

## Examining the connectivity between Ageing and Social Isolation in Ghana: Patterns and Possible Predictors from WHO's Multi-country Study

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### **Abstract**

Social isolation among the elderly, a public health concern, is linked to depressive symptoms and ageing. Although, the incessant transformations of traditional African societies have affected its social, cultural and care support for the elderly, using a methodical nationally representative to examine social isolation has received less attention among this group. This paper uses information from WHO's SAGE Wave 1 data for Ghana conducted in 2007-2008 comprising 535 aged  $\geq 60$  years to examine the patterns and risk factors associated with social isolation measured utilizing 10 indicators. Respectively, one in every two respondents reported to have experienced stress and sleeping disorders. However, 24% experienced suicidal tendencies. Household socioeconomic status had a robust association with being socially isolated in relation to loss of appetite, suicidal tendencies and decrease in sex interest. Further research using phenomenological approaches to understand and explain study findings is paramount in strengthening social support care mechanisms for the elderly.

**Key words:** social isolation, ageing, elderly population

## **Background**

The incessant transformations of traditional African societies for which Ghana is not an exception have affected its social, cultural and care support for the elderly. There are empirical findings to buttress the fact that development, modernization and educational opportunities have had effects on the traditional care and support mechanisms on the provision of adequate upkeeps for the elderly; although, other studies have attributed this to rise in poverty and economic hardship [Aboderin, 2004]. Hence, the issue of ageing and social isolation among Ghanaian elderly requires attention. Social isolation among the elderly population is a public health concern since it is associated with depressive symptoms [Cole & Dendukuri, 2003; Silverstein, Cong and Li, 2006; Clausen et al., 2007; Sicotte et al., 2008; Chan et al., 2011; McKinnon et al., 2013]. Even though, some studies on ageing in Ghana [Apt, 1996; Geest, 2004; Debpuur et al., 2010; Tawiah, 2011] have been carried out; and most studies undertaken among older SSA adult populations have focused broadly on basic social patterns of specific diseases or of health and function [Aboderin, 2010], patterns and associated risk factors of social isolation among the group have received less attention.

The concept of social isolation has no clear definition and is normally confused with concepts such as social support and social capital [Locher et al., 2005]. Some researchers restrict to its literal meaning of “the personal isolation of individuals from one another” [Klinenberg, 1999; 2002a, b; Krause 1993] and they have established that poorer health outcomes are associated with being physically socially isolated from others especially among the elderly poor [Locher et al., 2005]. Gardner and colleagues defined social isolation using combined factors that constituted low levels of social participation and levels of social activity that the aged perceived as insufficient [Gardner et al., 1998]. According to Day [1992] as cited in Mapoma & Masiti [2012], being socially isolated means lack of satisfied relationships and a low level of being involved in community life. Other researchers have defined social isolation as having minimal interaction with others as well as feeling dissatisfied with having low number of social contacts [Cattan & White, 1999; Haddad & Gillette, 2001]. Locher and colleagues’ study in examining the relationship between social isolation, support, and capital and nutritional risk among American older adults measured the concept “social isolation” using adequate transportation, independent life-space (such as limited to one’s town, neighbourhood, within one’s dwelling and limited to the room where one sleeps) and geographic location [Locher et al., 2005]. Mapoma and Masiti [2012] investigated the effects of social-demographic attributes on social isolation factors among the elderly in Zambia. The authors measured social isolation focused on seven indicators; specifically on loss of appetite, stress, being moody, hopeless, useless, unhappy, and loneliness and this research work adapted to some of these available indicators among the Ghanaian aged population.

Several risk factors associated with social isolation have been documented in the literature. Social isolation has been assumed to be associated with age among scholars [Cornwell, Laumann & Schumm, 2008]. According to Locher and others [2005], suitable transportation within one's community is an essential component of social isolation since it promotes active community life participation. The researchers further found that social isolation was associated with increased nutritional risk. Older adults are also socially isolated due to movement difficulties; hence restricting their ability to benefit from existing community resources [Locher et al, 2005]. In an anthropological study describing the life conditions of the aged in a rural community of Ghana, Geest asserted that the loss of ultimate respect meant an experience of loneliness among the elderly [Geest, 2004]. Addressing the gap in sexual activity integrating other forms of physical affection and its association with lower levels of depression among older adults, a robust association was found for both men and women although there were variances between models for both sexes for many control variables [Ganong & Larson, 2011]. There is evidence that religious involvement protects one against loneliness [Rote et al., 2011] which measures social isolation [Mapoma & Masati, 2012], although there is less explanation on such overall pattern [Rote et al., 2011]. Rote and others [2011] found that religious attendance among older adults was associated with higher level of social integrations and social support in the USA. The researchers concluded that older adults are integrated into larger and more supportive social networks when involved in religious institutions protecting them against loneliness. However, other researchers underscored the complex nature of the religious involvement variable [Idler et al., 2009]. A relatively number of older adults live alone and in cities [Andonian & MacRae, 2011] and are expected to increase by 2050 especially in developing countries and much higher rates have been recorded [United Nations, 2007]. With growing old unavoidable and the inexistence of family structure to offer support can result in social isolation. Social isolation was established to be a predictor outcome events post stroke and this was attributed to the absence of social support resulting from poor compliance, depression and stress [Boden-ALbala et al., 2005] and participating in religious activities for instance, in church are associated with receiving support [Chatters et al., 2002]. The study in Zambia among the older population on social isolation found that marital status, education, and place of residence influenced one's experiences of social isolation. The study further established that being a male or female does not determine one's experience of social isolation with four (Stress, Moody, Hopeless, and Useless) of the indicators having statistically insignificant relationships with the primary predictors [Mapoma & Masati, 2012]. In view of

knowledge gap and to address the issue of ageing and social isolation in the context of a West African country like Ghana currently experiencing demographic transition in order to understand the risk factors associated with social isolation over the life course, this study uses the SAGE Wave 1 data collected in 2007-2008 in Ghana to 1) examine the patterns of social isolation (based on symptom-based indicators); and 2) investigate the risk factors associated with social isolation probable among the elderly population

### **Data and Method**

In collaboration with the Department of Community Health at the University of Ghana, Medical School, the Ministry of Health and WHO, the SAGE Wave 1 was conducted in Ghana to supplement existing ageing data sources and for policy and programmes formulation [Department of Community Health, University of Ghana Medical School, 2012; Kowal et al., 2012; Yawson et al., 2014]. Socio-demographics and health-related information were obtained from a nationally representative sample of respondents aged 60 years and above using face-to-face interviews. A total of 535 observations were used in this study due to the presence of study's variable of interest. This sample size is typically adequate since this is a correlational study and a minimum of 500 is suggested [Fraenkel & Wallen,; Mapoma & Masaiti, 2012]. Ethical clearance for the Ghana SAGE Wave 1 was obtained from the Ethical Review Board of the World Health Organization and the Ethics and Protocol Review Committee of the University of Ghana Medical School. Informed consents were also obtained from study participants [Department of Community Health, University of Ghana Medical School, 2012; Kowal et al., 2012; Yawson et al., 2014].

### ***Measures and Analysis***

Demographic and socioeconomic variables included age, sex, highest level of education completed, marital status, religion, work status, household socio-economic status and place of residence were used to ascertain study outcomes. Social isolation was measured using ten 10 indicators based on questions respondents were asked whether they experienced the following; moody (sadness), loss of appetite, sleeping disorder, (problem falling asleep/waking up too early), concentration difficulties, stress (anxious/worried/restless/jittery), hopeless, loss of confidence, decrease in sex interest, movement difficulties and suicidal tendencies (think of death/wish you were dead/try to end your life) for more than two weeks within the last 12 months. An affirmative response meant indication of isolation or something related to it and a "no" meant the reverse, which means respondent was not feeling socially isolated or not at the time of survey [Mapoma & Masaiti, 2012]. Descriptive statistics such as frequencies and percentages were performed by sociodemographic and economic

characteristics. Binary logistic regression models were used to ascertain study outcomes. Data analysis was carried out using STATA 12.0 version.

## Results

The sampled respondents had fewer males than females and the mean age was 72 years. Most (68%) of the respondents had no formal education, with females displaying a higher percentage relative to males. Sixty percent of the respondents were not married (widowed, never married, separated or divorced); and more males (77%) reported being married than females (12%). Overall, 74% professed to be affiliated to the Christian religion relative to other religion. Being engaged in one form of economic activity was more prominent(60%) among males than females (44%). More males (21%) were from least poor households compared to females (11%). Most respondents were from rural communities than urban areas. (*Table 1*).

Table 1: Descriptive analysis of elderly Ghanaians (60 years and above)

	<b>Total population</b>	<b>Males</b>	<b>Females</b>
<b>N</b>	535	230	305
<b>Mean Age</b>	71.5	70.6	72.1
<b>% Education level</b>			
No education	67.9	49.6	81.7
Primary	18.3	23.5	14.4
Sec+	13.8	26.9	3.9
<b>% Marital status</b>			
Married	40.0	77.2	12.2
Not married	60.0	22.8	87.8
<b>% Religion</b>			
Christianity	73.6	72.0	74.7
Islam	17.2	20.1	15.1
Other	9.2	7.9	10.2
<b>% Work status</b>			
Currently working	51.0	60.1	44.1
Not currently working	49.0	39.9	55.9
<b>% Household Socioeconomic status</b>			
Poorest	19.5	18.8	20.0
Poorer	23.2	16.6	28.2
Poor	22.8	20.5	24.6
Less poor	19.5	23.6	16.4
Least poor	15.0	20.5	10.8
<b>% Residence</b>			
Rural	57.0	62.2	53.1
Urban	43.0	37.8	46.9

Source: Ghana SAGE, Wave 1, 2007-2008

Descriptive analysis of patterns of reported social isolation indicators by respondents characteristics are depicted in Table 2. This shows the variations in social isolation; in addition to the cross-tabulations between the plausible predictors and social isolation. Overall, it was showed that one in every two reported to have experienced stress and sleeping disorder respectively. Also, Forty-eight percent indicated they were moody and experienced loss of appetite respectively. Concentration(49%) and movement(44%) difficulties; and loss of confidence(44%) were also evident among the respondents. A proportion of 40 reported to have had a decrease in sex interest. Suicidal tendencies were also envisaged among the elderly population.

With the exception of suicidal tendencies which was higher (41%) among the age group 70-79 years relative the other age groups, the proportion of the rest of the social isolation indicators decreased with age. The proportion of females who experienced almost all the indicators were relatively higher than their male counterparts with suicidal tendencies having the highest difference(24%). Stress were commonly reported among respondents who professed to be Christians(71%) than those affiliated to other religions (9%). Respondents affiliated to Islam reported to have experienced suicidal tendencies than other social isolation indicators. Those engaged in any form of economic activity (54%) had movement difficulties than those who were not working (46%). However, those who were not working(57%) experienced suicidal tendencies than their working counterparts (43%). With the exception of household socioeconomic status which had an inverse relationship with the proportion of suicidal tendencies, other social isolation indicators had mixed outcomes. Consistently, the respondents from least poor households formed smaller proportions of all social isolation indicators relative to their counterparts from other levels of socioeconomic statuses. Respectively, respondents in rural settings reported to have experienced being moody (61%) while those from urban areas reported to have experienced being hopeless (61%) as the highest social isolation indicator.

Table 2: Patterns of reported social isolation indicators by background characteristics

	<b>N</b>	<b>Appetite loss</b>	<b>Stress</b>	<b>Hopeless</b>	<b>Moody</b>	<b>Sleeping disorder</b>	<b>Loss of confidence</b>	<b>Decrease in sex interest</b>	<b>Concentration difficulties</b>	<b>Suicidal tendencies</b>	<b>Movement difficulties</b>
<b>Population</b>	<b>535</b>	<b>48.4</b>	<b>50.5</b>	<b>43.7</b>	<b>48.0</b>	<b>51.2</b>	<b>43.9</b>	<b>40.2</b>	<b>49.4</b>	<b>23.7</b>	<b>43.7</b>
<b>60-69</b>	234	41.3	42.6	40.6	40.9	42.0	40.9	41.4	40.9	37.0	41.0
<b>70-79</b>	202	37.8	36.7	38.0	37.3	36.8	38.3	39.1	38.3	40.9	38.9
<b>80+</b>	99	20.9	20.7	21.4	21.8	21.2	20.8	19.5	20.8	22.1	20.1
<b>Males</b>	230	40.9	42.2	42.7	42.8	41.2	42.1	46.5	40.5	37.8	41.0
<b>Female</b>	305	59.1	57.8	57.3	57.2	58.7	57.9	53.5	59.5	62.2	59.0
<b>No education</b>	363	67.2	66.7	68.4	66.9	67.2	68.1	65.1	67.8	73.2	68.4
<b>Primary</b>	98	20.1	20.4	19.6	20.6	20.4	20.4	21.9	19.7	18.9	19.2
<b>Sec+</b>	74	12.7	12.9	12.0	12.5	12.4	11.5	13.0	12.5	7.9	12.4
<b>Married</b>	213	37.9	37.3	37.2	38.6	36.5	38.3	42.0	36.9	32.3	37.8
<b>Not married</b>	319	62.1	62.7	62.8	61.4	63.5	61.7	58.0	63.1	67.7	62.2
<b>Christianity</b>	393	69.5	70.7	68.4	69.7	70.8	68.1	68.4	69.3	65.4	68.8
<b>Islam</b>	92	20.5	20.0	20.9	19.8	19.7	22.1	21.4	20.5	24.4	20.0
<b>Other</b>	26	10.0	9.3	10.7	10.5	9.5	9.8	10.2	10.2	10.2	10.3
<b>Working</b>	269	51.6	50.6	49.3	49.8	50.2	50.4	54.2	49.8	42.7	53.7
<b>Not working</b>	258	48.4	49.4	50.7	50.2	49.8	49.6	45.8	50.2	57.3	46.3
<b>Poorest</b>	104	15.1	18.1	19.7	18.7	17.2	18.7	13.9	17.4	26.8	17.9
<b>Poorer</b>	124	25.9	26.7	26.5	26.5	26.6	26.4	27.9	25.8	27.6	26.1
<b>Poor</b>	122	21.2	19.6	19.2	20.2	20.4	19.2	19.1	20.8	18.1	19.7
<b>Less poor</b>	104	21.6	20.0	20.1	20.6	20.4	20.4	20.5	21.2	16.5	20.9
<b>Least poor</b>	80	16.2	15.6	14.5	14.0	15.3	15.3	18.6	14.8	11.0	15.4
<b>Rural</b>	230	41.7	59.3	38.9	61.1	58.4	60.0	58.1	59.9	59.1	59.8
<b>Urban</b>	305	58.3	40.7	61.1	38.9	41.6	40.0	41.9	40.2	40.9	40.2

Source: Ghana SAGE Wave 1, 2007-2008

### **Predictors of Social Isolation**

The results of the multiple logistic regression models which show some common sociodemographic and economic predictors of social isolation among Ghanaian elderly population is presented in Table 3. This study hypothesized that age and household socioeconomic status, and place of residence affect likelihoods of experiencing social isolation through the above-mentioned indicators. It is also anticipated that education, marital status, religion and sex influence one's experiences of social isolation. Apart from "being stressed out", "feeling hopeless", experiencing sleeping disorder, loss of confidence, experiencing concentration and movement difficulties, there are statistically significant relationships between the plausible predictors in the logistic regression models and social isolation indicators. However, one's sex, education and marital status had no effect on one's experience of social isolation and this was confirmed by the statistically insignificance of the odds ratios in the model.

The models in Table 3 showed that one's age has an influence on respondent's report on being moody; although the relationship is weak. However, the age of respondent does not determine one's experiences of other indicators of social isolation such as loss of appetite, stress, hopeless, decrease in sex interest, and difficulties in moving around. Religion was also found to influence one's experience of a decrease in sex interest; although, its significance was statistically weak. One's work status determined respondent's reporting of experiencing suicidal tendencies but not appetite loss, stress, hopeless, moody, sleeping disorder, loss of confidence, and concentration and movement difficulties. Somewhat, this significance is frail. Socioeconomic status, whether from poorest, poorer, poor, less poor or least poor household impacts more on the selected indicators measuring social isolation relative to other risk factors in the model. These included loss of appetite, decrease in sex interest and suicidal tendencies. Lastly, but not the least, place of residence frailly determines one's experience of "being moody".



Table 3: Results of Logistic regression predicting indicators of social isolation

	<b>Appetite loss</b>	<b>Stress</b>	<b>Hopeless</b>	<b>Moody</b>	<b>Sleeping disorder</b>	<b>Loss of confidence</b>	<b>Decrease in sex interest</b>	<b>Concentration difficulties</b>	<b>Suicidal tendencies</b>	<b>Movement difficulties</b>
<b>Age</b>	1.1994	1.1251	1.1600	<b>1.2293***</b>	1.1558	1.1489	1.1552	1.1647	1.1311	1.1645
<b>Sex</b>	1.1884	0.9565	0.8154	0.9966	0.9887	0.9591	0.8087	1.0813	0.9231	1.0703
<b>Education</b>	1.0629	1.1041	1.0403	1.1205	1.0729	1.0053	1.0107	1.0994	0.9232	1.0546
<b>Marital status</b>	0.8676	0.7633	0.7483	0.8957	0.7257	0.8933	0.8977	0.7912	0.8341	0.8417
<b>Religion</b>	1.1693	1.0669	1.1557	1.1567	1.0890	1.1263	<b>1.2010***</b>	1.1571	1.1012	1.1500
<b>Work status</b>	0.8956	1.0250	1.0967	1.0921	1.0072	1.0073	0.7922	1.0239	<b>1.4431***</b>	0.7565
<b>Socioeconomic status</b>	<b>1.2074**</b>	1.0589	1.0127	1.0384	1.0951	1.0441	<b>1.2043**</b>	1.0939	<b>0.8186**</b>	1.0760
<b>Residence</b>	1.2477	1.2560	1.2791	<b>1.4065***</b>	1.2175	1.1852	1.1197	1.3066	0.9496	1.1713

\*\*p < 0.05

\*\*\*p < 0.10

Source: Ghana SAGE Wave 1, 2007-2008

## **Discussions**

Ghana like any developing country, it is apparent that population ageing will become a vital issue which is projected to grow expeditiously [Ministry of Employment and Social Welfare (MESW), Government of Ghana (GOG), 2010]. With an increasing life expectancy at birth from 49 years (both sexes) in 1970 to 61 years (both sexes) in 2013 higher than that of West Africa (41 years to 59 years), , Sub-Saharan Africa (44 years to 57 years) and that of Africa (45 years to 59 years) [Population Reference Bureau (PRB), 2014], research work focusing on social isolation is not only necessary but timely. This is because older persons may suffer from social isolation [Mba, 2007; Mapoma & Masati, 2012] which may threaten their health [Mba, 2007]. Social isolation among the elderly may also be demonstrated in their attitude and behaviours in diverse ways such as loss of appetite, being stressed out, feeling hopeless, being moody, sleeping disorders, loss of confidence, decrease in sex interest, concentration difficulties, suicidal tendencies and movement difficulties; not limited to these indicators used in this study. However, indicators of social isolation can serve as evidences of prevailing social and physical needs of the elderly in addition to the inactiveness of an ageing population [Mapoma & Masati, 2012]. Nevertheless, the outcomes from this research work in relation to the patterns and risk factors associated with social isolation among the elderly population might explain the state of occurrence specifically in Ghana including other similar populations found in low and middle income economies.

The patterns of reported social isolation indicators demonstrated that stress and sleeping disorders had the highest proportions among the Ghanaian elderly population. Having a stressful condition has been attributed to old age [Gironda & Lubben, 1996], social support [Knodel & Chanpen, 2005]; and among mothers with children having specific functional problems, financial strain and emotional support [Ogg, 2005]. Nevertheless, experiencing stress among the elderly has been explained with reasons not restricted to hormonal changes, adjusting to retirement and decrease in income, illness, demise of spouses or friends [Phiri, 2004]. The age group, below 70 year were the most stressed age category (about 21 in every 50) reported to have experienced stress. In a Zambian elderly population study, the age group 70-79 years was identified to have reported to be stressed out relative to other age groups [Mapoma & Masati, 2012]. However, studies elsewhere have stated that older age is associated with smaller less proximal and less diverse social networks [Cornwell, Laumann, & Schumm, 2008]. Mapoma & Masati [2012] found age as a significant determinant with age increasing with social isolation among elderly Zambian population using seven indicators which are similar to that of this study.

Socioeconomic status of study respondents was the most predictive factor of social isolation. This robustness was associated with loss of appetite, decrease in sex interest and suicidal tendencies. This finding is not only restricted to social isolation but to levels of ill-health and impaired function among the older population [Gureje, Kola & Afolabi, 2007; Clausen et al., 2005] although, some studies found the relationship to be unclear [Aboderin, 2010]. This can also be attributed to the thoroughly less access(financial and geographically) to healthcare among the elderly compared with younger age groups [McLntyre,2004; Xu et al., 2006]. Hence, economic factors influence the geographic movements of the elderly population [Locher et al., 2005] which may determine their level of community life participation, social networking and health seeking behaviour. Older adults who may be poor are “doubled” vulnerable, and hence the need to protect them through social protection policies and programmes.

Females were more stressed out compared to men and Mapoma & Masati [2012] found similar results in Zambia. This has being attributed to reasons such as the dwindling nature of their livelihoods as families main sources of income due to narrow external assistance [Mapoma & Masati, 2012]. Those with no education, not married, the affiliate to the Christian religion, the currently working, those from poorer socioeconomic households, and rural dwellers stated being more stressed than to other sociodemographic and economic variables.

Although all indicators showed consistent decline with age except suicidal tendencies that was higher among the age group 70-79 years relative to other age groups in the descriptive analysis, the logistic regression model shown a weak significant contributing factor of social isolation. Mapoma & Masat [2012] also identified being male or female to have certainly no or slight effect on associated risk with social isolation. This was not different from what was found in this study with the sex of respondents playing no significant role in determining social isolation; and yet results from the descriptive exhibited that fewer males constantly reported to have experienced any of the indicators compared to females.

Residing in rural or urban areas was weakly found to play a role in affecting social isolation. This finding is not different from what Mapoma & Masati [2012] established among Zambian elderly population.

Other risk factors such as education and marital status have been identified as influencing social isolation in some studies [Mapoma & Masati, 2012]. Cornwell, Laumann and Schumm [2008] found age to have a direct relationship with frequency of neighbour socialization, religious participation and volunteering. The researchers added that retirement and bereavement as part of later life transitions may promote greater connectedness.

Nevertheless, we also found that work status and education were not robust in our models in predicting social isolation and this has been attributed to the unsuitable measurement given a broad lack of formal education among the aged population as well as the existence of unstructured labour markets in Sub-Saharan Africa [Aboderin, 2010].

## **Conclusion**

This paper has revealed that social isolation is one of the many challenges that will ensue with the changing pattern of age structure of populations in many developing countries like Ghana. This study has demonstrated that social isolation exists among older populations and this is not limited to developed countries. Although the figures involved in this study may be relatively small, findings depict that of the Ghanaian elderly population which is not entirely different from what pertains in a developing country like Zambia where a similar study was undertaken. The need for the use of phenomenological approaches to further understand and elucidate the risk factors associated with social isolation among the older age population especially with the effects of socioeconomic status as well as sex on suicidal tendencies and on the decrease in sex interest among the older age population is paramount.

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