Data in Brief

Dataset on cigarette smokers in six South African townships

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A R T I C L E   I N F O

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A B S T R A C T

A total of 2453 smokers were interviewed in townships over two rounds of data collection. Townships are low-income, urban areas characterised by overpopulation, poor service delivery, crime, and poor socioeconomic outcomes. Township residents typically live in poverty. Data were collected from six townships in four of South Africa’s nine provinces, namely Gauteng (Eldorado Park and Ivory Park), Western Cape (Khayelitsha and Mitchell’s Plain), Free State (Thabong) and KwaZulu-Natal (Umlazi). These townships were chosen to represent both the geographical and racial spread of low socioeconomic areas in South Africa. Round 1 data \((n=1260)\) were collected from October to November 2017, and round 2 data \((n=1193)\) were collected from July to August 2018. The sample includes two of South Africa’s four population groups: African and mixed race (locally referred to as “Coloured”, which describes people of mixed Khoisan, Malay, European, and black African ancestry). Since few Whites and Asians live in townships, they were not sampled. Households were selected via a random walk through each township. One smoker per household was interviewed (if a household contained at least one available smoker). We aimed to interview 200 adult smokers (aged 18+ years) per township per round. If a household had more than one smoker, a random selection determined which smoker to interview. Respondents were asked about their most recent cigarette purchase, specifically packaging type (single stick,
pack, or carton), number of items purchased, brand, type of outlet where the cigarettes were bought, and the total amount paid for cigarettes. Respondents were also asked about other tobacco use in the household, and about their perceptions regarding illegal cigarettes. Socioeconomic and demographic information was collected at the individual and household level. The data has been used to estimate illicit trade (https://tobaccocontrol.bmj.com/content/early/2020/03/10/tobaccocontrol-2019–055136.info), and to analyse the determinants of smoking intensity (https://www.sciencedirect.com/science/article/pii/S2211335520300590).

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Specifications Table

| Subject                   | Public Health and Health Policy |
|---------------------------|---------------------------------|
| Specific subject area     | Tobacco control                 |
| Type of data              | Excel file                      |
| How data were acquired    | Questionnaires completed by interviewers using electronic devices |
| Data format               | Raw                             |
| Parameters for data collection | Data were collected from low socio-economic areas in South Africa. The sample consisted of households with at least one cigarette smoker. If a selected household had more than one smoker, a random selection determined which smoker to interview. |
| Description of data collection | Random walk. |
| Data source location      | The data were collected from six townships in four of South Africa’s nine provinces: Gauteng (Eldorado Park and Ivory Park), Western Cape (Khayelitsha and Mitchell’s Plain), Free State (Thabong) and KwaZulu-Natal (Umlazi). These townships were chosen to represent both the geographical and racial spread of low socioeconomic areas in South Africa. |
| Data accessibility        | The data is available on a public repository. Repository name: DataFirst Direct URL to data: https://doi.org/10.25828/47cd-z315 The data is freely available after creating a user profile on the DataFirst website. |
| Related research article  | Van der Zee, K, Vellios, N, Van Walbeek, C and Ross, H. 2020. The illicit cigarette market in six South African townships. Tobacco Control. doi: 10.1136/tobaccocontrol-2019–055,136 Boachie, M and Ross, H. 2020. Determinants of smoking intensity in South Africa: Evidence from township communities. Preventive Medicine Reports. doi: 10.1016/j.pmedr.2020.101099 |

Value of the Data

- This dataset provides detailed information about tobacco use in South African townships. Smokers were asked about their smoking behaviour including: initiation age, number of cigarettes smoked per day, purchasing behaviour, brand choice, where they bought cigarettes, and quit attempts. Smokers are also asked about their use of other tobacco products, and perceptions regarding illicit cigarettes. The dataset provides detailed information on township smokers’ demographic and socio-economic characteristics (including gender, population group, age, and education).
- Researchers and policymakers who are interested in tobacco use in townships will benefit from this data.
- Researchers can investigate popular brands by township and province, as well as price differentials across brands/producers. Researchers can also compare prices charged by various
types of retailers (foreign-owned spaza shops, South African-owned spaza shops, large retail stores, street stands, vending machine, house shop, internet, and from family/friends).

- Researchers can compare township smokers to the national smoking population (which can be obtained from national surveys). For example, one can compare smoking initiation age, smoking intensity and price paid between township smokers and smokers nationally. Further disaggregation can be done by race (mixed versus African), gender, age, employment status, education, province, and packaging type (single, packs or cartons).

- Researchers can investigate smokers’ knowledge about what constitutes an illegal cigarette (tax not paid, low price, poor quality, no health warning health warning on pack, health warnings not written in English). Researchers can also investigate whether people are aware of the sale of illegal cigarettes in their township, ease of buying illegal cigarettes, where to buy illegal cigarettes from, and whether people would still buy cigarettes if they knew they the cigarettes were illegal.

- Researchers can use the dataset to investigate the effectiveness of current health warnings on cigarette packs (written health warning). Smokers were asked if warning labels on cigarette packs led them to think about quitting in the past 30 days. In round 2, respondents were asked whether they had changed their smoking behaviour in the last seven to eight months. Researchers can investigate the reasons that people changed their behaviour. This can be useful from a policy perspective. For example, if people are concerned about health issues caused by smoking, education campaigns about the health effects may be useful in reducing smoking in low socio-economic areas.

1. Data Description

The data consists of two repeated cross sections. The first round of data (n = 1260) was collected from October–November 2017. A similar sized sample (n = 1193) was collected the following year from July–August 2018. Approximately 200 smokers per township were interviewed in each round (Table 1). In round 2, the goal of 200 smokers per township was not achieved in Eldorado Park (Gauteng) because of safety concerns. To compensate for the decreased number in Eldorado Park (n = 133), more smokers were interviewed in Ivory Park (n = 263) (also in Gauteng). Table 1 below provides a description of the raw data for each round and overall.

2. Experimental design, materials, and methods

2.1. Background and other similar surveys

Dedicated surveys that look at smoking behaviour have been done in many countries to monitor the tobacco epidemic. The Global Adult Tobacco Survey (GATS) is a nationally representative survey that has been conducted in more than 25 low- and middle-income countries. GATS enables countries to monitor adult tobacco use and assess key tobacco control measures, and is comparable across countries. [1] The Global Youth Tobacco Survey (GYTS), launched in 1999 is a school-based survey which monitors tobacco use amongst students aged 13–15. The GYTS was conducted in South Africa in 1999, 2002, and 2011. [2, 3] The International Tobacco Control Evaluation Project (ITC) is a system for evaluating the impact of tobacco control measures, particularly national policies of the World Health Organization’s Framework Convention on Tobacco Control. ITC has been conducted in 29 countries and is also designed to be comparable across countries. [4] To date, neither GATS nor ITC have been conducted in South Africa.

Besides tobacco-specific surveys, national South African household surveys provide insight into tobacco use. South Africa has several nationally representative datasets that include questions on smoking: the National Income Dynamics Study, the Demographic and Health Survey, and the South African Health and Nutrition Examination Survey. [5–7] However, these surveys
cover a range of topics; the focus is not on tobacco use and therefore questions on tobacco use are few. Although these surveys are nationally representative, they cannot be used to analyse tobacco use at a smaller geographical level, such as townships. For this reason, it was necessary to run a dedicated survey.

2.2. Survey design, sample selection, and data collection

South Africa has nine provinces. Data were collected from four provinces (Gauteng, Western Cape, KwaZulu-Natal, and the Free State). Since the Western Cape and Gauteng are highly populated, we selected two townships (one predominantly mixed race, the other predominantly African) in each of these provinces.

Interviewers walked through the selected townships and approached households. Questionnaires were completed using survey software (SurveyCTO) on a handheld device. Enumerators were required to enter the number of directions it was possible to take at an intersection, so that the system could randomly select the direction to take, the side of the road to walk along and the house to interview. The counting process occurred from the individual’s left side. Due to safety issues, some round 1 fieldworkers deviated from this approach and went to areas that were perceived as more safe.

Fieldworkers compiled a roster of all adults (18+ years old) living in the household. The device randomly selected one smoker in the household to participate in the survey. Respondents had to be 18 years or older to be selected. If the selected smoker was unavailable to participate at the time of the visit, a second smoker was randomly selected.

This random walk methodology, while not rigorous, is the most affordable sampling method.

Table 1
Description of data.

|                     | Round 1 | Round 2 | Overall |
|---------------------|---------|---------|---------|
| **Total observations:** | 1260    | 1193    | 2453    |
| **Average:**        |         |         |         |
| Age                 | 33.2    | 36.8    | 35.0    |
| Daily cigarette consumption | 9.6     | 9.1     | 9.4     |
| **Proportion:**     |         |         |         |
| Male                | 69.4    | 73.1    | 71.2    |
| Female              | 30.6    | 26.9    | 28.8    |
| Education           |         |         |         |
| No formal schooling | 2.2     | 1.3     | 1.8     |
| Some primary school completed | 2.8    | 6.0    | 4.3     |
| Primary school completed | 6.8    | 5.0    | 5.9     |
| Some secondary school completed | 42.1   | 47.8   | 44.9    |
| Secondary school completed | 41.9   | 33.3   | 37.7    |
| College/University completed | 4.0    | 5.0    | 4.5     |
| Post graduate degree completed | 0.2    | 1.5    | 0.9     |
| Population group    |         |         |         |
| African             | 65.6    | 72.2    | 68.8    |
| Mixed Race          | 34.4    | 27.7    | 31.1    |
| White               | 0.0     | 0.2     | 0.1     |
| Employment Status   |         |         |         |
| Employed            | 35.4    | 37.1    | 36.3    |
| Unemployed          | 44.0    | 46.1    | 45.1    |
| Not Economically Active | 20.1  | 16.6   | 18.4    |
| Grant Holder        | 0.5     | 0.1     | 0.3     |
| Township            |         |         |         |
| Eldorado Park       | 17.1    | 11.2    | 14.2    |
| Ivory Park          | 16.4    | 22.1    | 19.2    |
| Khayelitsha         | 18.7    | 15.4    | 17.1    |
| Mitchell’s Plain    | 18.3    | 16.7    | 17.5    |
| Thabong             | 16.0    | 17.0    | 16.5    |
| Umlazi              | 13.5    | 17.7    | 15.5    |
Table 2
List of variables.

| Variable name                | Variable description                                                                 |
|------------------------------|--------------------------------------------------------------------------------------|
| round                        | Indicates either round 1 or round 2                                                 |
| hhgender                     | Gender of household head                                                             |
| hhsmoker_r2                  | Household head smoker (round 2 only)                                                 |
| hhage_r2                     | Household head age (round 2 only)                                                    |
| hhtobacco                    | Does anyone in this HH use other tobacco products?                                    |
| hhtobtype                    | Which types of tobacco are used in the HH                                            |
| hh_snuff                     | Snuff used in household                                                              |
| hh_chewing_tobacco           | Chewing tobacco used in household                                                    |
| hh_ryo                       | Roll your own used in household                                                     |
| hh_ecig                      | E-cigarettes used in household                                                       |
| hh_pipe                      | Pipe tobacco used in household                                                       |
| hh_cigars                    | Cigars used in household                                                             |
| hhsize                       | Number of people in the household                                                    |
| hhadults                     | Number of adults in the household (18 and over)                                      |
| gender                       | gender                                                                               |
| race                         | population group                                                                    |
| nationality                  | nationality                                                                         |
| nationalityother             | nationality other                                                                    |
| age                          | age                                                                                  |
| educ                         | highest level of education completed                                                |
| employ                       | Employment status                                                                   |
| employother                  | employment status other                                                             |
| paid                         | Payment interval                                                                    |
| use_cigarettes_r1            | Respondent uses cigarettes daily or less daily (round 1 only)                        |
| use_cigarettes_r2            | Respondent uses cigarettes (round 2 only)                                            |
| use_rolled_r2                | Respondent uses roll your own (round 2 only)                                         |
| use_cigars_r2                | Respondent uses cigars (round 2 only)                                               |
| use_pipes_r2                 | Respondent uses pipe tobacco (round 2 only)                                         |
| use_snuff_r2                 | Respondent uses snuff (round 2 only)                                               |
| use_chew_r2                  | Respondent uses chewing tobacco (round 2 only)                                       |
| use_ecigarettes_r2           | Respondent uses e-cigarettes (round 2 only)                                         |
| use_water_r2                 | Respondent uses waterpipe (round 2 only)                                            |
| freq_daily_cigarettes        | Daily cigarette consumption (daily smokers only)                                    |
| freq_daily_rolled            | Daily use of roll your own by respondent                                             |
| freq_daily_cigars            | Daily use of cigars by respondent                                                    |
| freq_daily_pipes             | Daily use of pipe tobacco by respondent                                              |
| freq_daily_snuff             | Daily use of snuff by respondent                                                    |
| freq_daily_chew              | Daily use of chewing tobacco by respondent                                           |
| freq_daily_ecigarettes       | Daily use of e-cigarettes by respondent                                              |
| freq_daily_water             | Daily use of waterpipe by respondent                                                |
| freq_weekly_cigarettes       | Weekly cigarette consumption (less than daily smokers only)                         |
| freq_weekly_rolled           | Weekly use of roll your own by respondent                                            |
| freq_weekly_cigars           | Weekly use of cigars by respondent                                                  |
| freq_weekly_pipes            | Weekly use of pipe tobacco by respondent                                             |
| freq_weekly_snuff            | Weekly use of snuff by respondent                                                   |
| freq_weekly_chew             | Weekly use of chewing tobacco by respondent                                         |
| freq_weekly_ecigarettes      | Weekly use of e-cigarettes by respondent                                            |
| freq_weekly_water            | Weekly use of waterpipe by respondent                                               |
| start_age_r2                 | Age started smoking (round 2 only)                                                  |
| start_age_daily              | Age started smoking daily                                                            |
| start_years_r2               | How many years ago did you first start smoking cigarettes?                           |
| start_years_daily            | How many years ago did you first start smoking cigarettes daily?                     |
| start_age_lessdaily_r1       | Less than daily smokers only: Age started smoking (round 1 only)                     |
| start_years_lessdaily_r1     | Less than daily smokers only: how many years ago start smoking (round 1 only)        |
| cigcons_wkly_pd              | Weekly cig consumption converted to daily (derived)                                  |
| cigcons                      | Daily cig consumption, including daily and weekly smokers (derived)                   |

(continued on next page)
Table 2 (continued)

| Variable name          | Variable description                                                                 |
|------------------------|---------------------------------------------------------------------------------------|
| packtype               | Recent purchase: packaging types bought                                               |
| packtype_cart          | Recent purchase: bought carton                                                         |
| packtype_pack          | Recent purchase: bought pack                                                           |
| packtype_stick         | Recent purchase: bought single stick                                                  |
| cart_numitem           | Recent purchase: number of items (cartons)                                             |
| cart_numpcks           | Recent purchase: number of packs (per carton)                                          |
| cart_cigpck            | Recent purchase: number of cigarettes per pack (cartons)                              |
| numsticks_cart        | Recent purchase: derived, total number of cigarettes (cartons)                        |
| cart_exp               | Recent purchase: total expenditure (cartons)                                           |
| cart_priceeach_r2      | Recent purchase: reported price per carton (round 2 only)                             |
| cart_brand             | Recent purchase: brand (cartons)                                                       |
| cart_brandother        | Recent purchase: brand, other (cartons)                                                |
| price_cart             | Recent purchase: derived price per stick (cart_exp/numsticks_cart)                    |
| pck_numitem            | Recent purchase: number of items (packs)                                               |
| pck_cigpck             | Recent purchase: number of cigarettes per pack (packs)                                 |
| numsticks_pck          | Recent purchase: derived, total number of cigarettes (packs)                          |
| pck_exp                | Recent purchase: total expenditure (packs)                                             |
| pck_priceeach_r2       | Recent purchase: reported price per pack (round 2 only)                                |
| pck_brand              | Recent purchase: brand (packs)                                                         |
| pck_brandother         | Recent purchase: brand, other (packs)                                                  |
| price_pck              | Recent purchase: derived price per stick (pck_exp/numsticks_pck)                      |
| stick_numitem          | Recent purchase: number of items (single sticks)                                       |
| stick_exp              | Recent purchase: total expenditure (single sticks)                                     |
| stick_priceeach_r2     | Recent purchase: reported price per single stick (round 2 only)                       |
| stick_brand            | Recent purchase: brand (single sticks)                                                 |
| stick_brandother       | Recent purchase: brand, other (single sticks)                                          |
| price_stick            | Recent purchase: derived price per stick (stick_exp/stick_numitem)                    |
| shop                   | Recent purchase: store type                                                           |
| shopother              | Recent purchase: store type, other                                                     |
| shop_reas              | Recent purchase: reason for choosing store type                                       |
| shop_reas1             | Recent purchase: store close to home                                                   |
| shop_reas2             | Recent purchase: work close to store                                                   |
| shop_reas3             | Recent purchase: store is cheap                                                       |
| shop_reas4             | Recent purchase: bought other things at store                                         |
| shop_reas5             | Recent purchase: like this store                                                      |
| shop_reasother         | Recent purchase: reason selected store, other                                          |
| share                  | Share cigarettes with your household members                                         |
| illegal_untaxed        | Believe cig illegal if: tax unpaid                                                     |
| illegal_lowprice_r1    | Believe cig illegal if: price low (round 1 only)                                       |
| illegal_lessR1_r2      | Believe cig illegal if: price R1/cig or less (round 2 only)                            |
| illegal_lowquality     | Believe cig illegal if: low quality                                                   |
| illegal_healthwarning  | Believe cig illegal if: no health warning                                             |
| illegal_warningnoteng  | Believe cig illegal if: health warning another language                               |
| illegal_none_r2        | Believe cig illegal if: none (round 2 only)                                            |
| knowtax_r2             | Would people buy cigs if they knew the tax had not been paid (round 2 only)           |
| illegal_aware          | Do you think illegal/smuggled cigarettes are available for sale in your area          |
| illegal_easybuy        | Is it easy to buy illegal cigarettes in your area                                      |
| where                  | Where can people find illegal cigarettes?                                             |
| shop_foreign           | Where can you buy illegal cigs: foreign owned spaza                                   |
| shop_local             | Where can you buy illegal cigs: SA owned spaza                                        |
| shop_dk_owner          | Where can you buy illegal cigs: spaza, ownership unknown                               |
| shop_retail            | Where can you buy illegal cigs: retail store                                          |
| shop_stand             | Where can you buy illegal cigs: street stand                                          |
| shop_vend              | Where can you buy illegal cigs: vending machine                                       |
| shop_house             | Where can you buy illegal cigs: house shop                                            |
| shop_online            | Where can you buy illegal cigs: internet                                               |
| shop_ff                | Where can you buy illegal cigs: family/friends                                        |
| shop_other             | Where can you buy illegal cigs: other                                                 |
| shop_defother          | Where can you buy illegal cigs: other, specify                                         |

(continued on next page)
Table 2 (continued)

| Variable name               | Variable description                                                                                                                                   |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| wouldbuyillegal_r1          | If people know certain cigs are illegal, would they still buy (round 1 only)                                                                         |
| tryquit                     | Tried quitting in past 12 months                                                                                                                       |
| warningquit                 | In the past 30 days, have warning labels led you to consider quitting                                                                             |
| language                    | Interview language                                                                                                                                     |
| reliable                    | Interview reliable                                                                                                                                     |
| police                      | Respondent concerned fieldworker affiliated with police                                                                                              |
| comment                     | Interviewer feedback                                                                                                                                  |
| township                    | Township                                                                                                                                                |
| dwelling                    | Dwelling type                                                                                                                                          |
| hhelectricity               | Electricity                                                                                                                                            |
| hhstove                     | Flush toilet                                                                                                                                           |
| hhmicrowave                 | Microwave                                                                                                                                             |
| hhwashingmach               | Washing machine                                                                                                                                       |
| hhmotorbike                 | Scooter/motorcycle                                                                                                                                    |
| hhcellphone                 | Cell phone                                                                                                                                             |
| hhtelevision                | Television                                                                                                                                             |
| hhradio                     | Radio                                                                                                                                                    |
| hhfridge                    | Fridge                                                                                                                                                    |
| hhcar                       | Car                                                                                                                                                     |
| hhsatellite                 | Satellite                                                                                                                                             |
| hhfridge                    | Fridge                                                                                                                                                 |
| date                        | Date of interview                                                                                                                                     |
| compare_smoke_r2            | At the beginning of this year (Jan), did you smoke cigarettes? (round 2 only)                                                                        |
| compare_brands_r2           | In January, what brand of cigarettes did you smoke most often? (round 2 only)                                                                          |
| compare_freq_r2             | In January, how many cigarettes PER DAY did you smoke on average? (round 2 only)                                                                       |
| compare_purchase_r2         | In Jan., did you usually buy cartons, packs or loose cigarettes? (round 2 only)                                                                          |
| compare_reason_r2           | Changed your cigarette smoking behaviour between Jan. & now? (round 2 only)                                                                           |
| compare_reason_1_r2         | I am trying to reduce the health impact of smoking (round 2 only)                                                                                     |
| compare_reason_2_r2         | Cigarettes are becoming more expensive (round 2 only)                                                                                                 |
| compare_reason_3_r2         | The quality of cigarettes decreased (round 2 only)                                                                                                    |
| compare_reason_4_r2         | The quality of cigarettes increased (round 2 only)                                                                                                   |
| compare_reason_5_r2         | I can afford more cigarettes (round 2 only)                                                                                                             |
| compare_reason_6_r2         | I enjoy smoking more cigarettes (round 2 only)                                                                                                          |
| compare_reason_7_r2         | Pressure from family or friends (round 2 only)                                                                                                         |
| compare_reason_6666_r2      | Reason for change: Other (round 2 only)                                                                                                                |
| compare_reason_7777_r2      | Reason for change: None (round 2 only)                                                                                                                 |
| compare_reason_9999_r2      | Reason for change: Don’t know (round 2 only)                                                                                                           |
| compare_reason_8888_r2      | Reason for change: Refuse (round 2 only)                                                                                                               |
| compare_reasonother_r2      | Reas. for change in smoking behaviour betw. January - now, other (round 2 only)                                                                       |

Note: Spaza shops are informal convenience shops.

2.3. Variable definition

There are 157 variables in the final dataset (Table 2). The variables for the two rounds are standardized, with the inclusion of a variable labelled “round”, which indicates when the data were collected (round 1 or round 2). Observations are appended to produce the final dataset. There were three variables that only appeared in round 1 and 35 variables that appeared only
in round 2 (these variables are suffixed with “_r1” and “_r2”). The difference in these variables across the rounds is due to minor edits to the questionnaire.

Ethics statement

The University of Cape Town’s Research in Ethics Committee (Faculty of Commerce) approved this research (REC2017/10/011). Informed consent was obtained from all participants.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships which have, or could be perceived to have, influenced the work reported in this article.

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Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.dib.2020.106260.

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