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Data Article

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

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ABSTRACT

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, 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

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on how healthy and safety strategies could contribute to lowering the transmission of COVID-19 at a municipality.

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
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.

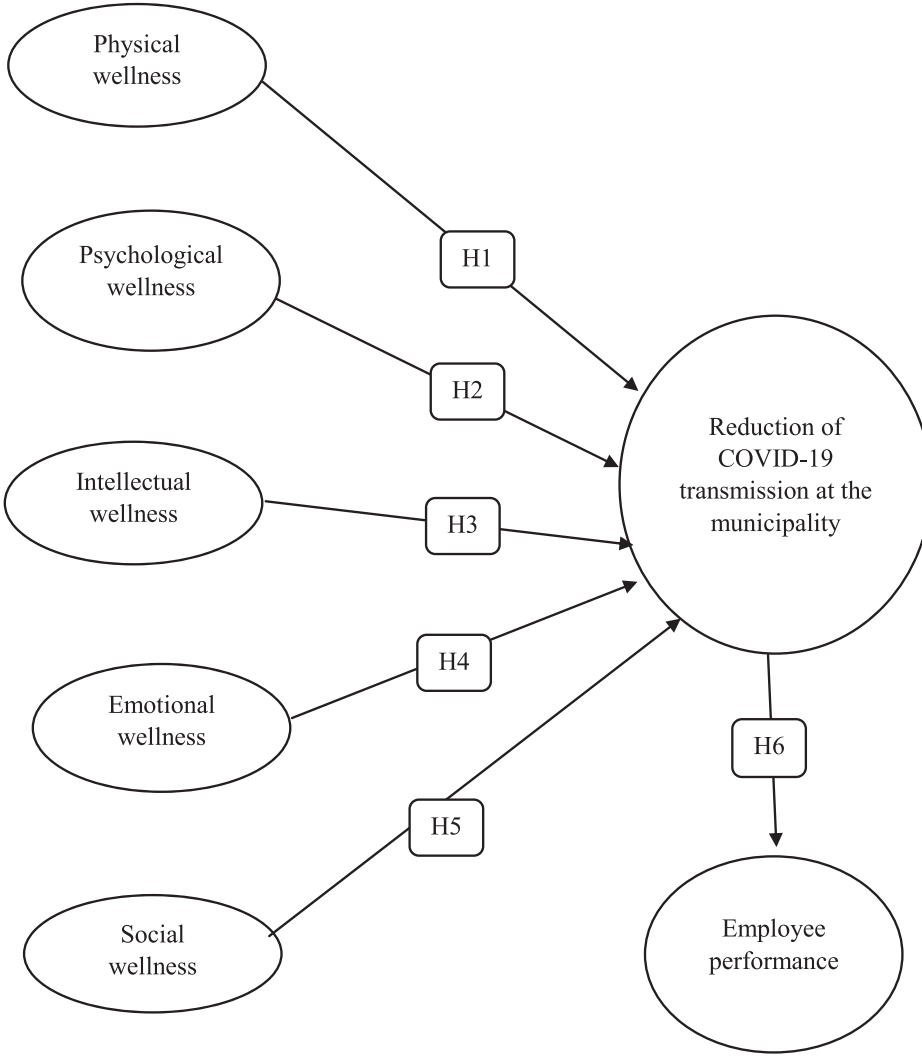

Fig. 1. Rukuni's Municipal COVID-19 Reduction Model.

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

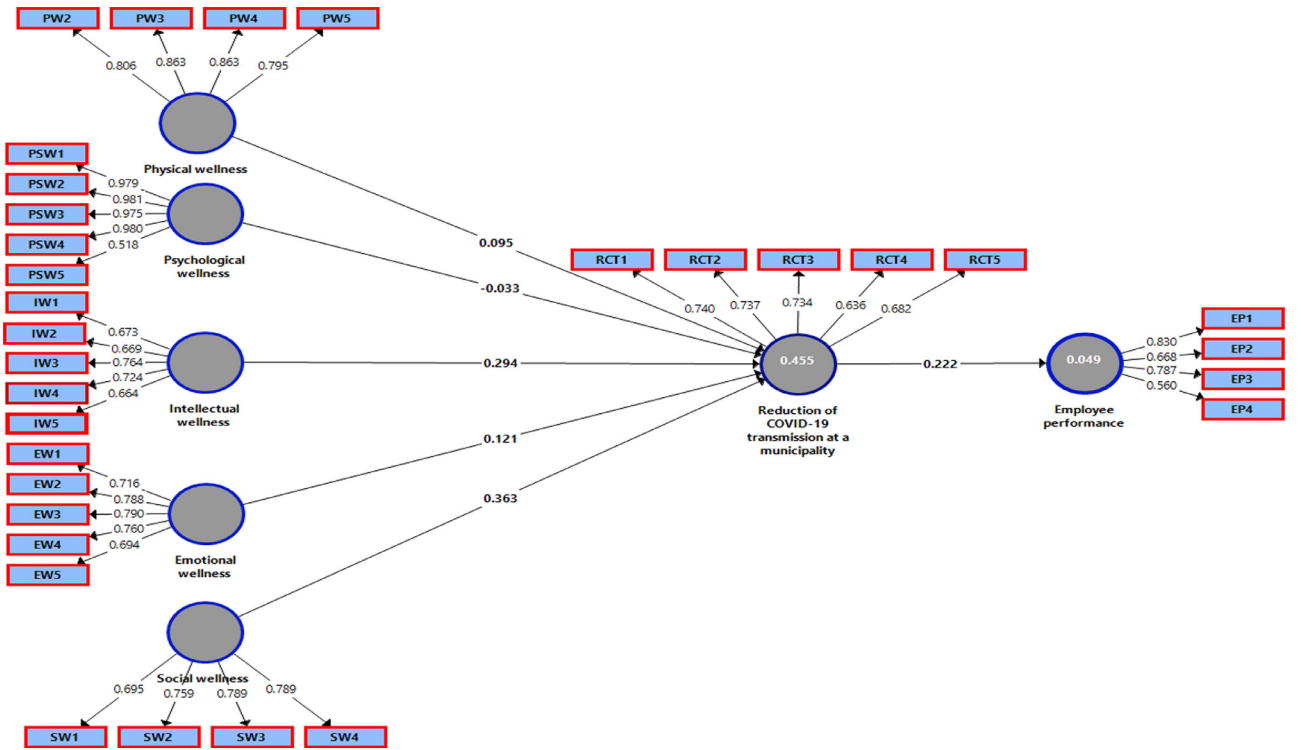

Fig. 2. The Structural model.

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 utlised 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	0.806
	PW3	3.941	0.757				0.863
	PW4	3.912	0.730				0.863
	PW5	3.868	0.784				0.795
Psychological wellness	PSW1	3.882	0.726	0.932	0.956	0.820	0.979
	PSW2	3.879	0.720				0.981
	PSW3	3.876	0.717				0.975
	PSW4	3.879	0.715				0.980
	PSW5	3.932	0.910				0.518
Intellectual wellness	IW1	4.150	0.960	0.739	0.827	0.490	0.673
	IW2	3.879	0.946				0.669
	IW3	3.997	1.001				0.764
	IW4	3.659	1.138				0.724
	IW5	3.882	0.975				0.664
Emotional wellness	EW1	3.826	1.001	0.806	0.866	0.564	0.716
	EW2	3.841	1.020				0.788
	EW3	3.909	0.988				0.790
	EW4	3.879	1.020				0.760
	EW5	3.650	1.053				0.694
Social wellness	SW1	3.644	1.068	0.755	0.844	0.576	0.695
	SW2	3.738	0.985				0.759
	SW3	3.665	0.994				0.789
	SW4	3.503	1.033				0.789
Reduction of COVID-19 transmission at the municipality	RCT1	3.526	1.126	0.760	0.833	0.500	0.740
	RCT2	3.988	0.933				0.737
	RCT3	3.697	1.106				0.734
	RCT4	3.788	1.067				0.636
	RCT5	3.779	1.044				0.682
Employee performance	EP1	3.976	0.770	0.714	0.807	0.517	0.830
	EP2	3.918	0.702				0.668
	EP3	3.941	0.721				0.787
	EP4	4.012	0.747				0.560

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.

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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.2020.106300.

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