Data Article

Data on occupational health and safety strategies influencing the reduction of coronavirus in South Africa

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\textbf{A R T I C L E   I N F O}

\textbf{Article history:}
Received 28 June 2020
Revised 4 September 2020
Accepted 8 September 2020
Available online 12 September 2020

\textbf{Keywords:}
Physical wellness
Psychological wellness
Intellectual wellness
Emotional wellness
Social wellness
Reduction of COVID-19 transmission at the municipality
employee performance

\textbf{A B S T R A C T}

This data article describes raw statistics on occupational health and safety strategies influencing the reduction of coronavirus in South Africa. The purpose of this research was to investigate factors that could potentially influence the reduction of the spread of COVID-19 in a municipality setting. The following independent constructs are explored: physical wellness, psychological wellness, Intellectual wellness, emotional wellness and social wellness. In addition to the individual dependent variables, the influence of these constructs on the reduction of COVID-19 transmission and employee performance at a selected municipality was tested. Hypotheses emerged from the proposed influence of each of these constructs on reduction of COVID-19 transmission at a municipality. Smart PLS was used to measure the impact of the proposed hypotheses of the research. In order to describe data on the respondents' characteristics, SPSS and SMART PLS was used to generate the relevant statistics. The data generated for this research could potentially advise...
on how healthy and safety strategies could contribute to lowering the transmission of COVID-19 at a municipality.

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Specifications Table

| Subject                                      | Business and Administration |
|----------------------------------------------|-----------------------------|
| Specific subject area                        | Management                  |
| Type of data                                 | Tables and figures          |
| How data were acquired                       | Data was gathered significantly through the dissemination of online questionnaires to municipality employees within the Johannesburg metropolitan area. |
| Data format                                  | Raw, analysed, descriptive and statistical data |
| Parameters for data collection               | To qualify for inclusion in the sample the participants had to be municipality employees within the Johannesburg metropolitan area. |
| Description of data collection               | An online questionnaire was used to collect data from 340 municipality employees within the Johannesburg metropolitan area. |
| Data source location                         | Johannesburg, South Africa |
| Data accessibility                           | Data is included in this article |

Value of the Data

- The data is uses full because it describes how physical wellness, psychological wellness, intellectual wellness, intellectual wellness, emotional wellness, social wellness and employee performance can impact the spread of COVID-19.
- Researchers and health practitioners interested in COVID-19 can benefit from this data.
- The data can also be used to describe COVID-19 transmission in social settings.
- The data can be used for comparison with similar research on COVID-19.
- The data can be used for further insights and development of experiments through.
- Measuring the hypotheses that were not tested and described in this research. This means that data on wellness constructs in direct relation to employee performance should be described.

1. Data Description

The raw data files consist of the following supplementary files, namely the dataset in both an Excel sheet (file 1) and the questionnaire in MS Word (file 2). The Data described in this article was collected in April of 2020 through an online survey. This was due to COVID-19 lockdown restrictions imposed by the South African government which restricted human interaction and handling of paper-based surveys. The data is illustrated through Fig 1, COVID-19 Reduction Conceptual Model, Fig 2, The Structural Model. Data on the respondents’ characteristics was provided in Table 1 depicting gender, age and years of work experience in the Johannesburg Municipality. Measurement accuracy assessment data is presented in Table 2 revealing values for means, standard deviations, composite reliability, average variance extracted and factor loadings. Last, more data was presented in Table 3 through the testing of hypotheses. In the table, data on Path coefficients (β), T- Statistics and the P-values is depicted.

Table 1 presents data on the respondent’s characteristics. The data in this table explores gender, age, education and work experience details of the respondents.
2. Experimental design, materials and methods

Data was gathered through the survey method. A conceptual model based on physical wellness, psychological wellness, intellectual wellness, intellectual wellness, emotional wellness, social wellness and employee performance was developed. The abovementioned constructs were empirically tested to establish their effect on the spread of COVID-19 in a public space such as a municipality. An online survey method was considered an appropriate data collection method because it allows for the collection of standardised data that permits the researcher to produce information for answering the how, who, what and when questions regarding the subject matter. Furthermore, it is imperative to note that the researchers engaged in the data preparation process. According to Aaker, Kumar and Day [2], data preparation is regarded as a process of converting data from a questionnaire into a format that can be analysed. Furthermore, there are four phases of data preparation, namely data editing, coding, capturing and cleaning [2,3]. These
Fig. 2. The Structural model.
Table 1
Characteristics of respondents.

| Characteristics                              | Frequency | %     |
|---------------------------------------------|-----------|-------|
| Gender                                      |           |       |
| Male                                        | 155       | 45.6  |
| Female                                      | 60        | 17.6  |
| Prefer not to say                           | 125       | 36.8  |
| Total                                       | 340       | 100.0 |
| Age                                         |           |       |
| 18 – 24 years                               | 81        | 23.8  |
| 25 – 30 years                               | 81        | 23.8  |
| 31 – 35 years                               | 52        | 15.3  |
| 36 + years                                  | 126       | 37.1  |
| Total                                       | 340       | 100.0 |
| Level of education                          |           |       |
| Matric                                      | 126       | 37.1  |
| Diploma / Degree                            | 125       | 36.8  |
| Postgraduate (Honours/Masters/PhD)          | 47        | 13.8  |
| Other                                       | 42        | 12.4  |
| Total                                       | 340       | 100.0 |
| Years of work experience at the Municipality|           |       |
| 1 – 5 years                                 | 43        | 12.6  |
| 6 – 10 years                                | 91        | 26.8  |
| 11 – 20 years                               | 102       | 30.0  |
| 21 + years                                  | 104       | 30.6  |
| Total                                       | 340       | 100.0 |

phases were employed to ensure that the data collected is complete and ready for analysing. After checking for missing values and outliers in the data, the researchers proceeded in assessing the reliability of test results. A total of 340 usable questionnaires were returned for analysis. In order to analyse data, Smart PLS and SPSS software were utilised for hypotheses testing and to generate the statistics for the respondent profile. SPSS was calculated the mean, standard deviation and Cronbach’s alpha values while Smart PLS generated the composite reliability, average variance extracted and factor loading values.

2.1. Structural model

The PLS estimation path coefficients values as well as the item loadings for the research construct are shown in Fig. 2.

The Microsoft Excel spreadsheet worksheet was used to enter all data and draw conclusions from the data obtained. The Statistical Packages for Social Sciences (SPSS) and the Smart PLS software for structural equation modelling (SEM) technique were used to code data and to run the statistical analysis [1]. Moreover, Smart PLS supports both exploratory and confirmatory research; it is robust to deviations for multivariate normal distributions and is good for a small sample size [1].

3. Ethical considerations

This data article followed all ethical standards for carrying out research. Permission to collect data was obtained from the administration of the City of Johannesburg Metropolitan Municipality. Ethical benchmarks of scholastic research were adhered to, which incorporate, in addition to other things, protecting the identities of respondents and guaranteeing secrecy of accumulated data obtained from respondents.
### Table 2
Measurement accuracy assessment.

| Research constructs | PLS code item | Scale item | Cronbach’s alpha value | Composite reliability | Average variance extracted (AVE) | Factor loadings |
|---------------------|---------------|------------|------------------------|-----------------------|----------------------------------|-----------------|
|                     | Mean          | Standard deviation |                  |                      |                                  |                 |
| Physical wellness   | PW2           | 3.944      | 0.715                 | 0.853                | 0.900                            | 0.693           |
|                     | PW3           | 3.941      | 0.757                 | 0.853                | 0.900                            | 0.863           |
|                     | PW4           | 3.912      | 0.730                 | 0.853                | 0.900                            | 0.863           |
|                     | PW5           | 3.868      | 0.784                 | 0.853                | 0.900                            | 0.795           |
| Psychological       | PWW1          | 3.882      | 0.726                 | 0.932                | 0.956                            | 0.820           |
|                     | PWW2          | 3.879      | 0.720                 | 0.932                | 0.956                            | 0.979           |
|                     | PWW3          | 3.876      | 0.717                 | 0.932                | 0.956                            | 0.981           |
|                     | PWW4          | 3.879      | 0.715                 | 0.932                | 0.956                            | 0.980           |
|                     | PWW5          | 3.932      | 0.910                 | 0.932                | 0.956                            | 0.918           |
| Intellectual        | IWW1          | 4.150      | 0.960                 | 0.739                | 0.827                            | 0.490           |
|                     | IWW2          | 3.879      | 0.946                 | 0.739                | 0.827                            | 0.673           |
|                     | IWW3          | 3.997      | 1.001                 | 0.739                | 0.827                            | 0.669           |
|                     | IWW4          | 3.659      | 1.138                 | 0.739                | 0.827                            | 0.764           |
|                     | IWW5          | 3.882      | 0.975                 | 0.739                | 0.827                            | 0.724           |
| Emotional wellness  | EWW1          | 3.826      | 1.001                 | 0.806                | 0.866                            | 0.490           |
|                     | EWW2          | 3.841      | 1.020                 | 0.806                | 0.866                            | 0.716           |
|                     | EWW3          | 3.909      | 0.988                 | 0.806                | 0.866                            | 0.788           |
|                     | EWW4          | 3.879      | 1.020                 | 0.806                | 0.866                            | 0.790           |
|                     | EWW5          | 3.650      | 1.053                 | 0.806                | 0.866                            | 0.760           |
| Social wellness     | SWW1          | 3.644      | 1.068                 | 0.755                | 0.844                            | 0.490           |
|                     | SWW2          | 3.738      | 0.985                 | 0.755                | 0.844                            | 0.695           |
|                     | SWW3          | 3.665      | 0.994                 | 0.755                | 0.844                            | 0.759           |
|                     | SWW4          | 3.503      | 1.033                 | 0.755                | 0.844                            | 0.789           |
| Reduction of        | RCT1          | 3.526      | 1.126                 | 0.760                | 0.833                            | 0.500           |
| COVID-19 transmission| RCT2          | 3.988      | 0.933                 | 0.760                | 0.833                            | 0.740           |
| at the municipality | RCT3          | 3.697      | 1.106                 | 0.760                | 0.833                            | 0.737           |
|                     | RCT4          | 3.788      | 1.067                 | 0.760                | 0.833                            | 0.636           |
|                     | RCT5          | 3.779      | 1.044                 | 0.760                | 0.833                            | 0.682           |
| Employee            | EP1           | 3.976      | 0.770                 | 0.714                | 0.807                            | 0.517           |
| performance         | EP2           | 3.918      | 0.702                 | 0.714                | 0.807                            | 0.830           |
|                     | EP3           | 3.941      | 0.721                 | 0.714                | 0.807                            | 0.668           |
|                     | EP4           | 4.012      | 0.747                 | 0.714                | 0.807                            | 0.787           |

### Table 3
Testing of hypotheses.

| Path                                                                 | Hypothesis | Path coefficients (β) | T- Statistics | P-value | Decision          |
|---------------------------------------------------------------------|------------|-----------------------|---------------|---------|-------------------|
| Physical wellness -> Reduction of COVID-19 transmission at a municipality | H1(+)      | 0.095                 | 1.285         | 0.200   | Positive and insignificant |
| Psychological wellness -> Reduction of COVID-19 transmission at a municipality | H2(+)      | 0.033                 | 0.448         | 0.654   | Negative and insignificant |
| Intellectual wellness -> Reduction of COVID-19 transmission at a municipality | H3(+)      | 0.294                 | 3.885         | 0.000   | Positive and significant |
| Emotional wellness -> Reduction of COVID-19 transmission at a municipality | H4 (+)     | 0.121                 | 1.525         | 0.128   | Positive and insignificant |
| Social wellness -> Reduction of COVID-19 transmission at a municipality | H5 (+)     | 0.363                 | 5.959         | 0.000   | Positive and significant |
| Reduction of COVID-19 transmission at a municipality -> Employee performance | H6 (+)     | 0.222                 | 4.242         | 0.000   | Positive and significant |
4. Research, practical and policy implications of this data article

The data provides implications for research, practice and policy. Comprehension of factors that could potentially reduce the spread of Covid-19 could aid in generating important insights needed for decision-making. For instance, the highest path coefficient indicated 0.363 was attributed on the nexus between social wellness and reduction of covid-19 transmission at a municipality. Policy can be guided by data from this research to implement best practices. Existing and future practical guidelines could utilize insights generated from data on physical wellness, psychological wellness, intellectual wellness, emotional wellness, social wellness and employee performance.

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.

Acknowledgements

The authors of this data article express their sincere gratitude to the employees who responded to this study.

Supplementary materials

Supplementary material associated with this article can be found in the online version at doi:10.1016/j.dib.2020.106300.

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