Does education influence the value of older persons? Assessing socio-demographic determinants of older persons' value in Uganda

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ABSTRACT

Although older persons make substantial contribution to their communities, there is paucity of information on determinants of their value in Uganda. This study of 605 older persons from 4 rural districts and one urban centre examines socio-demographic determinants of the value of older persons in the country. The findings from a binary logistic regression indicate that older persons who were aged 60-69, educated to primary and above, owned land, with migrant children, with limb ill-health and lived in the Western, Northern and Kampala urban regions of the country were more likely to have high aggregate value than those who were aged 80+, uneducated, landless, with no migrant children, with no limb ill-health and lived in the Central region. It is recommended that later-life socioeconomic programmes be designed, learner access and retention in education system be increased and a special age fund be established for all.

Key Words: Value Aggregate value Determinants Older persons Uganda

Introduction

Recent estimates indicate that Uganda's population of older persons is approximately 1,304,500 (UBOS, 2012) and the number is projected to reach 5,420,000 by 2050 (UNFPA & HAI, 2012). Although older persons tend to be associated with later-life challenges, ageing populations also have value and make substantial contribution to their households and communities. Many scholars have widely used the concept of *value* from the point of view of children. For example, the value of children has been defined as the collection of good things which parents receive from having children (Espenshade, 1977). Similarly, this value has been described as the benefits individuals expect to receive from a child (Fawcett, 1985; Hoffman & Manis, 1979). This perception of value is as relevant to children as it is to older persons. The value of older persons is operationally used in this study to refer to the benefits, merits or worth of older persons. It relates to the roles of older persons at individual, family and community level. The term *value* thus evokes image of contributions to households and communities that older persons make. The value takes several forms such as caregiving to vulnerable population, engagement in income-generating activities, being members and leaders of social organisations, dispensing local medicines, mediation in conflicts, offering advice on behaviour norms as well as being

custodians of indigenous knowledge and cultural information. Older persons in low-income countries do not stop contributing to their communities on retirement and many are willing to work well beyond retirement age (WHO, 2007). Earnings from post-retirement income-generating activities make an important contribution to poverty avoidance (Barrientos, Gorman & Heslop, 2003) .

Several factors influence older persons' involvement in socioeconomic activities and education is one of the determinants of later-life engagement in income-generating activities. In selected Caribbean countries, well educated persons, particularly professionals, have been reported to have more income-earning opportunities in old age than their counterparts of lower education (Cloos et al., 2010). Education itself tends to vary by sex; with older women having lower levels of education than older men in many countries (UNFPA & HAI, 2012). This is largely because, in comparison with boys, the girls had lower opportunities to go to school and experienced higher dropout rates. Lower educational levels seriously limit the ability of older women to obtain information, access services or take part in socio-economic activities.

Age is another variable that may influence later life income-generation. As WHO (2007) states, older people tend to be too frail to work, have difficulty getting to and from work or simply feel unsafe travelling to and from work places. Similarly, although labour force participation is relatively high in developing countries, older persons' employment opportunities and remuneration decline with age (Czaja, 2007). Barrientos et al. (2003) posit, however, that contrary to some perceptions, assumptions regarding a decline in the average productivity of workers with age have not been confirmed by empirical studies. This is because although formal employment opportunities may decline with age, the incidence of self-employment may in fact rise.

Later-life income generation may be indirectly influenced by migration of household members. Having a migrant increases a household's income per capita by 8.5 to 13.1 percent (Du, Park & Wang, 2005). Older persons belonging to financially empowered households are more likely to engage in income-generating activities and thus experience less poverty than their less financially empowered counterparts. This resonates with the theory of new economics of labour

migration (Massey et al., 1993) which makes a case for reduced risks and vulnerabilities through families and households that encourage emigration of their members. The authors claimthat in circumstances where local economic activities fail to bring in sufficient income, the household can rely on migrant remittances for support.

Possession of indigenous knowledge is another hallmark of the value of older persons. For example, indigenous knowledge of medicinal plants has existed among inhabitants of the Iberian Peninsula and this knowledge has been propagated from generation to generation (Akerreta, Calvo & Cavero, 2010). Some studies have shown that formal education negatively influences possession of this knowledge. A research carried out in Mexico indicated that school attendance implied less time to acquire empirical ecological knowledge (Giovannini, Reyes-García, Waldstein & Heinrich, 2011). The authors argue that the lower prevalence of indigenous knowledge among the learned persons could be associated with increased exposure to global capitalist culture and decreased contact with the local environment owing to prolonged school attendance. Other studies have indicated that possession and propagation of indigenous knowledge appears to be gradually disappearing in some areas partly due to the adoption of what is perceived to be a modern culture. As De Albuquerque et al., (2011) have observed, the accelerated processes of globalization and economic development have, in the recent years, threatened indigenous cultures such as traditional knowledge and practices.

The value of older persons can also be seen within the context of membership of social organisations. In a study of the social capital of older people in Britain, Gray (2009) identified several organisations in which older persons were active members. These included political parties, trade unions, environmental groups, parents' group, tenants' group, religious organisation, voluntary service group, social club and sports club. Similar social affiliation was reported by Perren, Arber and Davidson (2003) in a study conducted on men's organisational affiliations in later life. The study found that half of older men aged 65 and over reported membership of an informal organization. Study findings also indicated that a quarter were involved in civic groups, one in six belonged to a social club, one in seven belonged to a religious group, one in eight belonged to a sports club while one in 20 reported membership of a pensioners' group.

Many older people are said to be pillars of the community in which they are actively involved with local clubs, societies, faith groups and democratic institutions such as parish councils and boards of school governors (WRVS, 2011). They are also users of local services and have the propensity to be active users or customers of community-based facilities such as local shops, post offices, libraries, pubs and surgeries. It is argued that without their older users, many of these facilities would be less viable and could be lost to the community. Older people have also been said to provide leadership of many local organisations, groups and societies. The leadership expertise, skills and experience has been reported to be the driving force for local community-based organisations. WRVS (2011)further observes that older people are estimated to spend more time than any other age group in leadership roles, spending an average of five hours per month.

Studies have established association between social participation and health (Bath & Deeg, 2005; Cloos et al., 2010; Gray, 2009; McMunn, Nazroo, Wahrendorf, Breeze & Zaninotto, 2009). Active involvement in social organisations can be an important component of successful ageing. As Adams, Leibbrandt and Moon (2011) observe, many older adults with active participation in social and leisure activities report positive well being in later life. Social organisations can also be instrumental in offering support to persons during later life (Wellman, 1992).

Counselling and guidance is another indicator of the value of older persons who often counsel errant youths and guide them along the path of expected societal standards in circumstances of inappropriate behavioural patterns. As Oppong (2006) observes, in the past men and women were expected to play an important part in advising, guiding and supporting the young as they matured. Old age in years per se was not especially revered but rather the maturity and wisdom born of a lifetime's experience in raising new generations. Once in the elder category, a person was ideally considered to have wisdom and advisory skills and was consequently respected by the young. This role is still relevant in many Ugandan societies (MoGLSD, 2009) though it is gradually being undermined by social transformation.

Erb (2008) has also identified advice and education as one of the roles played by older persons in post-civil war northern Uganda who are reported to be advising grandchildren on a wide range of

issues. These include discipline, traditional activities, household duties, traditional marriage customs, land boundaries and domestic animal care. They are also educating children and grandchildren through story-sharing, which is a source of great happiness and pride. Erb (2008) further indicates that repatriated older persons feel that they can now sit by the fire and teach the children the traditional stories.

Older persons are caregivers, which is another aspect of their value. Orphans, other vulnerable children, the helpless, the needy and sometimes even fellow ageing individuals are some of the persons to whom older persons are caregivers (Schatz & Ogunmefun, 2007). In Africa, older people are most likely to be heads of households in which they play diverse caregiving roles (Oppong, 2006). In Uganda research on how the household copes with the AIDS epidemic indicates that the burden of orphan care falls on the oldest members of the family, usually the grandparents (Ntozi & Nakayiwa, 1999). Young siblings who are caregiving do so only because adult relatives have died. These results are corroborated by findings from a study of the plight of older persons as caregivers to people infected and affected by HIV/AIDS (Ssengonzi, 2007). The results of the study show that older persons provided care to patients with AIDS at the terminal stage of the illness. Demographic factors are some of the determinants of caregiving. For example, McMunn et al., (2009) observe that women are a little more likely than men to have cared for someone. The authors indicate further that participation in socially-productive activities declined with age, but often not until participants were in their late seventies or eighties.

In Uganda significant research effort on older persons has largely been placed on their challenges (Ntozi & Nakayiwa, 1999; Scholten et al., 2011; Ssengonzi, 2007). Many studies have yielded rich data on the adverse effects of the HIV/AIDS pandemic, but information on the value of the older persons has hardly been considered. Prior studies on older persons in the country have also not gone beyond the traditional demographic factors to incorporate variables such as shelter conditions and ownership of household assets into models that predict value. Paucity of information regarding the prevalence and determinants of aggregate value of the older persons is particularly rife. This study therefore contributes to the current knowledge base on ageing by providing evidence for diverse factors of later-life aggregate value in Uganda. Knowledge of

these factors could lead to formulation of appropriate policies and programmes that promote better and dignified ageing of the country's population.

Data and methods

The paper uses primary data from a cross-sectional study entitled *Determinantsof value and challenges of older persons in Uganda* that was conducted in April 2012. Engagement in income-generating activities, possession of indigenous knowledge, advice on behaviour norms and role played in social organisations were some of the indicators of value studied. Others were mediation in conflicts, propagation of cultural norms, dispensing local medicine and child caregiving. In the study, stratification was used to select four districts from four strata that comprise the major national zones of the country namely Central, Eastern, Northern and Western regions. Using simple random sampling, Mukono, Tororo, Lira and Kisoro districts respectively were selected from the four regions. In addition, Kampala City was purposively selected as the fifth regional stratum to represent the urban sector.

One sub-county was randomly selected from each of the four rural districts, and one municipality was similarly randomly chosen from the Kampala urban region. The randomly selected sub counties were Nyakabande, Kisoko, Adekokwok and Goma from Kisoro, Tororo, Lira and Mukono districts respectively. Makindye municipality was the municipality randomly selected from Kampala urban area. Probability sampling approach was adopted to ensure ultimate national representativeness of results. The *Kish method* of sample size determination (Kish, 1965) was used to select 605 persons aged 60 and above. Working with local parish leaders, a sampling frame of households having older persons in the selected parishes was compiled. The desired number of households was selected at random from this listing. Age was the inclusion / exclusion criterion and 60 was the cut-off age mark. Any person aged 60 and above from the selected households was eligible for inclusion in the study while all those who proved to be below 60, were excluded. Age 60 was adopted since this benchmark is widely used in defining older persons (UNFPA & HAI, 2012).

An interviewer-administered questionnaire was used to collect data. To ensure uniformity of inquiry and comprehension across the ethnic-linguistic divide, questions were translated into

Luo, *Jophadhola*, *Urufumbira* and *Luganda*, the four local languages commonly spoken in the selected districts. Eligible interviewers were recruited, trained and subsequently assigned zones from which to collect data. Each respondent was informed that participation in the study was purely voluntary and interviews were only conducted with older persons who consented. Quality control measures such as on-spot field checks on the interview process were taken to improve completeness and consistency of responses.

The EPIDATA software was used to capture quantitative data generated by the interviewer-administered questionnaire. The data was subsequently exported to STATA programme for univariate, bivariate and multivariate analysis. Univariate analysis involved running frequencies and computing percent distributions of older persons by their socio-demographic characteristics as well as prevalence of value. Scaling technique was used to combine the eight indicators of value into a single variable, *aggregate value,* which was a mark of totality of older persons' social and economic contributions to their households and communities. The created variable enabled measurement of older persons' overall importance on a scale ranging from 0-8. Aggregate value was subsequently recoded and dichotomized into 'low aggregate value' ranging from 0-4 and 'high aggregate value' varying from 5-8. The recoded variable was then cross-tabulated with a number of independent variables to establish association in bivariate analysis.

Since *aggregate value*, the dependent variable, was dichotomous (*low aggregate value* or *high aggregate value*), the binary logistic regression model was used to predict high aggregate value at multivariate data analysis level. This model is expressed as:

$$\text{logit } [p(X)] = \log \left[\frac{p(X)}{1 - p(X)} \right] = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \ldots + \beta_x x_k;$$

where α is the intercept and β_1, β_2, β_3, e.t.c., are the regression coefficients of x_1, x_2, x_3 respectively. The independent variables,$x_1 \ldots x_k$, were age, sex, residence, education, marital status, child out-migration status, limb joint health status, radio set ownership, TV ownership, possession of mobile phone, ownership of any means of transport, land ownership, possession of domestic animals, social protection status, type of fuel for cooking, material of shelter floor, material of shelter roof and material of shelter walls.

Limitations

One limitation of this study is that binary data was collected on each of the eight indicators of value. On each indicator, richer results could have been produced if a given question looked at a whole range of possible responses on a continuum from, say, 1 to 5. This would also have informed the use of Likert scale rather than the summated scale which was used. Another limitation is focus on just eight indicators of value, yet these are not the only ways in which older persons make contributions to their households and communities. Consideration for other aspects such as later life tax contributions, bequests to charity and neighbourhood watching could have widened the spectrum of value. This points to the need for conducting studies having greater depth and breadth on the subject of value of older persons in Uganda.

Results

Response rate

During the field data collection process, interviewers physically moved to older persons' homes where face-to-face interviews were conducted with each selected respondent. Owing to good rapport established between interviewers and community leaders on the one hand and older persons on the other, all eligible persons who were approached accepted to participate in the study. The universal acceptance compares with a similarly high 98 percent household response rate observed in the 2006 Uganda Demographic and Health Survey (UBOS & Macro International Inc., 2007). However, there were incidences where persons who responded to certain questions on value were slightly less than the sample size, giving an overall average response rate of 99.4 percent. Interview fatigue could have put off the few older persons who did not respond to some questions. This phenomenon was similarly observed in the 2006 National Demographic and Health Survey in which the individual interview completion rate was 93.1percent (UBOS & Macro International Inc., 2007).

Socio-demographic characteristics of respondents

Table 1 displays distribution of respondents by socio-demographic characteristics. The table indicates that the proportion of older persons decreased with age. Almost two thirds of the older persons found in the sampled households were females (65%), leaving only 35 percent as males

perhaps because of the higher female life expectancy relative to males. Four-fifth of the respondents were living in rural areas while the rest were staying in Kampala urban environment.

Table 1 further indicates that 50 percent of the respondents did not have formal education. Just over one third (35%) attained primary level of education, 10 percent had secondary level of education while the proportion of those with tertiary and higher level of education was only 5 percent. Forty four percent of the respondents were married while slightly over two-fifth (41%) were widowed. The high prevalence of widowed older persons is perhaps expected given that these people are in the age bracket that is well above 58, the average life expectancy of the country(PRB, 2013),and hence many would have lost their spouses. Unexpectedly, close to 3 percent of older persons interviewed belonged to the never-married category, which is contrary to what was expected of this overwhelmingly rural sample.

The largest proportion of respondents belonged to Catholic and Anglican religious affiliations (55% and 34% respectively). According to the table membership to other religions exists though in much smaller proportions. In comparison with living with a spouse (10%), a higher proportion (15%) of older persons were living alone. Over one-fifth of the older persons were living with grandchildren (23%).

Table 1 Distribution of respondents by selected socio-demographic characteristics

Characteristic	Number	Percent
Age		
60-69	264	43.6
70-79	208	34.4
80-89	101	16.7
90+	32	5.3
Sex		
Male	211	34.9
Female	394	65.1
Residence		
Urban	120	19.8
Rural	485	80.2
Region		
Western	120	19.8
Central	125	20.7
Eastern	114	18.8
Northern	126	20.8
Kampala	120	19.8
Education level		

No education	301	49.8
Primary	212	35.0
Secondary	61	10.1
Tertiary+	31	5.1
Marital status		
Never married	18	3.0
Married	266	44.1
Cohabiting	3	0.5
Widowed	249	41.1
Divorced	29	4.8
Separated	40	6.6
Religion		
Catholic	333	55.0
Anglican	205	33.9
Muslim	25	4.1
Pentecostal	26	4.3
Seventh Day Adventist	5	0.8
Others	11	1.8
Living arrangement		
Alone	92	15.2
Spouse	62	10.2
Spouse & kids	89	14.7
Grandchildren	137	22.6
Other	225	37.2
Total	**605**	**100.0**

Value of older persons

Figure 1 shows the percentage of the reported value of older persons by eight socioeconomic indicators. Twenty seven percent of them were engaged in income-generating activities. This finding was corroborated by focus group informants as one of them had this to say:

> We are able to make and sell items such as *ibisobane* (baskets), *imihini* (hoe-handles), *ibigega* (granaries), *imbehe* (wooden plate), *isekuro* (wooden mortars),*intara* (bamboo tray),*indiga* (knife), *umuhoro* (sickle/machete) and *inanga* (harp). (Key informant, Kisoro district)

Figure 1 further indicates that almost a half of older persons (45%) possessed indigenous knowledge. Older persons cited several plant species that were being used to deal with basic health issues as one informant explained:

> In this community we get medicines through using a variety of indigenous plants such as *osore* and *otikidiel* for healing wounds, *alwi*, *ochuloga*, *thululiki* and *atiko* for the treatment of measles, *omenyidiegi* for managing brain sickness and *Nyamukesi* for raising appetite.(FGD, Tororo district)

Four-fifth (81%) were playing advisory role on behaviour norms while just over one quarter of those who reported belonging to social organisations were in fact leaders in these organisations.Some key informants pointed out the diverse roles that older persons were playing. The roles ranged from leadership of educational and cultural institutions to membership of statutory bodies as one informant put it:

> An older person is an education secretary in the Diocese of Lango. Other older persons are on Board and Management Committees of primary and secondary schools while others are members of Commissions in district local government. Some older persons hold local council positions and are members of university councils. There are also those who are on district land boards. Some are opinion leaders and consultants while others are traditional chiefs and clergy. (Key informant, Lira district).

Eighty percent of the older persons who reported possessing cultural information were propagating and passing on this knowledge to younger people in their communities. Older persons indicated that prevalence of untraditional practices such as inter-clan marriages were on the rise, a situation that called for elderly intervention as one participant put it:

> Today, there are rising levels of ignorance about principles and practices of *amoko* (clans) and *imiryango* (families). Consequently, there are rising cases of intra-clan marriages; something unheard of in the past. As older people, we try to educate the younger people about clan matters(Women FGD, Kisoro district).

Figure 1 further shows that 46 percent of the respondents had ever been consulted for conflict resolution while 37 percent were dispensing local medicine. Half of the older persons (50%) were caring for children.

Table 2 shows the distribution of respondents by score level on the scale of aggregate value. It is shown that 3percent scored 0 on this scale and this is the proportion that may be regarded as having 'no value' within the context of the indicators operationalised in this study. Results further show that 2percent obtained the maximum score of 8. These are the persons who may be regarded as having the 'highest value', in terms of the eight indicators. The largest proportion

scored 5 on the scale (19%). These findings indicate a fairly normal distribution of older persons on the scale of aggregate value.

Figure1 Level of the reported value of older persons by socioeconomic indicators

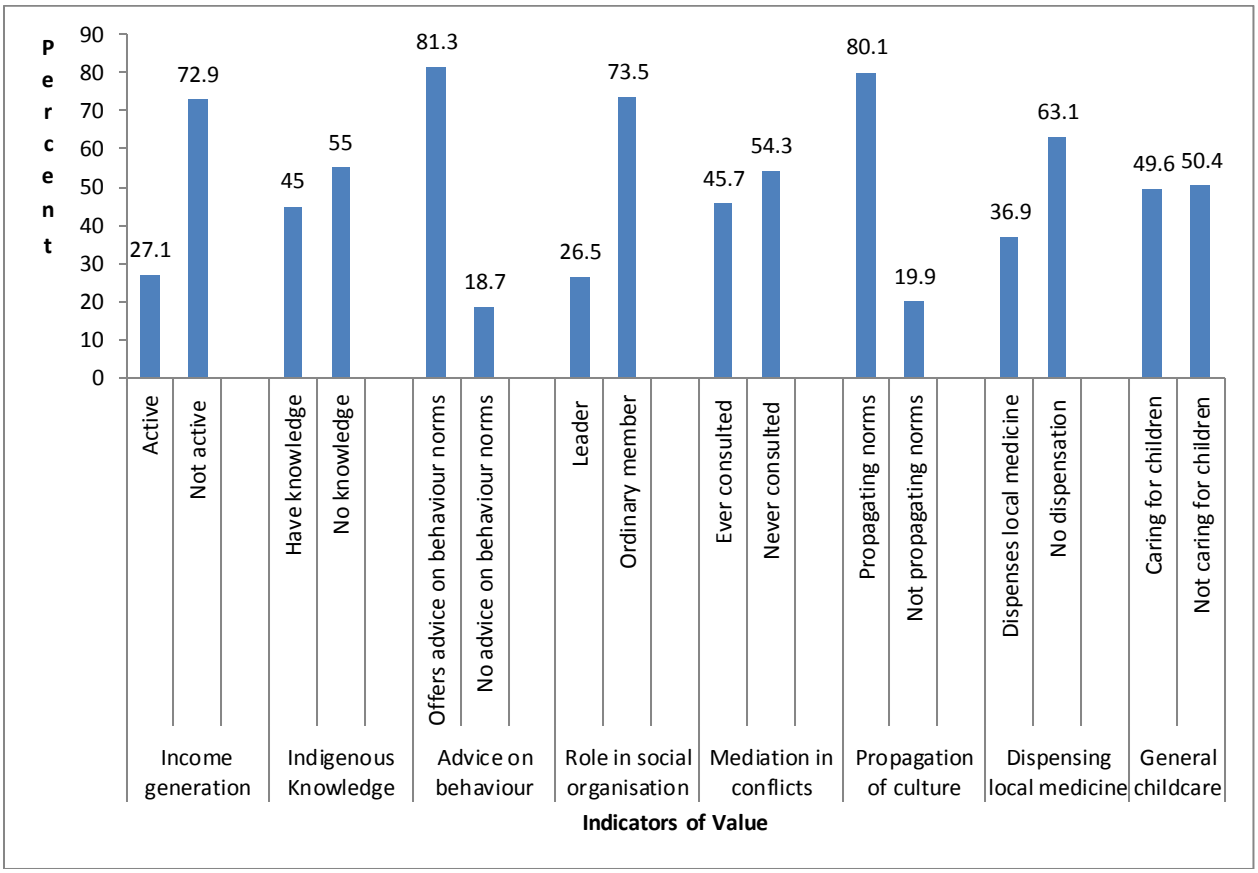

Table 2 Distribution of respondents by score level on scale of aggregate value

Score level	Frequency	Percent
0	18	3.0
1	60	9.9
2	98	16.2
3	92	15.2
4	103	17.0
5	112	18.5
6	72	11.9
7	37	6.1
8	13	2.2
Total	**605**	**100.0**

Table 3 shows percentages of respondents by aggregate value and by selected variables. The proportion of older persons with high aggregate value decreased with age. Whereas 45percent of older persons aged 60-69 had high aggregate value, this figure decreased to 29percent among those aged 80 and above. The higher proportion among relatively younger older persons is perhaps expected since, overall, these were likely to be more physically active. The association between age and aggregate value was statistically significant (p=0.007).

The proportion of older males with high aggregate value (45%) was higher than that of older females (35%). Past disproportionate access to opportunities could explain the observed gender disparity. Along the life course, males may have had better access to education, employment and leadership positions that contributed to their overall superiority on the scale of aggregate value. The association between sex and aggregate value was statistically significant (p=0.019).

Aggregate value varied by region of residence. The highest proportions of older persons with high aggregate value were for those living in Kampala and Western regions (46% and 44% respectively). This was followed by Northern, Eastern and Central regions (41%, 37% and 26% respectively). The association between aggregate value and region was statistically significant (p=0.009). High aggregate value increased with education. For example, whereas the proportion was 32 percent among those who never attended school, the corresponding figures for those who attained primary and secondary or higher education were 44 percent and 49 percent respectively. The skills acquired through life-long learning could have contributed to the higher level of aggregate value observed among older persons with primary and above level of education. The association between aggregate value and education was statistically significant (p=0.002).

The proportion of older persons with high aggregate value was highest among those who worked in the public/private sector as well and those who were self employed before turning 60 (49% and 48% respectively). This was followed by casual workers (45%). The lowest proportion corresponded with older persons who were unpaid employees (22%). Relatively better socioeconomic positions among the older persons who worked in the public/private sector or who were self employed could explain the disparity in high aggregate value. The association between aggregate value and work done before turning 60 was statistically significant (p=0.000).

Table 3 Percentages of older persons by aggregate value and selected variables*

Variable	Low aggregate value (%)	High aggregate value (%)	Number
Age	**61.3**	**38.7**	**605**
60-69	55.3	44.7	264
70-79	62.5	37.5	208
80+	71.4	28.6	133
χ^2 =9.9, p=0.007			
Sex	**61.3**	**38.7**	**605**
Male	55.0	45.0	211
Female	64.7	35.3	394
χ^2 =5.5, p=0.019			
Region	**61.3**	**38.7**	**605**
Western	55.8	44.2	120
Central	74.4	25.6	125
Eastern	63.2	36.8	114
Northern	58.7	41.3	126
Kampala	54.2	45.8	120
χ^2 =13.6, p=0.009			
Education level	**61.3**	**38.7**	**605**
No education	68.1	31.9	301
Primary	56.1	43.9	212
Secondary+	51.1	48.9	92
χ^2 =12.3, p=0.002			
Work environment before age 60	**61.7**	**38.3**	**600****
Public/private sector	51.1	48.9	90
Self employed	52.0	48.0	227
Unpaid employee	78.5	21.5	214
Casual worker	55.1	44.9	69
χ^2 =40.2, p=0.000			
Ownership of means of transport	**61.5**	**38.5**	**597****
Owns any means of transport	52.5	47.5	99
No any means of transport	63.2	36.8	498
χ^2 =4.0, p=0.045			
Land ownership	**61.5**	**38.5**	**597****
Owns land	56.2	43.8	441
No land	76.3	23.7	156
χ^2 =19.6, p=0.000			
Ownership of domestic farm animals	**60.7**	**39.3**	**593****
Owns animals	54.5	45.5	268
No animals	65.9	34.1	325
χ^2 =7.9, p=0.005			
Child outmigration status	**61.2**	**38.8**	**603****
Has out-migrated children	54.8	45.2	303
No out-migrated children	67.7	32.3	300
χ^2 =10.5, p=0.001			
Limb joint health status	**61.9**	**38.1**	**444*****
Has joint pain/swelling/stiffness	59.0	41.0	383
No joint pain/swelling/stiffness	80.3	19.7	61
χ^2 =10.1, p=0.001			

*Non-statistically significant variables not shown in table

**n< 605 owing to missing data

*** Total of only older persons who reported having difficulty in moving

Forty seven percent of the older persons who owned means of transport had high aggregate value while the corresponding figure among those who did not own any transport facility was 37 percent (Table 3). A transport facility such as vehicle, motorcycle or bicycle could have facilitated transportation and thus facilitated older persons' engagement in income generation. The association between ownership of means of transport and aggregate value was statistically significant (p=0.045). Aggregate value also varied by possession of land. The proportion of the older persons having high aggregate value (44%) was higher among those who owned land than their landless counterparts (24%). Land could have enabled older persons engage in production activities; a process that may have influenced other socially desirable roles such as child caregiving. The association between ownership of land and aggregate value was statistically significant (p=0.000). Table 4 further indicates that aggregate value was also associated with ownership of domestic animals. The proportion of the older persons who possessed domestic farm animals (46%) was higher than that of those without livestock (34%). Ownership of domestic animals could have raised older persons' social and economic status at household and community level. The association between ownership of domestic animals and aggregate value was statistically significant (p=0.005).

Forty five percent of older persons whose children were living outside their parents' usual place of residence had high aggregate value while the corresponding proportion among those who did not have out-migrated children was only 32 percent. Successful out-migrants could have remitted part of their earnings which enabled their parents to engage in activities such as income-generation. The association between child out-migration and aggregate value was statistically significant (p=0.001). Aggregate value was also associated with limb joint health status. Older persons with limb joint pain/stiffness/swelling had higher aggregate value (41%) than those without such health challenge (20%). Owing to their mobility limitations, disabled persons may have provided more home-based care to their household and community members than their non-disabled and more mobile counterparts who could have been away from home for longer times.

Predictors of high aggregate value

Table 4 presents results of logistic regression analysis of factors predicting high aggregate value. It is shown that older persons aged 60-69 were more likely to have high aggregate value than their counterparts aged 80 and above (OR=1.9; p=0.013). In comparison with the older persons without formal education, those having primary and secondary or higher level of education were more likely to have high aggregate value (OR=1.8; p=0.014 and OR=2.3; p=0.015 respectively).

Land ownership also predicted high aggregate value. The older persons who owned land were more likely to have high aggregate value than their counterparts who did not have any land (OR=2.0; p=0.004). Those who had out-migrated children were more likely to have high aggregate value than their counterparts without migrant children (OR=1.8; p=0.003).

Limb joint health status also predicted high aggregate value. Interestingly, older persons who had joint pain/swelling/stiffness were more likely to have high aggregate value than their counterparts without such health challenge (OR=1.6; p=0.026). Lastly, the broad region in which older persons resided also predicted high aggregate value. In comparison with the Central region of Uganda, older persons living in Western, Northern and Kampala regions were more likely to have high aggregate value (OR=2.7; p=0.006, OR=2.4; p=0.011 and OR=2.6; p=0.002 respectively).

Table 4 Results of logistic regression analysis of factors influencing high aggregate value

Variable	Coefficients	Odds Ratio	Std. Err.	p
Age				
60-69	0.637	1.890	0.485	**0.013**
70-79	0.354	1.425	0.375	0.178
80+*		1.000		
Sex				
Male	0.368	1.445	0.339	0.117
Female*		1.00		
Education				
No education*		1.000		
Primary	0.562	1.754	0.400	**0.014**
Secondary+	0.852	2.344	0.820	**0.015**
Marital status				
Married	-0.092	0.912	0.305	0.783
widowed	0.400	1.492	0.471	0.205
Divorced/separated*		1.000		
Radio set ownership				
Radio	-0.151	0.860	0.187	0.489
No radio*		1.000		
TV set ownership				
Owns TV	-0.460	0.631	0.201	0.149

No TV*		1.000		
Mobile phone ownership				
Mphone	0.226	1.253	0.311	0.363
No mobile phone*		1.000		
Ownership of any means of transport				
Owns any means of transport	0.222	1.249	0.345	0.420
No means of transport*		1.000		
Land ownership				
Owns land	0.681	1.975	0.463	**0.004**
No land		1.000		
Ownership of domestic animals				
Owns domestic animals	0.375	1.455	0.284	0.055
No domestic animals*		1.000		
Child outmigration status				
Has out migrated children	0.565	1.759	0.336	**0.003**
No out migrated children*		1.000		
Social protection status				
Receives pension	0.503	1.654	0.693	0.230
No pension received*		1.000		
Limb joint health status				
Has joint pain/swelling/stiffness	0.441	1.555	0.308	**0.026**
No joint pain/swelling/stiffness*		1.000		
Region				
Central*		1.000		
Western	0.981	2.667	0.954	**0.006**
Eastern	0.641	1.898	0.702	0.083
Northern	0.873	2.393	0.823	**0.011**
Kampala	0.965	2.625	0.815	**0.002**

*= Reference category

Discussion

The disparity in high aggregate value between young older persons and oldest old persons could be attributed to better physical and health state and, consequently, more engagement in socioeconomic activities among the young older persons. Decline in socioeconomic participation as age increases is expected as biological changes that naturally accompany the ageing process translate into gradual decline in physiological functions and abilities. Decline in proportion of older persons engaged in income-generating activities has also been established in Tanzania (Spitzer, Rwegoshora & Mabeyo, 2009). Other studies have shown decrease in productivity with age (Czaja, 2007)and decline of formal employment as age increases (Barrientos et al., 2003).

Education is likely to be associated with socioeconomic wellbeing and thus account for the greater likelihood of high aggregate value among the more educated older persons. This association resonates with results of a study carried out in selected Caribbean countries in which professional workers such as former teachers, nurses and consultants had more income-earning opportunities in old age than their counterparts of lower education (Cloos et al., 2010). Similar

results have been found in other studies (Davey, 2002; Hayward & Grady, 1990). Higher level of education can help older persons develop skills and confidence they need to adapt and stay independent as they grow older. On the contrary, low level of education is associated with higher rates of unemployment (WHO, 2002).

Variation in older persons' high aggregate value by possession of land may be related to the socioeconomic and cultural value of land. Older persons who possessed land may have used it to engage in small business activities which contributed to their high aggregate value. Similarly, land may have presented older persons with the opportunity to interact with land-based flora and fauna and thus gradually acquired ecological knowledge. Conversely, the landless could have had less exposure to organisms in their environment; which limited their internalisation of indigenous knowledge. Studies elsewhere have indicated existence of intimate relationships between local understanding of land and indigenous knowledge (Dudgeon & Berkes, 2003). Ownership of domestic animals may also have raised older persons' social status which in turn placed them in a better position to play other roles such as conflict mediation and leadership of social organisations. Links between household resources and civic involvement has been established in other studies where, for example, access to a car was associated with increased likelihood of being involved in civic activities (Perren, Arber& Davidson, 2004).

The link between child out-migration and high aggregate value could be associated with returns on child out-migration. It is probable successful child out-migrants remitted some of their earnings which their parents invested in small businesses or spent on basic services, which in turn raised older persons' socioeconomic standing in the community. As UBOS (2008) observes, remittances supplement household income and are an alternative source of finance for other economic activities. This is particularly critical in rural areas where the dominance of subsistence economy limits people's capacity to afford basic necessities. Cash-strapped older persons consequently tend to rely on remittances from successful family out-migrants. Other studies have shown that out-migration of children can have positive effects on places of origin (Alexis, 2006).

Greater likelihood of high aggregate value among persons with limb joint pain/welling/stiffness is intriguing; considering that limb difficulties would ordinarily be expected to work against

socioeconomic activity. This interesting result could probably be associated with the tendency for persons with limb difficulties to be more easily accessed at home by their community members than their healthier, more mobile counterparts. Persons with limb difficulties would thus be in a better position to play other domestically-based roles such as child caregiving, conflict resolution, dispensing local medicine and propagating cultural information. The childcare given, the cultural information propagated and the indigenous knowledge possessed, albeit from an indisposed position, may have contributed to higher score on the scale of aggregate value. This may confirm the common adage that disability is not inability(WHO, 2011).

Variation in high aggregate value by the region of the country in which older persons resided may be linked to regional disparities in older persons' value on indicators such as prevalence of indigenous knowledge, engagement in income-generation and advice on behaviour norms. Greater involvement in economic and social activities could explain the higher proportions in Kampala, Western and Northern regions in comparison with Central and Eastern regions. Regional disparities in socioeconomic activities have similarly been observed in national household surveys (UBOS, 2010).

Conclusion and recommendations

Overall, being young older person, having primary and higher level of education, owning land, having child out-migrants and residing in Western, Northern and Kampala regions predicted high aggregate value. The lower likelihood of high aggregate value among the oldest old and landless older persons calls for design of programmes that support later-life participation in social and economic activities. This can be achieved through establishment of a special old age fund that would supplement the current donor-supported Social Assistance Grant for Empowerment (SAGE) and address regional disparities.

In the light of findings which indicate that education significantly determines later life high aggregate value, the Ministry of Education, Science, Technology and Sports is urged to increase learner access and retention rates in the national education system. This could translate into a

higher proportion of educated persons who ultimately attain advanced age and, hence, experience active ageing. The long term effect of this could be enhanced value in later life.

The greater likelihood of high aggregate value in Kampala, Northern and Western regions may call for initiation of supportive programmes for older persons' roles in these regions. This may involve enabling older persons to have increased access to land and media assets which in themselves have proved to be significant determinants of high aggregate value.

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