

The Influence of Marital Dissolutions on Self-Reported Health Metrics of Older Individuals in a Rural African Context

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Research from high income countries (HICs) suggests that widows and divorcees are generally more susceptible to health risks than those who are married often because of the stress or diminishment of various resources associated with losing a spouse (Pearlin 1989). Being married is thus generally advantageous to one's health even if there is debate about health selection effects surrounding marriage (see Lillard and Panis 1996; Waldron, Hughes, and Brooks 1996). However, this relationship has not been as well-developed in low income countries. Specifically, in many sub-Saharan African (SSA) nations where marriage is nearly universal, a substantial portion of individuals in a given country could be subjected to the adverse health implications that are associated with divorce. On top of this, many SSA contexts are already characterized by high morbidity and mortality as a function of HIV/AIDS, the presence of infectious diseases, and inadequate health care systems. These conditions not only contribute to the chances of an individual experiencing widowhood in places with universal marriage, but suggest that declines in health after an event like a marital dissolution could be devastating if one cannot access medical treatment. Further, SSA is aging on the whole yet many older individuals still face pressures to care for grandchildren and other young individuals as a result of the HIV/AIDS pandemic which has claimed the lives of many adult children and their spouses. The health statuses of older individuals are therefore potentially vulnerable to conditions of high morbidity with these additional stressors. The limited research in SSA falls in line with that found in HICs and suggests that the consequences of being widowed, divorced, or single include not only lower self-reported health—although not functional limitations (Kuate-Defo 2006)—but also higher probabilistic expectations of dying in the coming years (Delavande and Kohler 2009). Yet by sheer virtue of surviving to older age, and often in impoverished, under-resourced communities with few opportunities for upward economic mobility, it is possible that marriage might not have as strong of a protective effect on individual health as seen in HICs.

The purpose of this paper is twofold. The primary focus explores how marital status and dissolutions are associated with health among older (45+), rural sub-Saharan Africans since this relationship is relatively unknown but substantively important in an aging region where predictors of health for older individuals will become increasingly relevant in coming years. Secondly, since there are constraints in the number of health metrics collected in sub-Saharan African survey research—often in favor of self-reported, single item measures, over composite scales and biometric and anthropometric measures, I evaluate whether experiencing a marital dissolution differentially predicts two self-reported single-item and two composite scale health indicators.

I situate this study in Malawi—one of the least developed countries in the world—with a slowly aging population and estimated current life expectancy at birth of 51.6 years (UN 2013) to examine these questions. Almost all Malawians get married as approximately only 2% of men and 1% of women have not been married by age 50 (National Statistical Office 2011). Yet, at least in rural areas, where this study takes place and about 85% of Malawians live (National Statistical Office 2011), an estimated 40% to 65% of these marriages end in divorce (Reniers 2003). Since nearly all Malawians could be at risk to the adverse health effects of union dissolutions, I offer an empirical example of the degree to which these under-explored social

processes can influence health outcomes, among an already susceptible group—those nearing or beyond the current estimates for life expectancy—over a two year period.

Population Aging and Health in sub-Saharan Africa and Malawi

In line with sub-Saharan African population projections between 2010 and 2060, most of Malawi's absolute growth is predicted to come from those between 15 and 64 years. But, those 65 years and older are expected to relatively grow the most of any age group—nearly 6 times greater in 2060 than in 2010 (UN 2013). Thus, older Malawians will account for a larger share of the nation's population, yet will still be responsible for caring for a substantial portion of younger Malawians. A recent study among Malawians 45 years and older indicates that men will spend slightly more than half of their remaining years, and women will spend less than half their remaining years, in good health (Payne, Mkandawire, and Kohler 2013). Further, health services in sub-Saharan Africa countries are ill-equipped to combat the burdens of infectious diseases that younger generations are often exposed to, while simultaneously treating non-communicable diseases like cancer or heart disease that older sub-Saharan Africans are increasingly exposed to. Yet, little is known about how potential social factors—such as union transitions— could hinder population aging in a country like Malawi.

Hypotheses

Despite a small body of literature in SSA compared to HICs, similar results on the relationship between marital status and health or subjective probabilities of guide the following hypotheses:

Hypothesis 1a: The divorced, widowed, and separated will have significantly worse health outcomes than those who are married.

Hypothesis 1b: Individuals who recently became divorced, widowed, or separated will have significantly worse health outcomes than those who have been divorced, widowed, or separated for an extended period of time. Those who have remained or recently become married will have significantly better health outcomes.

The relative dearth of research may be due to the difficulties in collecting longitudinal data with large enough sample sizes to make claims about the health consequences of marital transitions, have been difficult to acquire. Nonetheless, if the negative health effects of widowhood, divorce, or separation are potentially as severe as the literature suggests, a transition into one of these states, in old age, could be life threatening for an already vulnerable population without adequate access to doctors, medicine, clinics, and hospitals.

Data and Sample

I use the 2008 and 2010 waves of the Malawi Longitudinal Study of Families and Health (MLSFH), which contains a sample of rural households in Malawi's three regions: North, Central, and South. Since approximately 85% of Malawians live in rural areas (Malawi National Statistical Office 2011), the MLSFH acquires information on the typical livelihood characteristics of Malawians. The analytic sample is restricted to 928 individuals (516 women and 412 men) 45 years and older—in 2010—who participated in both the 2008 and 2010 waves, and do not have missing data on dependent and independent variables. Given the current low life expectancy at birth in Malawi, and the difficulties in attaining large enough sample sizes for individuals 65 years and older (who would be considered elderly in other contexts), the age cut-off of 45 for inclusion in this sample and being considered "older" is not only practical, but appropriate in Malawi.

Methods and Variables

In the first set of analyses (Table 1 below), I employ logistic regressions with only the 2010 data to establish if there is a cross sectional relationship between marital status and four self-reported health outcomes. Then, in the second set of analyses (Table 2 below) I again use logistic regressions, but with lagged dependent variables and 2008 predictors and controls to assess the impact of marital status and transitions on health in 2010 in order minimize the possibilities that marriage leads to better health or better health leads to remaining married (therefore the same 2010 and 2008 health outcome variables are on the left and right-hand side of these equations).

The first two outcomes are single-item measures which I label “General Health” and “General Health Compared to 2 Years Ago” (sometimes referred to as “retrospective health”), with responses dichotomized into the outcomes of Poor/Fair/Good and Very Good/Excellent. These respectively stem from the questions: 1) “In general, would you say your health is...”; and, 2) “How would you compare your health today to your health two years ago?” The other two measures come from the SF-12 physical and mental health scales, but are dichotomized as to whether a respondent is at or above the mean score for his/her age group (45-54, 55-64, 65+) or below the mean. The SF-12 includes 12 self-reported health questions (including the “General Health” measure above) with items weighted according to whether constructing the mental or physical health scales. These measures are considered robust indicators of an individual’s health throughout the world (Gandek et al. 1998). For these analyses, each of the four health variables are coded so that the better outcome (ie. being at or above the mean for an SF-12 score) is 1, while the worse outcome (ie. being below the mean for an SF-12 score) is 0. Thus, the regression coefficients predict the log odds of better, rather than worse, health.

The independent variable in the cross-sectional analyses is the respondent’s current marital status, which is often dichotomized in SSA health research as either being married or separated/divorced/widowed. By 2010, none of the respondents had never been married which supports the notion that marriage is nearly universal in Malawi. For the lagged dependent variable models, the independent variable depicts respondents’ marital status/transitions over the two waves of data (thus, between 2008 and 2010): continually married/became married, continually divorced/widowed/separated, and became divorced/widowed/separated in order to distinguish potential health differences with respect to the duration of a marital dissolution. Control variables in these analyses include gender, age, ethnicity, educational attainment, number of living individuals in the household, and the perceived chance of being HIV-positive.

Multivariate Results

In 2010, 76.3% of respondents were married, while 23.7% were separated, divorced, or widowed. However, 17.8% of this group had been continuously separated, widowed, or divorced between 2008 and 2010, while 5.9% *became* separated, widowed, or divorced between the two waves. The results of Table 1 indicate being separated, widowed, or divorced in 2010 is only negatively associated with one’s general health ($p < 0.001$). While the magnitude of coefficients in the retrospective health, SF-12 mental, and SF-12 physical models are smaller and not significant, the direction of these coefficients remains the same. It is not clear as to whether being separated, widowed, or divorced is linked to worse health along different types of metrics based on these cross-sectional analyses.

After controlling for potential health bias and other common or expected predictors of health, using a dynamic measure of one’s marital status is illuminating (Table 2). Compared to being married, being separated, widowed, or divorced continuously between 2008 and 2010

(experiencing a marital dissolution prior to 2008) does not predict better or worse general, retrospective, SF-12 mental, or SF-12 physical health outcomes for Malawians in 2010. Nevertheless, *becoming* separated, widowed, or divorced between 2008 and 2010 predicts worse general health ($p < 0.01$) and health compared to two years ago ($p < 0.05$)—the interval in which these respondents experienced a marital dissolution. Yet, becoming separated, widowed, or divorced between 2008 and 2010 still does not predict being above or below one’s age group mean for SF-12 mental or physical health scores in 2010.

Table 1: Cross-Sectional Logistic Regressions Predicting Health Outcomes in 2010

	Self-Reported Health Outcomes			
	<i>General Health</i>	<i>General Health Compared to 2 Years Ago</i>	<i>SF-12 Mental Compared to Age Mean</i>	<i>SF-12 Physical Compared to Age Mean</i>
Separated/Divorced/Widowed in 2010	-0.67*** (0.20)	-0.17 (0.20)	-0.35 (0.20)	-0.38 (0.20)
N	918	918	918	918
Wald Chi ²	95.42	35.98	37.85	46.75
Pseudo R ²	0.08	0.03	0.03	0.04

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Robust standard errors and estimates are presented. Controls for gender, age, ethnicity, educational attainment, number of household members, and perceived chances of being HIV-positive are not presented.

Table 2: Lagged Dependent Variable Logistic Regressions Predicting Health Outcomes in 2010

	Self-Reported Health Outcomes			
	<i>General Health</i>	<i>General Health Compared to 2 Years Ago</i>	<i>SF-12 Mental Compared to Age Mean</i>	<i>SF-12 Physical Compared to Age Mean</i>
Marital Status 2008-2010 (Continuously/Became Married)				
Continuously separated/divorced/widowed	-0.42 (0.22)	0.02 (0.22)	-0.28 (0.21)	-0.3 (0.22)
Became separated/divorced/widowed	-0.96** (0.33)	-0.66* (0.31)	-0.46 (0.31)	-0.06 (0.31)
N	928	928	928	928
Wald Chi ²	114.65	51.30	41.87	93.07
Pseudo R ²	0.10	0.04	0.03	0.08

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Robust standard errors and estimates are presented. Controls for gender, age, ethnicity, educational attainment, number of household members, perceived chances of being HIV-positive, and health in 2008 are not presented.

Discussion

The equivocal results suggest that marital dissolutions might not be as impactful on the health of individuals in places like rural Malawi compared to locations in the US and Europe. Understanding the social determinants of health among older individuals in aging countries like Malawi or SSA, more generally, will become increasingly necessary as more individuals survive into old age. In settings with limited access to medical facilities or formal care, and among individuals with little disposable income to pay for treatment, older individuals are at a high risk of health decline. Identifying how social determinants—like marital status and transitions—might impact older individuals’ health will help scholars, and eventually policy makers and NGOs, ascertain the most vulnerable individuals in such settings and potentially improve health outreach programs.

References

- Delavande, Adeline and Hans-Peter Kohler. 2009. Subjective Expectations in the Context of HIV/AIDS in Malawi. *Demographic Research* 20 (31): 817-874.
- Gandek, Barbara, John E. Ware, Neil K. Aaronson, Giovanni Apolone, Jakob B. Bjorner, John E. Brazier, Monika Bullinger, et al. 1998. "Cross-validation of item selection and scoring for the SF-12 Health Survey in nine countries: results from the IQOLA Project." *Journal of clinical epidemiology* 51 (11): 1171-1178.
- Kuate-Defo, Barthelemy. 2006. "Interactions between socioeconomic status and living arrangements in predicting gender-specific health status among the elderly in Cameroon." In: National Research Council. *Aging in Sub-Saharan Africa: Recommendations for Furthering Research*. Panel on Policy Research and Data Needs to Meet the Challenge of Aging in Africa. Washington, DC: The National Academies Press, pp. 276-313.
- Lillard, Lee A., and Constantijn W.A. Panis. 1996. "Marital status and mortality: The role of health." *Demography* 33 (3): 313-327.
- Malawi National Statistical Office. 2011. *2008 Population and Housing Census*. Lilongwe.
- Payne, Collin F., James Mkandawire, and Hans-Peter Kohler. 2013. "Disability transitions and health expectancies among adults 45 years and older in Malawi: A cohort-based model." *PLoS medicine* 10 (5): e1001435.
- Pearlin, Leonard I. 1989. "The sociological study of stress." *Journal of health and social behavior* 30 (September): 241-256.
- Reniers, Georges. 2003. "Divorce and remarriage in rural Malawi." *Demographic research* Special Collection 1 (6): 175-206.
- United Nations, Department of Economic and Social Affairs, Population Division. 2013. "World Population Prospects: The 2012 Revision, Volume I: Comprehensive Tables ST/ESA/SER.A/336. New York: United Nations.
- Waldron, Ingrid, Mary Elizabeth Hughes, and Tracy L. Brooks. 1996. "Marriage protection and marriage selection—prospective evidence for reciprocal effects of marital status and health." *Social science & medicine* 43 (1): 113-123.