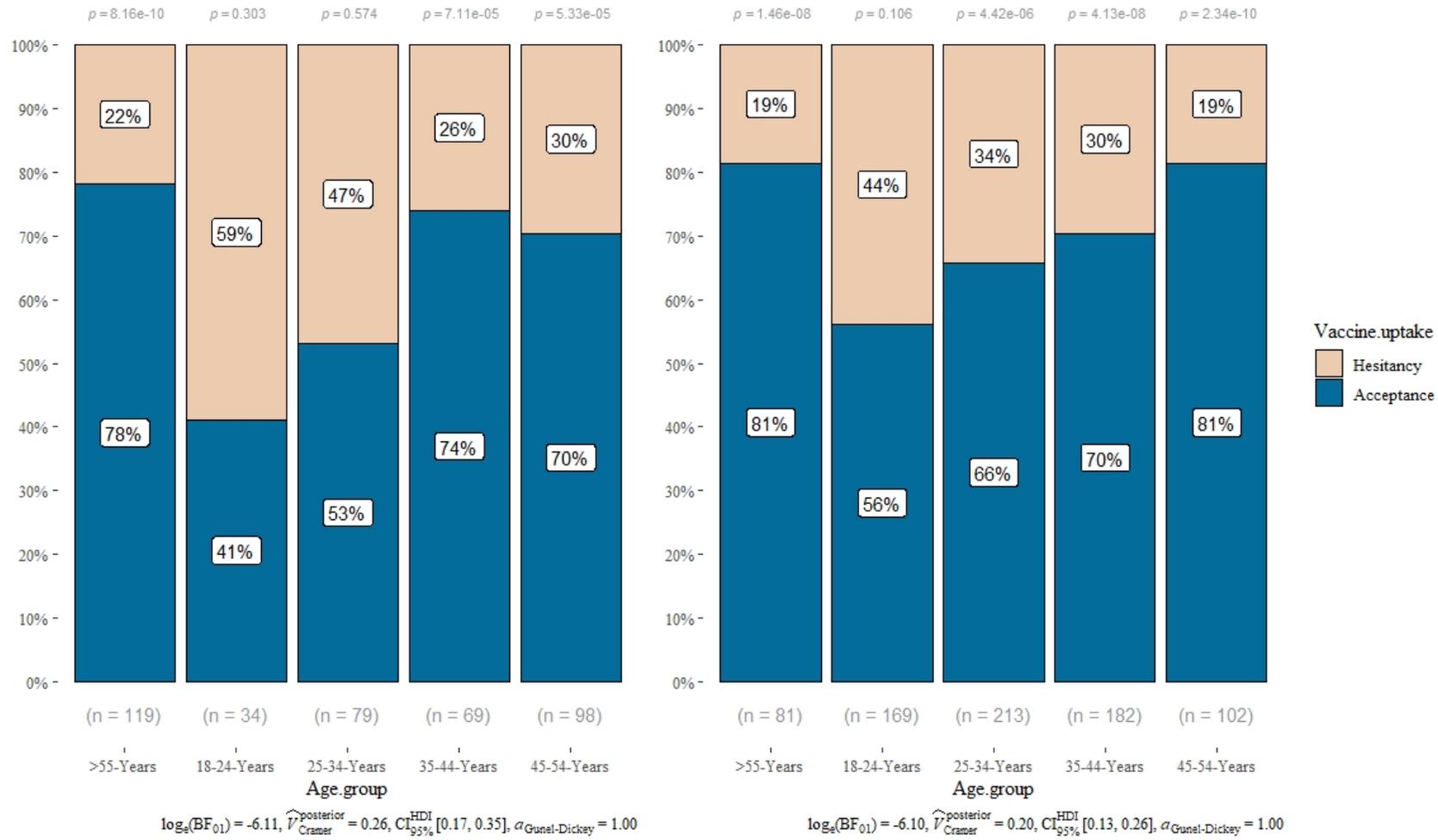


**Below matric**

$\chi^2_{\text{Pearson}}(4) = 25.93, p = 3.27e-05, \hat{V}_{\text{Cramer}} = 0.23, \text{CI}_{95\%} [0.11, 0.32], n_{\text{obs}} = 399$

**Matric or above**

$\chi^2_{\text{Pearson}}(4) = 27.04, p = 1.95e-05, \hat{V}_{\text{Cramer}} = 0.18, \text{CI}_{95\%} [0.09, 0.24], n_{\text{obs}} = 747$



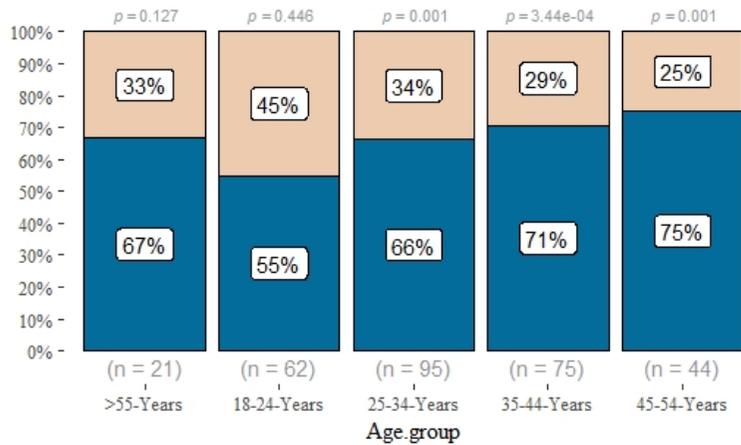
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Alexandria - Gauteng

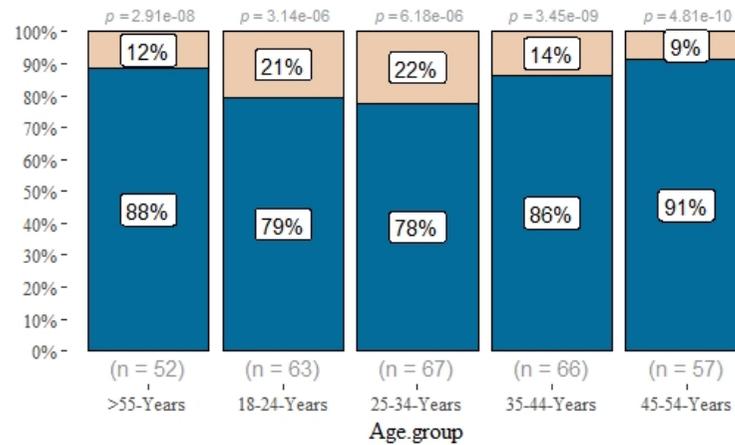
$\chi^2_{\text{Pearson}}(4) = 5.78, p = 0.216, \hat{V}_{\text{Cramer}} = 0.08, \text{CI}_{95\%} [0.00, 0.14], n_{\text{obs}} = 297$

Rylands Estate – Western Cape

$\chi^2_{\text{Pearson}}(4) = 6.37, p = 0.173, \hat{V}_{\text{Cramer}} = 0.09, \text{CI}_{95\%} [0.00, 0.16], n_{\text{obs}} = 305$



$\log_e(\text{BF}_{01}) = 3.16, \hat{V}_{\text{Cramer}}^{\text{posterior}} = 0.16, \text{CI}_{95\%}^{\text{HDI}} [0.07, 0.26], \alpha_{\text{Gunnell-Dickey}} = 1.00$



$\log_e(\text{BF}_{01}) = 1.70, \hat{V}_{\text{Cramer}}^{\text{posterior}} = 0.17, \text{CI}_{95\%}^{\text{HDI}} [0.08, 0.26], \alpha_{\text{Gunnell-Dickey}} = 1.00$

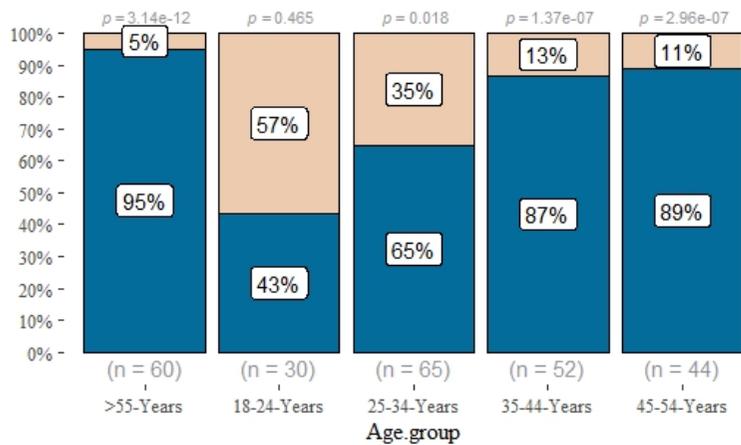
Vaccine uptake  
 Hesitancy  
 Acceptance

Sweetwaters – KwaZulu-Natal

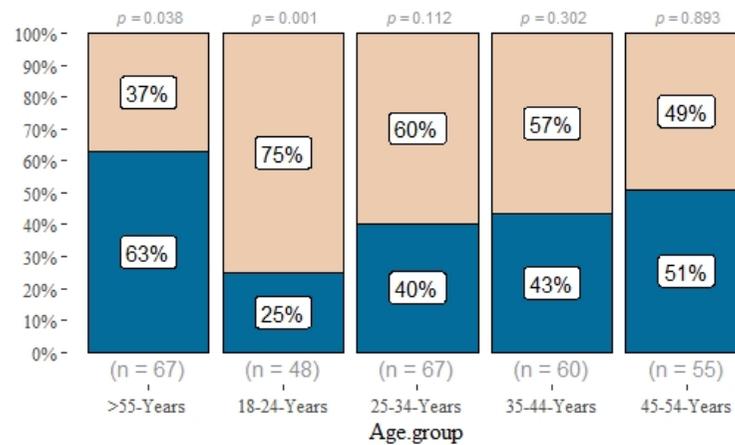
$\chi^2_{\text{Pearson}}(4) = 43.13, p = 9.71e-09, \hat{V}_{\text{Cramer}} = 0.40, \text{CI}_{95\%} [0.25, 0.51], n_{\text{obs}} = 251$

Wentworth – KwaZulu-Natal

$\chi^2_{\text{Pearson}}(4) = 17.61, p = 0.001, \hat{V}_{\text{Cramer}} = 0.21, \text{CI}_{95\%} [0.06, 0.31], n_{\text{obs}} = 297$



$\log_e(\text{BF}_{01}) = -15.51, \hat{V}_{\text{Cramer}}^{\text{posterior}} = 0.41, \text{CI}_{95\%}^{\text{HDI}} [0.30, 0.52], \alpha_{\text{Gunnell-Dickey}} = 1.00$



$\log_e(\text{BF}_{01}) = -2.99, \hat{V}_{\text{Cramer}}^{\text{posterior}} = 0.25, \text{CI}_{95\%}^{\text{HDI}} [0.15, 0.35], \alpha_{\text{Gunnell-Dickey}} = 1.00$

**Figure S1: Age-groups distribution of COVID-19 vaccine uptake.** Analyses by gender (A), level of education (B) and study sites (C) among respondents from four local communities in South Africa, from 6 June to 30 June 2021.