EFFECT OF SOCIAL CAPITAL ON THE HEALTH STATUS OF RURAL FARMERS IN GWER-EAST LOCAL GOVERNMENT AREA, BENUE STATE, NIGERIA

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ABSTRACT

The study examined the effect of social capital on the health status of rural farmers in Gwer East local government area of Benue State, Nigeria. Multi-stage sampling technique was used to select a total of 120 respondents. Data were collected through the use of a well-structured questionnaire and analyzed using descriptive statistics, social capital index, the index was estimated from the different forms of social capital constructed and WHO self-assessment scale for health status. Also, Binary Logit regression model was used. Results showed that the farmers were still young with an average age of 41 years old. Most of the respondents (68.33%) were married and more than half, (60.83%) were males. The social network of the respondents showed that the density of membership with mean of 1.43, average meeting attendance 44.83%, cash contribution with mean of ₦36,103.33, labour contribution with mean of 7.86, participation in decision making with mean of 34%, heterogeneity index with mean of 44%, social capital index with mean of 0.31. The health status of the respondents showed that majority (41.67%) were in very good health status. The regression Pseudo R^2 value of 0.5733 indicates that the variables included in the model explained 57% of the dependent variable. The result revealed that social capital increases the probability of household head being healthy. Also, gender, household size, farming experience, and age significantly influenced health status of the respondents. Given the close linkages between self-rated health and social capital in this study, the study, therefore, concluded that, social capital positively and significantly influences health status in the study area.

Keywords: Social capital, Self-assessed, Health Status, Farmers.

INTRODUCTION

Social capital has gained increasing attention across a wide array of disciplines and has stimulated considerable research interest as well as debate in both political and social science arenas (Magson *et al.,* 2014). There are many approaches to defining social capital. However, there seems to be a general consensus towards a definition that recognizes social networks, civil norms, institutions and nature of interpersonal interactions that underline them (Healy and Cote,2001). Social capital is widely understood to be the social associations, networks, norms and values that facilitate interaction between individuals and groups and enhance their socioeconomic welfare (Olumuyiwa *et al.,* 2014). Von Münchhausen and Knickel (2010) conceptualized social capital as one of the key building blocks of what they called the rural web and argued that these building blocks need to come together in order to respond to the challenges faced by rural economies. From an individual perspective, social capital is seen to consist of people's social relations, e.g., egocentric networks and whether they believe others

can be trusted; these link to resources individuals can draw on to help them meet their needs (Giordano & Lindstrom, 2010; Oksanen *et al.,* 2010).

Conversely, the absence of social ties can have an equally important impact on human life. The level of participation and involvement within a group signifies the investment being made by individuals, an investment into themselves and their community (Ayoola *et al.,* 2011). By contributing to a group, the social capital of households as a whole can appreciate while individuals continue to build trust, develop relationships and networks with other members and this may contribute to a higher quality and level of life satisfaction (Bryant and Norris, 2002). Social capital has quantifiable effects on different aspects of human endeavour. Woolcock (2001), opined that the well-connected are more likely to be "housed, healthy, hired and happy". Proponents of social capital claim that the benefits of the resource are far reaching, and have the potential to make us "smarter, healthier, safer, richer, and better able to govern a just and stable democracy" (Putnam, 2000).

Despite considerable debate about its definition and measurement, there is general agreement that social capital is an 'asset' which has the potential to link and explain factors that influence both health and wellbeing (McPherson *et al*., 2013). The measurement of the construct remains elusive as there is little consensus regarding: an accepted definition of the construct, a theorised conceptualization of its structure, its relation to other variables, and how best to measure it (Stone, 2001).

Farming remained the major occupation of rural households in Nigeria. The health care and concern aimed at the rural population raise interest since the beginning of the 20th century, focused especially on rural endemic diseases. However, they attract the commitment and work of few researchers (Hochman, 2010). Farmers are almost unique as a group whose work is so intimately tied with every aspect of their lives and the lives of their families, often across several generations (Brew *et al.,* 2016). Farmers work long hours, have physically demanding work, are often isolated socially and geographically from services, are less likely to take vacations and less likely to retire than people in other occupations (Thelin & Holmberg, 2010; Fragar *et al.,* 2008). In addition, farming has suffered recent pressures in the form of; globalization, economic rationalization, pest and disease outbreaks, diminishing rural populations, drought and climate change (Brew *et al.,* 2016; Alston, 2004). Therefore, farmers could be considered to be a vulnerable population and the association between work and health is particularly pertinent for their livelihood and wellbeing. However, the contribution of social capital to the well-being particularly the aspect of health of farming population still remains unclear.

Empirical studies had been carried out on the possible link between social capital and health in the past. According to Islam *et al.* (2006); Petrou and Kupek, (2008); Fujisawa *et al.*, (2009), health literature has discovered a positive relationship between social capital and health. Specifically, studies (Kennelly *et al.,* 2003; Mansyur *et al.,* 2008; Helliwell & Putnam, 2004; Gundelach & Kreiner, 2004; Kim *et al.,* 2007; Almedom & Glandon, 2007) have examined effect of social capital on specific health outcomes (e.g., cardiovascular disease, cancer) with conflicting findings reported. Furthermore, few studies have explored associations between social capital and individual self-rated health (Helliwell & Putnam, 2004; Mansyur *et al.,* 2008; D'Hombres *et al.,* 2010). All of these studies among several others have contributed to the body of knowledge on social capital and health nexus. Considering the foregoing, most of the studies on social capital and health nexus were not carried out in Nigeria, this constitutes a gap in literature that this study seeks to fill. The goal of this study was to examine the possible association between farming households` social capital level and their individual self-rated health status.

The outcome of this study has important theoretical, policy, and practice implications. The findings from this study will provide empirical evidence concerning theoretical arguments about the effect of social capital on health status of individuals. In addition, the study will contribute to literature on social capital and self-assessed health status. The result of the study will be of tremendous benefit to relevant stakeholders such as health economists and social health experts in the field of sociology and health practice. Finally, the outcome of the study will help rural farmers to take advantage of the possible empirical relationship of the concepts which have great implication on their health, productivity and livelihood. The main objective of this study was to ascertain the impact of social capital on the health status of rural farmers in Gwer Local Government Area, Benue State, Nigeria. The specific objectives were to:

i.   describe the socio-economic characteristics of the respondents;
ii.   examine the level of social capital of the respondents;
iii.   examine the health status of the respondents in the study area; and
iv.   analyze the effects of the level of social capital on the health status of the respondents in the study area.

MATERIALS AND METHODS

The Study Area

The study was conducted in Benue State of Nigeria. Benue State is one of the twelve states created in 1976. The State is located between longitude 60 - 100° East and Latitude 60 - 80° North. The State has a population of about 4.2 million persons (2006 National Population Census) and occupies an area of 30,955 Km2. Benue State is divided into 3 agricultural zones, viz: Northern Zone: comprising of Burukum Makurdi, Gwer-West, Gboko, Guma, Gwer East and Tarka Local Government Areas. Central Zones: Comprise of Ado, Obi, Agatu, Apa, Ogbadibo, Ohimini, Okpokwu, Oju and Otukpo Local Government Areas and the eastern zone. The population of the State grew from 2,780,393 persons in 1991 to 4,138,166 persons in 2006 and a projected figure of 5,485,019 persons in 2014 using an annual growth rate of 3%. The State has 23 LGAs and 3 Senatorial Districts, with Makurdi as its capital. The second largest River in Nigeria (the Benue) is by far the most prominent geographical feature in the State. The area is well drained and has a temperature that fluctuates between 23°C to 34°C for most part of the year. With a mean annual rainfall of between 150mm to 180mm and an estimated area of 30,955 km^2, Benue state stretches across the transition belt between the forest and savannah vegetation, covering a vast and fertile landmass which is worked by a farming population.

The ethnic and socio-cultural composition of the population is diverse, comprising the Tiv, Idoma, Igede, Etulo, Jukun, Hausa, Abakwa as well as other ethnic nationalities. The eastern zone was purposively sampled for the study, as it constitutes one of the most active farming zones of the state. The study area is Gwer East local government area with farming activities being dormant and crops produced such as; yam, corn, soybeans, millet, tobacco, beniseed, rice, cassava etc. It has an area of 2,294km^2 and a population of 163,647 at the 2006 census. The postal code is 971. The local government has 3 districts; Yonov, Njiriv and Ngyohov.

Sampling Procedure

A three-stage sampling technique was utilized in the study. In the first stage, Gwer-west Local Government Area was purposively selected for the study. This is due to the predominance of farming activities, researcher's familiarity with the Local Government Area and the possible ease for data collection. In the second stage, four farming communities was randomly selected from the Local Government Area. In the third stage, 30 farming households was selected from each of the four farming communities to give a total of 120 households for the study.

Method of Data Collection

The study made use of primary data which was collected through the use of a well-structured questionnaire. The questionnaires were administered to household heads in the selected communities. The questionnaire was designed to cover the different study objectives. The socio-economic characteristics, the components used to construct social capital index and the self-reported health information.

Analytical Techniques

The study was achieved using descriptive statistics and inferential statistics. Social capital index was computed using the following procedure:

1. Social Capital Variables: The aggregate social capital index was obtained via a multiplicative index of the three social capital dimensions (density of association, heterogeneity and participation in decision making) and normalized to a maximum value of 100 (Ayoola,2011).

2. Density of Membership: is captured by summing up the membership of associations by individuals in the household.

3. Meeting Attendance Index: is obtained by summing up the attendance of household members at meetings and relating it to the number of scheduled meetings by the associations they belong to. This value is then multiplied by 100.

4. Cash Contribution: is obtained by adding up the total cash contributed to the various associations the household belong to.

5. Labor Contribution: is the number of days that household members belonging to associations claimed to have worked for their associations.

6. Decision Making Index: is obtained by summation of the subjective responses of households on their rating in the participation in the decision making of the three most important institutions to them. The response is averaged across the three groups and multiplied by 100 for the household.

7. Heterogeneity Index: is an aggregation of responses of each household to questions on the diversity of members of the three most important institutions to the household. Questions are answered on whether members live in the same neighborhood, are same kin group, same occupation, same religion, same gender, same age group and same occupation. For each of the factors, a yes response was coded 0 and a no response was coded 1 and a maximum score of 11 for each association represents the highest level of heterogeneity.

In order to determine respondents' responses on health status, logit regression model constrains the estimated probabilities to be between 0 and 1. The respondents were asked to rate their current health on a five-step ladder ranging from very bad (1) to very good (5). This report's health indicator (good health) is a binary variable that takes 1 (good health) if respondents judged their health as fair, good or very good and 0 if they judged it as very bad or bad. The Y* model was specified as:

$$Y^* = X'\beta + \varepsilon, \qquad \qquad \text{...(1)}$$

where;

Y can be viewed as an indicator for whether this latent variable is positive:

$$Y = 1_{\{Y^* > 0\}} = \begin{cases} 1 & \text{if } Y^* > 0 \text{ i.e.} - \varepsilon < X'\beta, \\ 0 & \text{otherwise.} \end{cases}$$

where;

$$Y_i = li\left(\frac{P_i}{1-P}\right) = \beta + \beta 1 X 1 + \beta 2 X 2 + \cdots + \beta i X i \text{-} \qquad \qquad \text{...(2)}$$

where;

Y = Vector of dependent variable (1 (good health) if respondents judged their health as fair, good or very good and 0 if they judged it as very bad or bad),

X = Vector of explanatory variables;

X_1 = Age of Household head (Years),

X_2 = Gender of household head (1=male, 2=female),

X_3 = Household size (actual number),

X_4 = Years of farming experience (Years),

X_5 = Access to credit (1 if yes, 0 if otherwise)

X_6 = Social capital index

U_i = Error term

RESULTS AND DISSCUSSION

The results in Table 1 shows that (35.00%) of the respondents were within the age range of 40 to 49 years, (20%) of the respondents were within the age range of 50 to 59years, (11.67%) of the respondents were within the age range of 60 years and above. This implies that the respondents were still within the economically active age group. 60.83% of the respondents were males, while 39.17% of the respondents were females. The result of the marital status of the respondents showed that the majority of the respondents (68.33%) were married, (15.00%) of the respondents were single, (13.33%) of the respondents were widowed, while (3.33%) of the respondents were divorced. The results on the highest educational level attained shows that (35.00%) of the respondents had no formal education, while (40.83%) of the respondents attained just primary school education, (20.00%) of the respondents attained up to secondary school education, while (4.17%) of the respondents attained up to tertiary level education. The results shows that significant percentage of the respondents had acquired good level of formal education as about (65%) of the respondents had spent at least 7 years to obtain formal education thus revealing a high level of literacy among the respondents, which is of significant importance to the respondents to social capital groups as well as their health status. With respect to household size the results show that (31.67%) of the respondents had 1-5 members, (40.83%) households had 6-10 members, (21.67%) households had 11-15 members, (5.83%) households had 15 and above members. The majority (89.17%) engaged in farming as their primary occupation, (3.33%) of the respondents are civil servants by primary occupation, (2.50%) of the respondents were artisans by primary occupation, (4.14%) of the respondents were traders by primary occupation, (0.83%) of the respondents were labourers by occupation. This agrees with (FAO, 2014) smallholder agriculture dominates the landscape of the developing world with more than million small farms operating on the majority of the world's food supply.

Table 1: Socio-economic Characteristics of the Respondents

Variables	Frequency	Percentage	Mean
Age			
20-29	17	14.17	
30-39	23	19.17	
40-49	42	35.00	41.23 years
50-59	24	20.00	
>60	14	11.67	
Gender			
Male	73	60.83	
Female	47	39.17	
Marital status			
Single	18	15.00	
Married	82	68.33	
Widowed	16	13.33	
Divorced	4	3.33	
Level of education			
No formal education	42	35.00	
Primary Education	49	40.83	
Secondary Education	24	20.00	
Tertiary education	5	4.17	
Household size			
1-5	38	31.67	
6-10	49	40.83	8 persons
11-15	26	21.67	
>15	7	5.83	
Primary occupation			
Farming	107	89.17	
Civil Service	4	3.33	
Artisan	3	2.50	
Trade	5	4.17	
Labourer	1	0.83	
Farming experience			
1-5	36	30	
5-10	38	31.67	
11-15	28	23.33	11 years
15-20	17	14.17	
>20	1	0.83	

Source: Field Survey, 2020.

The results of the farming experience of the respondents showed that (30.00%) of the respondents have been farming for 1 to 5 years, while majority (31.67%) of the respondents had been farming for 6 to 10 years, while (23.33%) of the respondents had been farming for 11 to 15 years, only (0.83%) of the respondents had been farming for 20 years and above. The results of the farm size of the respondents showed that (64%) of the respondents have farm size of 0.1-2.0 hectare(s) of land. This is so because most farmers are poor and practice mainly peasant and subsistence farmers. (2.16%) of the respondents have farm size of 2.1-4.0

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hectare(s) of land, (14.16%) of the respondents have farm size of above 4 hectares. The results of the average annual income showed that (27.50%) of the respondents earns less than or equal to ₦100,000 per year, (22.50%) of the respondents earns ₦101,000 to ₦200,000 per year, (11.67%) of the respondents earns ₦201,000 to ₦300,000 per year, (10.83%) of the respondents earns ₦301,000 to ₦400,000 naira per year, (27.50%) of the respondents earns ₦400,000 and above.

The results (Table 1) of the respondents' access to extension service showed that majority (93.33%) of the respondents had no access to extension services in the last farming season. This might be because of the short supply of extension agents and service to rural communities. While only (6.67%) of the respondents had access to extension service(s). The results of the respondents' access to credit showed that majority (85.83%) of the respondents had no access to credits, while (14.17%) of the respondents had access to credits. This is due to the fact that most farmers are poor and have no valuable assets to offer as collateral to access loans from banks (commercial or agricultural banks) and government.

Table 1: Socio-economic Characteristics of the Respondents **Cont'd.**

Variables	Frequency	Percentage	Mean
Farm size			
0.1-2.0	77	64.00	
2.1-4.0	26	2.16	2.3 ha
>4	17	14.16	
Average annual income			
< ₦100,000	33	27.50	
₦101,000-200,000	27	22.50	
₦201,000-300,000	14	11.67	
₦301,000-400,000	13	10.83	
>₦400,000	33	27.50	
Access to extension service			
Had No access	112	93.33	
Had access	8	6.67	
Access to credit			
Had No access	103	85.83	
Had access	17	14.17	
Total	**120**	**100.00**	

Source: Field Survey, 2020.

Social Capital Networks of the Respondents

The social capital networks of the respondents considered in this study are Density of Membership, Meeting Attendance, Cash contribution, Labour Contribution, Decision Making Index, and Heterogeneity Index. Table 2 presents the social capital dimensions of the sampled households. In terms of meeting attendance, results show that an average of 44.83 % attendance by respondents and households contribute on the average ₦36,103.33 yearly as cash contribution to their respective associations. Participation in decision making shows poor level of activity with 34% participation index on the average. The heterogeneity level showed below average level (44%) of diversity of membership of associations and an average social capital index of 0.31.

Table 2: Household Activity in Associations

Social Capital Dimensions	Obs.	Min.	Max.	Mean	Std. Dev.
Density of Membership	120	0	5	1.43	1.03
Meeting Attendance	120	0	100	44.83	36.23
Cash Contribution	120	0	290000	36,103.33	48256.43
Labour Contribution	120	0	100	7.85	13.33
Decision Making Index	120	0	53	34	36.10
Heterogeneity Index	120	3	67	44	13
Social Capital Index	120	0	0.99	0.31	0.26

Source: Field Survey, 2020.

Health Status of Household Heads

The respondents were asked to self-report their current health status, their responses were presented in Table 3. The elements captured in the health status of the respondents considered in this study were health status using self-assessment rating scale, level of satisfaction about their health, willingness to pay for community health insurance, amount willing to pay for health insurance, number of hospital visits in the last 12 months to seek for medical care for self, Number of days unable to go to farm due to illness in the last 12 months, amount paid for treatment in the last 12 months.

Table 3: Farming Household Head Health Status

Variables	Frequency	Percentage
Health status		
Very good	50	41.67
Good	37	30.83
Fair	26	21.67
Bad	6	5.00
Very bad	1	0.83
Level of satisfaction with health		
Highly Satisfied	44	36.67
Satisfied	43	35.83
Undecided	25	20.83
Dissatisfied	8	6.67
Willingness to pay for community health insurance		
Willing to pay	94	78.33
Not Willing pay	26	21.67
Amount willing to pay		
< ₦5000	119	95.82
₦5001-10000	1	0.83
₦10,001 & above		
No of hospital visits		
0-5	95	79.17
6-10	16	13.33
11-15	6	5
15-20	3	2.50
20 and above		

Source: Field Survey, 2020.

The assessment of the health status of the household heads (Table 3) revealed that 41.67% of the respondents rated their health status as being very good, 30.83% as good, 21.67% fair, 5% as bad and only 0.83% as very bad. Consequently, when asked about the level of satisfaction about their health 36.67% indicated being highly satisfied with their health status, 35.83% reported satisfied, 20.83% undecided and only 6.67% indicated dissatisfied. The result on the willingness to pay for community health insurance by the respondents in the study area showed that majority (78.33%) of the respondents were willing to pay for a community health insurance scheme, while (21.67%) were not willing to pay for any community health insurance scheme. The amount the respondents were willing to pay in the study area showed that majority (95.82%) of the respondents were willing to pay the amount of < ₦5000, (0.08%) were willing to pay ₦5001-₦10,000. The number of times the respondents visited hospital seeking for medical care in the last 12 months showed that majority (79.17%) of the respondents visited hospital/health care facilities 0-5 times, while (13.33%) of the respondents visited hospital between 6-10 times in the last 12 months, while (5.00%) visited the hospital between 11-15 times, while (2.50%) of the respondents visited hospital between 16-20 times.

Effects of Social Capital on the Health Status of the Farming Household Head

Effects of social capital on health status of the household heads in the study was presented in Table 4. An estimate of the binary logistic regression analysis on the effect of social capital on the respondents` health in the study area was presented in Table 4. The model's Pseudo R^2 value of 0.5733 indicate that the fitted independent variables explained the respondents' health status. The model is significant at 1%. The result of the regression on Table 4 shows that age, gender, household size, Farming experience and social capital were the factors that influenced the respondents` health status in the study. However, age and gender had negative relationship both significant at 1% and 5% level, respectively. The result suggests that the sampled households self-assessed health status increases with decrease in age, while their self-assessed health status increases with decrease in the number of males headed household heads. Consequently, the sampled household heads` self-assessed health status have positive relationship with household size and years of farming experience both significant at 1% level. The result revealed that health status had positive relationship with social capital. The relationship is statistically significant 1% level. This suggests that the respondent's health status increase as household head social capital increases. The result of the study was consistent with Kim & Kawachi (2007) and Kawachi & Berkman, (2000) that reported in separate studies that individual level, social capital had beneficial private health returns, for instance, participation in a civic group boosting one's health through psychosocial processes such as social support.

Table 4: Logit Regression result of social capital and Health status

Health condition	Coefficient	Standard Error	z	P> /z/
Age	-0.2708566	0.066653	-4.06	0.000
Gender	-1.859659	0.8318773	-2.24	0.025
Household Size	0.3265191	0.1143757	2.85	0.004
Farming Experience	0.1561793	0.0468453	3.33	0.001
Access to Credit	0.9864959	1.020414	0.97	0.334
Social Capital Index	6.053063	1.471915	4.11	0.000
-cons.	3.337706	1.854248	1.80	0.072
No. of Obs.	120			
LR Chi2(6)	82.02			
Prob>Chi2	0.0000			
Pseudo R2	0.5733			
Log likelihood	-30.520285			

*** significant at 1%, ** significant at 5%, * significant at 10%
Source: Field Survey, 2020.

CONCLUSION AND RECOMMENDATIONS

The study examined the effect of social capital on farming household head health status in Gwer East Local Government Area of Benue State, Nigeria. The results of the study showed that 41.67% and 30.83% reported very good and good respectively when asked to assess their health using self-assessment scale, while only 21.67% and 5% reported fair and bad respectively. The sampled household heads had an average social capital index of 0.31. Social capital was significant at 1% level and positively related to households' health status. The respondents' health status increases with decrease in age of the household heads. The respondents' health status increases with decrease in male headed household heads. The respondents' health status increases with increase in household size in the study area. The respondents' health status increases with increase in the farming experience of the farming household heads. The study concluded that social capital positively and significantly influenced the health status of the respondents in Gwer East Local Government Area of Benue State, Nigeria. Based on these findings, therefore, there is need for government to formulate relevant policies creating the awareness of the potential health benefit inherent in social capital. The study also recommends that farmers be encouraged to put measures in place that can facilitate enabling environments that foster the strengthening of social capital in the country give its health benefits.

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