

Regulation of African Traditional Medicines and Public Participation: Empirical Evidence from South Africa

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ABSTRACT Ensuring active participation can have a positive impact on the regulation of African Traditional Medicines (ATMs). This research assessed the level of participation and the role of trust and reciprocity amongst African Traditional Health Practitioners (ATHPs) in the regulation of ATMs in South Africa. A quantitative research methodology was employed. The research found that trust in government's regulation was high (60%) amongst ATHPs and this negatively correlated with low levels (72%) of willingness to participate in the regulation of ATMs. A classical regression model where: $Y = a + bK + cX + dL + \mu$, where a is the intercept of the model; b , c , and d represent regression coefficients; and μ is the random error term, revealed that reciprocity ($P > |t|$ 0.00) and trust ($P > |t|$ 0.01) play a statistically significant role to influence participation. The creation of participation units is recommended to increase active involvement in the regulation of ATMs.

INTRODUCTION

It is believed that traditional medicine is among the most ancient of natural therapies and perhaps the oldest type of medicine still practiced in Africa in general and in South Africa in particular. The socio-cultural analysis of medicine demonstrates how biology and culture interact in the construction of disease (Lupton 2012). In view of this, Gibson (2011) supports the idea that the best starting point in the making of traditional medicines in South Africa is to move away from 'the traps of the binary of fact and belief and rather attend to associations between humans and nonhumans by declining the antagonism between, for example, subject/object, epistemology/ontology, belief/science and nature/culture'.

South Africa has a rich plant biodiversity of more than 24000 indigenous plants, representing about 10 percent of all higher plants on earth (National Department of Health et al. 2005). It is estimated that about 2000 of such plants most of whom come from Grasslands, Forests and Savannahs, are used for medicinal reasons in South Africa (South African National Biodiversity Institute 2013). As a result, the National Department of Health has, since 2003, begun with the regulation of African Traditional Medicines (ATMs). This research was interested to

examine the level of participation of African Traditional Health Practitioners (ATHPs) in the regulation process thus far. The constitution of South Africa provides, in section 72 (1) (a), that the 'National Council of Provinces must facilitate public involvement in the legislative and other processes of the council and committees' and, in section 118 (1) (a), that provincial legislatures must do the same (Presidency 1997).

Despite such provisions, public participation remains a constitutional right that has not been realised and experienced by the majority of South Africans. There is a huge disjuncture between legislative and policy guarantees and real experiences of people within communities, particularly in isolated, poor settlements. Penderis (2012) argues that participation should be aligned to the notion of citizenship, social justice and development as social change, rather than its use as a 'technical fix' for problems of poverty and inequality.

A trend has developed towards avoiding public participation, as Justice Sachs (2006) pointed out in his judgement in the re-demarcation process of deciding the municipal borders between Matatiele and Kwa-Zulu Natal. In addition in South Africa's 15th year of democracy, Scott (2009) found that 'no public participation framework existed in the country to guide the legislative sector in its public participation drive'. It became apparent that if the situation does not

change; the voices of ordinary people in public decision making would continue to be marginalised, as observed by Siphuma (2009). This was evident in the enactment of the Traditional Health Practitioner's Act of 2004, in the case between Doctors for Life vs. the Speaker of the National Assembly, where the constitutional court ruled that the National Council of Provinces did not comply with its constitutional obligation in sections 72 (1) (a) and 118 (1) (a) to involve the public in its legislative processes (Ngcobo 2006).

However, latest developments show that towards the end of the second decade of democracy, the legislative sector developed a framework for public participation whose 'overarching goal is to deepen democracy by seeking ways of achieving public participation as mandated' (South African Legislative Sector 2013). A number of studies exist that authenticate anecdotal knowledge and show the effectiveness of traditional medicine. However, there is limited scientific evidence documented about the regulation of African traditional medicines and public participation therein. With more public participation and research, it can be argued that traditional medicines have the potential to contribute to modern human medical practices. In view of the above, in this study, the researchers critically assess the levels of public participation of African traditional health practitioners in the regulation of African traditional medicines in South Africa.

METHODOLOGY

The research methodology employed a quantitative data approach to understand issues involved in the regulation of African traditional medicines and public participation therein in South Africa. A non-probability purposive sampling method was used (Babbie and Mouton 2001) and respondents from different communities completed a self-administered questionnaire. The list of respondents included traditional health practitioners who were actively practicing traditional healing in the township of Khayelitsha. The analysis of data that was collected was done using STATA, a statistical package increasingly used for social science research data analysis, which has powerful data manipulation procedures and extensive and powerful statistical capabilities. The researchers used a classical regression model where: $Y = a + bK +$

$cX + dL + \mu$, where a is the intercept of the model; b , c , and d represent regression coefficients; and μ is the random error term. However, the focus of the study was on the public participation regression coefficient (c), whose value gives the effect of public participation on the regulation of African traditional medicines in South Africa.

Hypotheses

The following hypotheses were tested in the course of the study:

H_1 : The level of participation (dependent variable) amongst ATHPs is very high due to low levels of trust (independent variable) in the democratic government to protect their best interests as African traditional health practitioners.

H_0 : The level of participation (dependent variable) amongst ATHPs is very low due to high levels of trust (independent variable) in the democratic government to protect their best interests as African traditional health practitioners.

H_2 : ATHPs are willing and eager to respond to and engage in government's invitations to public processes in the regulation of ATMs because they believe that the democratic government will not automatically protect their needs and interests.

H_0 : ATHPs are not willing and eager to respond to and engage in government's invitations to public processes in the regulation of ATMs because they believe that the democratic government will automatically protect their needs and interests.

H_3 : ATHPs are willing and eager to respond to and engage in government's invitations to public processes in the regulation of ATMs because they have sufficient financial resources required to attend to such processes.

H_0 : ATHPs are not willing and eager to respond to and engage in government's invitations to public processes in the regulation of ATMs because they do not have sufficient financial resources required to attend to such processes.

RESULTS

The information presented in this data was self-reported. The presentation begins with an outline of demographic data to give a sense of who participated in the study. It proceeds to

indicate the levels of participation, trust, and reciprocity discovered amongst ATHPs. This is followed by a regression analysis to determine the correlation between public participation, trust, and reciprocity. A comparison is also made in relation to gender, income, and level of education to determine whether class and gender differences have any influence on public participation.

This analysis is further demonstrated by two scatterplots between dependent and independent variables. Table 1 presents demographic data.

The respondents included ATHPs of different ages, genders, education, and income backgrounds. Women and the youth were in the majority at 46 percent and 36 percent respectively. The majority had low levels of education, with only 22 percent possessing tertiary education.

About 38 percent of ATHPs belonged to the low income category, and about 32 percent did not disclose their income status. The researchers now proceed to present the level of participation through its two indicators, namely, 'public involvement' and 'public decision making', as self-reported by respondents (see Table 2). The levels of trust and reciprocity are also presented in Table 3.

The level of involvement and influence in decision making within the regulation process was indicated to be generally low, at 70 percent and 80 percent respectively. Interestingly, the level of trust in government was found to be high, at 62 percent, whilst the level of reciprocity (willingness to respond and engage in government processes on regulation) was low, at 72 percent, as indicated in Table 3.

Table 1: Demographic data

<i>Age</i>	<i>No.</i>	<i>%</i>	<i>Gender</i>	<i>No.</i>	<i>%</i>	<i>Income</i>	<i>No.</i>	<i>%</i>
15-35 (youth)	18	36	Male	20	40	Very high	3	6
36-45 (adult)	16	32	Female	23	46	High	6	12
46-60 (senior citizen)	9	18	Transgender	4	8	Middle	6	12
Above 60 (veteran)	7	14	Non-conforming	3	6	Low	19	38
						Missing	16	32
Total	50	100		50	100		50	100

Table 2: Levels of participation (Involvement and decision making)

<i>Public involvement</i>	<i>No.</i>	<i>%</i>	<i>Influence in decision making</i>	<i>No.</i>	<i>%</i>
Very high	9	18	Very high	8	16
Moderate	6	12	Moderate	2	4
Low	35	70	Low	4	80
Total	50	100		50	100

Table 3: Levels of trust and reciprocity

<i>Trust in government</i>	<i>No.</i>	<i>%</i>	<i>Reciprocity</i>	<i>No.</i>	<i>%</i>
Very high	31	62	Very high	8	16
Moderate	12	24	Moderate	6	12
Low	7	14	Low	36	72
Total	50	100		50	100

DISCUSSION

The researchers aimed to find out what the research results mean for public participation of ATHPs in the regulation of ATMs in the country. Specifically, the roles of trust, reciprocity, class status, and gender differences and their roles in public participation were of particular interest. Furthermore, the researchers used a classical regression model where: $Y = a + bK + cX + dL + \mu$, where a is the intercept of the model; b , c , and d represent regression coefficients; and μ is the random error term.

However, the focus of the study was on the public participation regression coefficient (c), whose value gives the effect of public participation on the regulation of African traditional medicines in South Africa. This is addressed in the next section on data analysis.

Linear regression attempts to model the relationship between two variables by fitting a linear equation to observed data. One variable is considered to be an explanatory variable, and the other is considered to be a dependent variable (Stock and Watson 2007).

In this instance, the researchers sought to identify how levels of public participation (public involvement and public decision making) are influenced by trust in government, willingness by ATHPs to respond and engage in government regulation processes, and the levels of income, education, and gender of ATHPs. The interest, in this case, is the statistical significance of the influence of class, trust, and reciprocity in public participation. This is represented by the $P>|t|$ value in the regression analysis.

The researchers also sought to find out how much of the variation in the independent variables explains the changes in the dependent variable. This is displayed as an (R-square value) in the regression.

The regression analysis (Tables 4 and 5) demonstrates that there is a strong positive correlation between public involvement, public decision making, and reciprocity, demonstrated by the value of the coefficient of reciprocity in both cases, which is 9705998 and 804262 respectively. The $P>|t|$ value of 0.000 in both cases also tells us that this correlation is statistically significant. This means that if X (independent variable) decreases by one unit, the value of Y (dependent variable) decreases by the value of the

coefficient of X. In the context of this study, this means that the level of public involvement decreases by 9705998 units and public decision making by 804262 units when the level of reciprocity in government decreases by one unit.

The simple version is that when the ATHPs willingness to respond and engage in government regulation processes (reciprocity) decreases by one unit, there is also a decrease in levels of public involvement and decision making, which are understood in this study as participation. On the other hand, the regression analysis above demonstrates that there is a strong negative relationship between public involvement, public decision making, and trust.

This means that the more trust in government increases amongst ATHPs, the more there is a decrease in public involvement and public decision making. This is also confirmed by the linear fit scatter plot in Figures 1 and 2. This analysis explains about 81 percent of the variation in public involvement and 88 percent in public decision making, as indicated by the R-square value. This leads to a conclusion to accept the first and second alternative hypotheses:

H_01 (Alternative hypothesis) = the level of participation (dependent variable) amongst

Table 4: Regression analysis of public involvement, trust and reciprocity.

<i>Regress pubinv reciprocity trust</i>						
<i>Source</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>Number of obs</i>	<i>= 50</i>	
Model	24.7303946	2	12.3651973	<i>F(2, 47)</i>	<i>= 101.08</i>	
Residual	5.74960537	47	.122332029	<i>Prob > FR</i>	<i>= 0.0000</i>	
				<i>-squaredAdj</i>	<i>= 0.8114</i>	
				<i>R-squared</i>	<i>= 0.8033</i>	
Total	30.48	49	.622040816	<i>Root MSE</i>	<i>= .34976</i>	
<i>Pubinv</i>	<i>Coef.</i>	<i>Std.Err</i>	<i>t</i>	<i>P> t </i>	<i>95% Conf. Interval</i>	
Reciprocity	.9705998	.0893852	10.86	0.000	.7907799	1.15042
Trust	.0564325	.0924386	.61	0.544	-.12953	.242395
_cons	-.050513	.3437034	-0.15	0.884	-.741955	.6409289
<i>Regress pubdecmak trust reciprocity</i>						
<i>Source</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>Number of obs</i>	<i>= 50</i>	
Model	24.4706709	2	12.2353354	<i>F(2, 47)</i>	<i>= 188.59</i>	
Residual	3.04932912	47	.064879343	<i>Prob > F</i>	<i>= 0.0000</i>	
				<i>R-squaredAdj</i>	<i>= 0.8892</i>	
				<i>R-squared</i>	<i>= 0.8845</i>	
Total	27.52	49	.561632653	<i>Root MSE</i>	<i>= .25471</i>	
<i>Pubdecmak</i>	<i>Coef.</i>	<i>Std.Err</i>	<i>t</i>	<i>P> t </i>	<i>95% Conf. Interval</i>	
Trust	-.1779795	.0673188	-2.64	0.011	.3134075	.0425515
Reciprocity	.804262	.0650952	12.36	0.000	-.6733074	.9352167
_cons	.851618	.2503035	3.40	0.001	.3480723	1.355164

Table 5: Regression analysis: involvement, level of income and gender

<i>Regress pubinv reciprocity trust income gender</i>						
<i>Source</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>Number of obs</i>	<i>= 34</i>	
Model	23.4543625	4	5.86359063	F(4, 29)	= 105.98	
Residual	1.60446102	29	.055326242	Prob > FR	= 0.0000	
				-squaredAdj	= 0.9360	
				R-squared	= 0.9271	
Total	25.0588235	33	.759358289	Root MSE	= .23522	
<i>Pubinv</i>	<i>Coef.</i>	<i>Std.Err</i>	<i>t</i>	<i>P> t </i>	<i>95% Conf. Interval</i>	
Reciprocity	.2397048	.1302677	1.84	0.076	-.0267225	.5061321
Trust	-.1150012	.0723828	-1.59	0.123	-.2630406	.0330383
Income	-.4641878	.1053444	-4.41	0.000	-.6796414	-.2487342
Gender	.34789813	.0693854	-5.01	0.000	-.4898072	-.2059889
_cons	-.420724	.5261147	6.50	0.000	2.344699	4.496749
<i>Regress pubdecmak reciprocity trust gender income</i>						
<i>Source</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>Number of obs</i>	<i>= 34</i>	
Model	22.0167102	4	5.50417754	F(4, 29)	= 65.5	
Residual	2.45387806	29	.084616485	Prob > FR	= 0.0000	
				-squaredAdj	= 0.8997	
				R-squared	= 0.8859	
Total	24.4705882	33	.741532977	Root MSE	= .29089	
<i>Pubdecmak</i>	<i>Coef.</i>	<i>Std.Err</i>	<i>t</i>	<i>P> t </i>	<i>95% Conf. Interval</i>	
Reciprocity	.5832981	.1611011	3.62	0.001	.2538093	.9127869
Trust	-.1909942	.0895153	-2.13	0.041	-.374073	-.0079148
Gender	.1216671	.0858085	1.42	0.167	-.053831	.2971651
Income	-.2508276	.1302787	-1.93	0.064	-.5172776	.0156223
_cons	1.656165	.6506423	2.55	0.016	.3254517	2.986878

ATHPs is very low due to high levels of trust (independent variable) in the democratic government to automatically protect their best interests as African traditional health practitioners.

H₀2 (Alternative hypothesis) = ATHPs are not willing and eager to respond to and engage in government's invitations to public processes in the regulation of ATMs because they believe that the democratic government will automatically protect their needs and interests

The rationale to accept these hypotheses is strengthened by the statistical significance in the $P>|t|$ value of 0.00 in reciprocity and 0.01 in trust.

Lastly, what was noteworthy in the regression analysis was that once income and gender were added as independent variables, the statistical significance of reciprocity and trust in public involvement disappeared completely. Instead, both income and gender received a $P>|t|$ value of 0.00. About 92 percent of the variation in public participation is explained by the R-square value in this regression.

There were no major differences, however, in public decision making, where reciprocity and trust maintained statistical significances of $P>|t|$ values 0.001 and 0.041 respectively. Income and gender had no statistical significance at all, with $P>|t|$ values of 0.0167 and 0.064 in this instance.

However, the fact that there are observable statistically significant ($P>|t|$ values of 0.00) effects in public involvement, based on the variation in income and gender, can lead to a decision to accept the third alternative hypothesis which predicted that ATHPs are not willing and eager to respond to and engage in government's invitations to public processes in the regulation of ATMs because they do not have sufficient financial resources required to attend to such processes (see the regression analysis that explains this in Fig. 2) (Table 5).

In this study, the effects of trust are negative, in that people have decided to disengage from public processes on the basis of high levels of trust placed in the democratic government. Moreover, class and gender were found to play

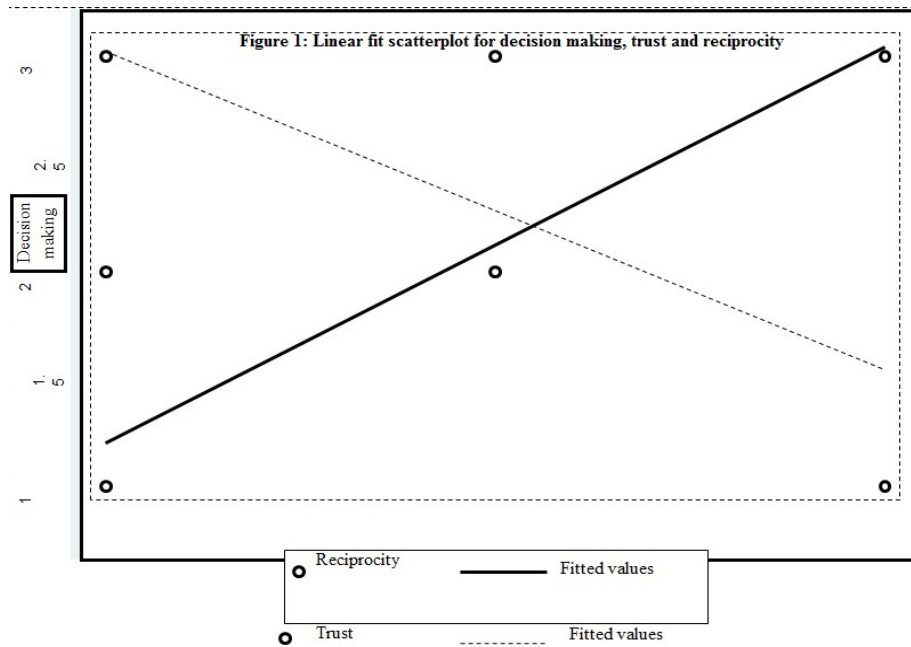


Fig. 1. Linear fit scatterplot for decision making, trust and reciprocity

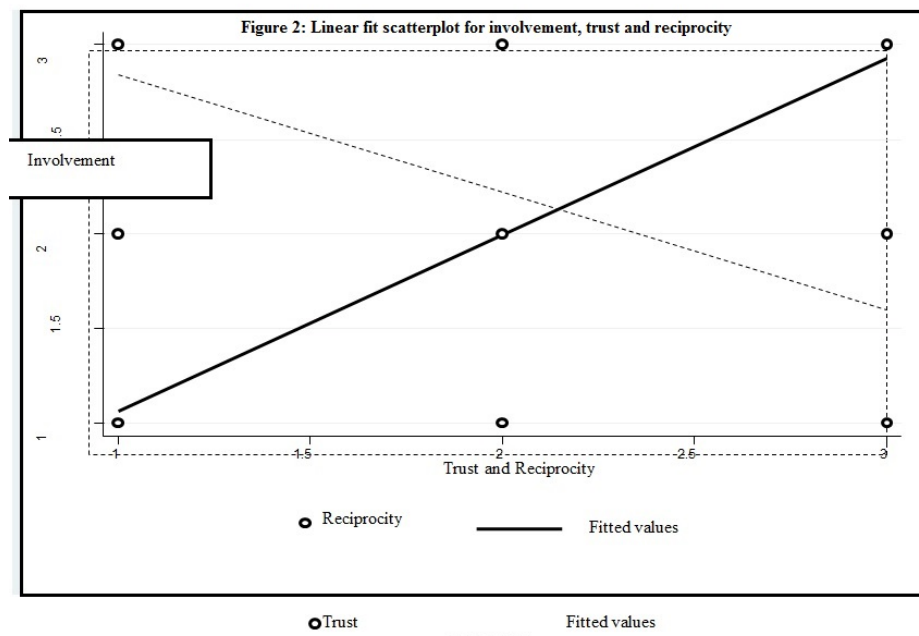


Fig. 2. Linear fit scatterplot for involvement, trust and reciprocity

a significant role in affecting ATHPs ability to participate in public processes. About 92 percent of the variation in public participation was explained by gender and income levels of ATHPs participating in the study. Both gender and income have a significance level of $P > |t|$ value of 0.00, which represents a strong statistical significance in the model used.

This confirms Bourdieu's (1968) theory that 'economic capital produces all other types of capital', where capital is understood in Marxist terms to mean 'surplus value captured by capitalists, the bourgeoisie, who control production means, in the circulation of commodities and monies between the production and consumption processes' (Lin 1999). In other words, people's labour as a form of social capital requires financial remuneration in the form of economic capital in order to exist and be functional in public participation processes.

CONCLUSION

This study was conducted with 50 ATHPs from the community of Site C in Khayelitsha, most of them female (46%) and young (36%), ranging from the age of 18 years to 60 and above. According to the findings of this study, the level of public participation amongst ATHPs in the regulation of ATMs in South Africa is low, standing at 70 percent for public involvement and 80 percent for influence in decision making. Trust in the democratic government, which was found to be high, at 62 percent, stood out as a key variable that affects the levels of ATHPs who participate in public processes.

The results demonstrate low levels of engagement with government processes, which resulted in low levels of influence in decision making in the regulation of ATMs. On the other hand, it was found that the less people earn, the less likely they are to become involved in public participation because they simply cannot afford to keep up with the financial demands of public engagement. This is something that requires government's attention in the context of improving public participation amongst ATHPs in the regulation of African traditional medicines in South Africa.

RECOMMENDATIONS

In view of the findings of this research, the following is recommended:

Policy Recommendation

- o The development of a public participation policy framework for the National Department of Health and the Interim Council of Traditional Health Practitioners to use as a guide to improve public participation in the regulation of ATMs

Strategy Recommendations

- o The development of a public participation unit [PPU] within the National Department of Health and the Interim Council of Traditional Health Practitioners to take a lead in engaging the public in the regulation process.
- o Establish a budget for public participation that can be spent on direct public involvement and decision-making processes (technical, human and financial resources). It is recommended that such a budget is shared between the PPU's of both the National Department of Health and the Interim Council of Traditional Health Practitioners of South Africa.

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