

South Africa - AHRI:Sesikhona! (we are here) Activity Space

Nompumelelo Mkwazi

Report generated on: December 4, 2025

Visit our data catalog at: <https://data.ahri.org/index.php>

Identification

SURVEY ID NUMBER

AHRI.Sesikhona.ActivitySpace.Survey

TITLE

AHRI:Sesikhona! (we are here) Activity Space

COUNTRY

Name	Country code
South Africa	ZA

ABSTRACT

The Sesikhona study is the first of its kind study using smartphone-based GPS technology to record ultra-high resolution mobility patterns of over 200 young adults aged 20-30 years in rural KwaZulu Natal. The study seeks to identify distinct movement typologies within this highly mobile, HIV hyper-endemic population and to quantify travel in and out of known high-risk locations, with the long-term goal of developing a location-intelligent smartphone intervention that delivers real-time, precision messaging to individuals at heightened risk of HIV acquisition, transmission or treatment interruption. Conducted in three phases between 2021 and 2025, the study used the Avicenna Research Platform to collect GPS and survey data. Between 2023 and 2025, consenting individuals self-completed surveys bi-daily and monthly based on their travel, mobility and activity space questions to validate the collected GPS location data, understand reasons for travel and planning thereof. 25978, 25237, 25236, 25235, 22768, 22766

KIND OF DATA

Survey data

UNIT OF ANALYSIS

Young adults aged 20-30 years old

Version

VERSION DESCRIPTION

v1.0.0

Scope

TOPICS

Topic	Vocabulary	URI
GPS technology, smartphone-based GPS, human mobility, young adults, HIV, mobile health, digital technology, mental health	Africa Health Research Institute	www.ahri.org

KEYWORDS

Keyword	Vocabulary	URI
Human mobility, HIV, GPS technology, digital technology, travel, mobility and activity space	Africa Health Research Institute	www.ahri.org

Coverage

GEOGRAPHIC COVERAGE

Residents from uMkhanyakude in KwaZulu Natal but move anywhere in South Africa

UNIVERSE

A random sample of adults aged 20-30 years old who were residents in Southern PIPSA, participated in the 2019 HIV surveillance and consented to participate in Sesikhona study and opted in for the sexual behavior surveys

Producers and sponsors

PRIMARY INVESTIGATORS

Name	Affiliation
Prof. Frank Tanser(Principal Investigator)	Africa Health Research Institute/ Stellenbosch University
Prof Adrian Dobra	University of Washington
Prof Till Barnighausen	Africa Health Research Institute/Medical Faculty and University Hospital, Heidelberg University, Heidelberg Institute of Global Health, Heidelberg, Germany

PRODUCERS

Name	Abbreviation
Africa Health Research Institute	AHRI

FUNDING AGENCY/SPONSOR

Name	Abbreviation	Role
National Institute of Health	NIH	Funder
German Science Foundation	DFG	Funder
Academy of Medical Sciences Newton Fund	NAF	Funder

Sampling

SAMPLING PROCEDURE

Participants were randomly selected from the 2019 AHRI HIV surveillance program if they were aged 20-30 years old and had participated in the HIV survey in 2019 and were resident members in the southern PIP and owned a smartphone that supported the study app.

Data collection

DATES OF DATA COLLECTION

Start	End
2024-10-01	2025-06-30

Data Processing

DATA EDITING

Travel, Mobility and Activity space survey responses from Sesikhona participants via the Avicenna app

Access policy

ACCESS CONDITIONS

Access to the data requires accurate completion of the online data access application form accessible on the AHRI Data

repository(<<https://data.ahri.org/>>). Data users are required to abide by the data use conditions stipulated on the application for access to the data. Failure to do so may result in their data access privileges being revoked by the Data Custodian. In order to recognise the effort and intellectual contributions of AHRI investigators in producing and curating the data, users of AHRI data must acknowledge the source of the data and abide by the terms and conditions under which the data is accessed and must cite the dataset in publication using the citation provided as part of this documentation. All analytical datasets published on the AHRI Data Repository are assigned digital object identifier (DOIs) and the DOIs can be found on the Data Repository under Study Description tab - Access policy. AHRI data users are required to always cite the dataset using the relevant DOI.

CITATION REQUIREMENTS

Tanse, F., Dobra, A., & Barnighausen, T. (2025). AHRI:Sesikhona! (we are here) Activity Space [Data set]. Africa Health Research Institute.

DOI: <https://doi.org/10.23664/AHRI.SESIKHONA.ACTIVITYSPACE.SURVEY>

Metadata production

DDI DOCUMENT ID

DDI.AHRI.Sesikhona.ActivitySpace.Survey

PRODUCERS

Name	Abbreviation
Africa Health Research Institute	AHRI

Data Dictionary

Data file	Cases	Variables
AHRI.Sesikhona.ActivitySpace.Survey.2025.v1.0	2241	16

Data file: AHRI.Sesikhona.ActivitySpace.Survey.2025.v1.0

Cases: 2241

Variables: 16

Variables

ID	Name	Label	Question
V1	pid	Participant ID	
V2	maq_1	Work	
V3	maq_2	School	
V4	maq_3	Market/Shops	
V5	maq_4	Town	
V6	maq_5	Church	
V7	maq_6	Bar/Drinking Venue	
V8	maq_7	Social Event(Funeral Wedding Sporting)	
V9	maq_8	Clinic/Hospital/Doctor	
V10	maq_9	Visit your Partner	
V11	maq_10	Visit another family member	
V12	maq_11	Visit a Friend	
V13	maq_12	Travel Out of Town	
V14	maq_13	Other	
V15	record_time	Record Time	
V16	sur_status	Status	

Total: 16

PID: Participant ID

Data file: AHRI.Sesikhona.ActivitySpace.Survey.2025.v1.0

Overview

Valid: 2241 Invalid: 0 Minimum: 39636 Maximum: 95065 Mean: 52173.469 Standard deviation: 11827.971

Type: Continuous Decimal: 0 Width: 12 Range: 39636 - 95065 Format: Numeric

MAQ_1: Work

Data file: AHRI.Sesikhona.ActivitySpace.Survey.2025.v1.0

Overview

Valid: 353 Invalid: 1888

Type: Discrete Decimal: 0 Width: 12 Range: 1 - 2 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
1	Yes	353	100%
2	No	0	0%
Sysmiss		1888	

MAQ_2: School

Data file: AHRI.Sesikhona.ActivitySpace.Survey.2025.v1.0

Overview

Valid: 160 Invalid: 2081

Type: Discrete Decimal: 0 Width: 12 Range: 1 - 2 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
1	Yes	160	100%
2	No	0	0%
Sysmiss		2081	

MAQ_3: Market/Shops

Data file: AHRI.Sesikhona.ActivitySpace.Survey.2025.v1.0

Overview

Valid: 436 Invalid: 1805
 Type: Discrete Decimal: 0 Width: 12 Range: 1 - 2 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
1	Yes	436	100%
2	No	0	0%
Sysmiss		1805	

MAQ_4: Town

Data file: AHRI.Sesikhona.ActivitySpace.Survey.2025.v1.0

Overview

Valid: 510 Invalid: 1731
 Type: Discrete Decimal: 0 Width: 12 Range: 1 - 2 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
1	Yes	510	100%
2	No	0	0%
Sysmiss		1731	

MAQ_5: Church

Data file: AHRI.Sesikhona.ActivitySpace.Survey.2025.v1.0

Overview

Valid: 276 Invalid: 1965
 Type: Discrete Decimal: 0 Width: 12 Range: 1 - 2 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
1	Yes	276	100%
2	No	0	0%
Sysmiss		1965	

MAQ_6: Bar/Drinking Venue**Data file: AHRI.Sesikhona.ActivitySpace.Survey.2025.v1.0****Overview**

Valid: 60 Invalid: 2181

Type: Discrete Decimal: 0 Width: 12 Range: 1 - 2 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
1	Yes	60	100%
2	No	0	0%
Sysmiss		2181	

MAQ_7: Social Event(Funeral Wedding Sporting)**Data file: AHRI.Sesikhona.ActivitySpace.Survey.2025.v1.0****Overview**

Valid: 142 Invalid: 2099

Type: Discrete Decimal: 0 Width: 12 Range: 1 - 2 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
1	Yes	142	100%
2	No	0	0%
Sysmiss		2099	

MAQ_8: Clinic/Hospital/Doctor**Data file: AHRI.Sesikhona.ActivitySpace.Survey.2025.v1.0****Overview**

Valid: 252 Invalid: 1989

Type: Discrete Decimal: 0 Width: 12 Range: 1 - 2 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
1	Yes	252	100%
2	No	0	0%
Sysmiss		1989	

MAQ_9: Visit your Partner

Data file: AHRI.Sesikhona.ActivitySpace.Survey.2025.v1.0

Overview

Valid: 275 Invalid: 1966

Type: Discrete Decimal: 0 Width: 12 Range: 1 - 2 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
1	Yes	275	100%
2	No	0	0%
Sysmiss		1966	

MAQ_10: Visit another family member

Data file: AHRI.Sesikhona.ActivitySpace.Survey.2025.v1.0

Overview

Valid: 240 Invalid: 2001

Type: Discrete Decimal: 0 Width: 12 Range: 1 - 2 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
1	Yes	240	100%
2	No	0	0%
Sysmiss		2001	

MAQ_11: Visit a Friend

Data file: AHRI.Sesikhona.ActivitySpace.Survey.2025.v1.0

Overview

Valid: 356 Invalid: 1885

Type: Discrete Decimal: 0 Width: 12 Range: 1 - 2 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
1	Yes	356	100%
2	No	0	0%
Sysmiss		1885	

MAQ_12: Travel Out of Town

Data file: AHRI.Sesikhona.ActivitySpace.Survey.2025.v1.0

Overview

Valid: 125 Invalid: 2116
 Type: Discrete Decimal: 0 Width: 12 Range: 1 - 2 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
1	Yes	125	100%
2	No	0	0%
Sysmiss		2116	

MAQ_13: Other

Data file: AHRI.Sesikhona.ActivitySpace.Survey.2025.v1.0

Overview

Valid: 383 Invalid: 1858
 Type: Discrete Decimal: 0 Width: 12 Range: 1 - 2 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
1	Yes	383	100%
2	No	0	0%
Sysmiss		1858	

RECORD_TIME: Record Time**Data file: AHRI.Sesikhona.ActivitySpace.Survey.2025.v1.0****Overview**

Valid: 2241 Invalid: 0
 Type: Discrete Width: 32 Range: - Format: character

SUR_STATUS: Status**Data file: AHRI.Sesikhona.ActivitySpace.Survey.2025.v1.0****Overview**

Valid: 2241 Invalid: 0
 Type: Discrete Decimal: 0 Width: 12 Range: 0 - 6 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
0	Unknown	0	0%
1	Completed	1942	86.7%
2	Canceled	5	0.2%
3	Expired	289	12.9%
4	Blocked	5	0.2%
5	Invalid Criteria	0	0%
6	In progress	0	0%

Download related resources

Technical documents

DDI:AHRI.Sesikhona.ActivitySpace.Survey

Title	DDI:AHRI.Sesikhona.ActivitySpace.Survey
Author(s)	Nompumelelo Mkwanazi
Date	2025-12-04
Country	South Africa
Language	English
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