

GENDER, THE LIFE COURSE AND SELF RATED HEALTH IN RURAL SOUTH AFRICA: A MIXED METHODS STUDY

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Abstract:

This paper examines the meaning of self-rated health in rural South Africa, where over 70% of adults aged 40 and over are dealing with a major illness. We draw on a unique mixed methods dataset including a population based survey with disease biomarkers (hypertension, diabetes, HIV), and responses on self-rated health, as well as qualitative life history interviews with survey participants. We conduct trend analysis, ordinal logistic regression as well as inductive and deductive coding of qualitative interviews. We find that overall self-rated health was not associated with objective health indicators, but rather was shaped by gender and life course stage. Specifically, while for women at all ages self-rated health more closely reflected objective experiences of poor health, for men, health was associated with their employment status and ability to provide for their family during working ages, and to having a wife to take care of them at older ages.

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INTRODUCTION

Self-rated health (SRH) is now a standard measure on health surveys that reflects WHO's definition of health as reflecting a "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. "It is a holistic measure that connects subjective and objective health together, with respondents often including assessments of their physical health and functioning, health risk behaviors, social roles and relationships and psychosocial wellbeing into their self-ratings of health (Idler et al 1999, Jylha 2009, Schnittker 2005). SRH is a powerful independent predictor of future mortality (Idler and Benyamini 1997), however, its relationship to morbidity is more complicated. This complexity is captured by a gender paradox with women reporting more illnesses and worse health than men, but men having a higher mortality rate, and SRH being more predictive of men's mortality (Verbrugge 1985, 1989, Idler 2003, Rieker and Bird 2005, Read and Gorman 2010, Zajacova 2017). Studies have also found that gender differences in SRH vary across the life course (Read and Gorman 2010, Zajacova 2017) . While Zajacova and colleagues (2017) found a similar gender structure in self rated health for men and women in the US, they found that at older ages, men and women assessed health differently, with men more often applying physical functioning and health behaviors to their assessment compared to women, and reporting worse health than women. Overall, they found that worsening self-rated health was associated with an increasing number of health problems as people age.

Several African studies have also examined gender differences in self-rated health with similar findings of women reporting worse health than men, an overall worsening of health with

age among both men and women, and higher socio-economic status being associated with better health (Debuur et al 2010, Gilbert and Soskolne 2003, Onadja et al 2013, Westaway 2010, Gomez-Olive et al 2010, Nyirenda et al 2012). The South African context, however, provides a potentially different lens onto the question of gender and the meaning of self-rated health. The country is at the leading edge of a growing continent wide challenge of acute dual infectious and non-communicable disease epidemics. It has the world's largest number of people living with HIV/AIDS, as well as especially high levels of non-communicable disease, especially hypertension (Gomez-Olive et al, Westaway 2009, Clark et al 2015). Over 70% of the South African population are dealing with one or more chronic diseases (Westaway 2009, Clark et al 2015, Schatz et al 2018). What is the meaning of health in a context where most people are ill? How might gender and the life course shed light on how aging adults assess their health and wellbeing?

In this paper, we draw on a unique mixed methods dataset with biomarker data measuring objective health outcomes (hypertension, diabetes, HIV), subjective survey responses on self-rated health, as well as nested qualitative life history interviews conducted among respondents who participated in the survey. Interviews provide information on respondents' self-assessment of their health, as well as enable contextualization of that assessment in light of their lives as a whole. We describe trends in objective health indicators as well as self-rated health, examining how they vary by age group and gender, conduct ordinal logistic regression to examine SRH correlates with morbidity as well as other socio-demographic variables, and then analyze life history interviews to examine the gendered, family, economic and life course dimensions of the lived experience of health in this community. We find no significant relationship between objective and subjective measures of health. However, analyses reveal the significance of

gender, aging, employment and caregiving in shaping how respondents assessed their health. Specifically, while women assessed health in terms of physical ailments, men assessed health in terms of their ability to provide for their families during working ages, and to having a wife to take care of them at older ages.

DATA:

This study is based in the Agincourt Health and Socio-Demographic Surveillance Site (AHDSS) in Mpumalanga Province, northeast South Africa which covers over 90,000 people from 27 villages. The paper draws on two nested sets of data collected within the site. A population based cross sectional HIV and Non-Communicable Disease prevalence and risk factor survey was conducted in 2010-2011 drawing from a random sample of AHDSS households. The survey includes 5,080 people aged 15 and above (of whom 2080 are aged 40+) with a 92% response rate for the sexual behavior survey and an 87% response rate for HIV testing (Gómez-Olivé et al., 2013). In addition to HIV and cardio-metabolic biomarkers, the survey also included a physical and sexual health behavior survey. Our analytic sample for the paper, after adjusting to missing data on variables of interest is 1970 adults aged 40+. In 2013, we conducted 60 life history interviews with a random sample of respondents aged 40+ who participated in the HIV/NCD survey. The sample was stratified by gender (men/women), HIV sero-status (positive/negative) and age cohort (40s, 50s, 60s, 70+). Nesting the study and randomly sampling from the HIV/NCD survey allowed us to avoid convenience sampling, and ensure a distribution of respondents across study villages. Interviews were audio recorded and conducted in the local language (Shangaan) and translated into English by a team of 5 local interviewers. Respondents were asked about their family lives growing up, their livelihood strategies (including

employment/ occupational histories, financial status, government grant provision, and family/friend financial support), and educational and residential histories (including in and out migration from the Agincourt site). We also asked about their sexual, romantic and marital histories leading up to their current/last relationship, how they and their partner(s) managed exposure to HIV risk (including condom use and abstinence); their general health, including other illnesses and use of Western or alternative treatments and their HIV testing experiences. We asked about challenges faced by adults their same age in their community, as well as those they thought were unique to same age peers living with HIV. For those who disclosed their HIV status as positive (of which a majority who were living with HIV did), we asked how they think they acquired HIV, the experience of disclosure to others, and the perceived benefits and disadvantages of ART initiation and adherence in the context of their individual health trajectories and other livelihood decisions. Interviewers were blinded to the disease status (HIV, hypertension, diabetes) of their respondents, and thus were only aware if they disclosed in the course of the interview.

METHODS:

We conducted concurrent and sequential mixed methods analyses for this paper (Creswell et al 2011). In the first stage, we conducted concurrent quantitative and qualitative analyses which we describe below:

Concurrent Quantitative Analyses:

We first examined trends in objective health markers (HIV, hypertension and diabetes) and subjective health (self-rated health), and how they vary by age group and gender among adults

aged 40+. We then conducted ordinal logistic regression to examine factors associated with self-rated health. The following measures were examined:

Health: we draw on both subjective (self-rated health) and objective (HIV, hypertension and diabetes) indicators of health from the survey.

Self-rated Health: Respondents were asked: “*How would you rate your health today?*” Possible responses were very bad, bad, good, very good. We combine “very bad” and “bad” as very few (1%) respondents gave a “very bad” response. The variable is coded so that increasing values indicate better health.

HIV status: This measure is based on an ELISA test of a blood sample and is coded 0 for HIV negative and 1 for HIV positive.

Hypertension: The respondent is considered hypertensive (=1) if the systolic blood pressure is greater than 140 mmHG, the diastolic blood pressure is greater than or equal to 90 mmHG or the respondent reports using antihypertensive medication in the past two weeks (see also Clark et al., 2015).

Diabetes: The respondent is considered to have probable diabetes (=1) if they have blood glucose levels greater or equal to 11.1 mmol/L (see also Clark et al. 2015).

Global burden of disease: We constructed a global indicator which is coded as 1 if respondents have at least one major health condition (HIV, hypertension, or diabetes).¹

Socio-Economic Status: we draw on a number of indicators to capture socioeconomic status.

¹ It is important to note that this excludes other major chronic conditions such as cancer and other non-communicable diseases. As such, this is an underestimate of chronic disease in the site. Additionally, while HIV is an infectious disease, in this paper, we treat HIV as a chronic disease in recognition that anti-retroviral medication (ART) which prolongs the life of people living with HIV has transformed the experience of living with HIV into a chronic managed condition.

Education: This measure has four categories: no formal education, 1-5 years, 6-11 years, or 12 or more years of education. Twelve years of education is a typical end to secondary schooling in this setting.

Wealth: This measure is an asset index based on ownership of modern assets, livestock, availability of power supply, water and sanitation, and the dwelling structure (Kabudula et al., 2017). These categories are summed and normalized, producing an index ranging from 0 to 5. As the score increases, the household is considered wealthier. For these analyses, tertiles (poor, middle class, wealthy) are created based on the full population (beginning at age 15).

Employment: This measure is coded as 1 if a respondent reports currently working.

Socio-Demographic Measures: The models also consider demographic and family characteristics.

Age Group: Respondents are categorized into age groups: 40-49, 50-59, 60-69, and 70+. This coding schema matches the categorization employed in the qualitative analysis.

Gender: This measure is coded as 1 if the respondent is a man.

In Union: This measure is coded 1 if a respondent is currently in a formal or informal union. We combine formal and informal unions because additional analyses indicate there is no significant difference between these categories in their relation to self-rated health.

Concurrent Qualitative Analyses:

We conducted deductive and inductive coding of interviews, drawing on elements of grounded theory (Corbin and Strauss 1994; Emerson et al 1995; Charmaz 2001). In the first stage of coding, analysis began by examining responses to a module of questions focused on a respondent's general health. Specifically: *How is your health these days? [Any] current health*

concerns or issues? In the last year? If so, did you/ where do you seek treatment? Is there anything that keeps you from seeking treatment when you are sick? Who from your family takes care of you when you are sick? Are you on any Western/alternative medication? Is getting/taking your medication a problem? As you get older, what do you think your major health concerns will be? Interviews were analyzed by age group and gender and summaries were created of each grouping (e.g. 40s women) and compared with other groupings by gender and age group. In the second stage of analysis, responses to these questions were considered in light of the respondent's interview as a whole, taking into account other dimensions of their lives such as their household living arrangements (including who they lived with) and their livelihoods (how they made ends meet) as these emerged as important in the interviews. The final stage of analysis involved ascribing survey characteristics to each interview (survey reported self-rated health, BMI, HIV, diabetes, hypertensive status) and examining their relationship to respondents lived experience of their health, especially where there were disjunctures.

Sequential Analyses:

We then conducted sequential analyses, designing subsequent quantitative or qualitative analyses to follow up on findings from each data source – exploring quantitative findings in the qualitative interviews and vice versa. Finally, findings were combined and triangulated to enable an understanding of self-rated health among middle aged and older adults in this setting.

We first describe trends in objective measures of health as well as self-rated health (SRH) by age group and gender. We next present ordinal logistic regressions findings. We then turn to reporting on our qualitative and mixed methods analyses, elaborating on themes that emerged as significant in quantitative analyses, as well as findings not captured in the quantitative data.

FINDINGS:

Quantitative Analyses

Descriptive analyses

Objective Health

As Table 1 below illustrates, not only is morbidity high in this population, but there is little variation in the proportion of the population who have one or more diseases across age groups.²

Table 1: Chronic Disease (%) by Age group, Agincourt, South Africa

	40-49	50-59	60-69	70+	Total
Global Burden	72.3	76.5	80	77.5	76.6
Only Hypertensive	36	46.3	61.1	68.5	53
Only Diabetes	0.61	0.32	0.53	0.99	0.6
Only HIV+	17.7	10.7	5.3	1.49	8.8
Multiple Diseases	18.1	19.1	13.1	6.5	14.2

What varies is the kinds of diseases respondents are dealing with. At younger ages – in the 40s and 50s, respondents were more likely to be hypertensive, HIV positive or co-morbid, while in the 60s and 70s, they were more likely to be dealing with high blood pressure. When disaggregated by gender, as Table 2 below illustrates, women had worse overall health than men in their 40s and 70s, but in their 50s and 60s, men have similar health outcomes to women.

Table 2: Chronic Diseases (%), by Age group and Gender

	40-49		50-59		60-69		70+	
	M	W	M	W	M	W	M	W
Global Burden	69	73.6	78.8	75.6	80.4	79.9	70.9	80.3
Only Hypertensive	35.7	36	44.8	46.9	58.6	62.2	61.7	71.4
Only Diabetes	0.49	0.67	0	0.44	0	0.79	0.92	1.02
Only HIV+	14.5	19	14.8	9.17	8.34	3.94	1.37	1.545
Multiple Diseases	18.4	18	19.2	19.1	13.5	12.9	6.97	6.31

² It is important to note that men had higher mortality than women (Houle et al 2014), so these results reflect survivors.

Self-Rated Health

While objective health measures differ little across age groups and gender, with most of the population aged 40 and over living with a significant illness, there is clear variation in reports of self-rated health. Figures 1-3 below illustrate self-rated health reports within each category (bad/very bad, good, very good) by gender and age group among adults aged 40+ in Agincourt. Figure 1 below presents results from the full sample. Overall, 51% of respondents report very good health, 30% report good health and 18% report bad or very bad health. Respondents report worse health at each subsequently older age group with about 10% of those in their 40s and about 30% of those aged 70 and over reporting bad or very bad health. At the outset, this suggest a disjunction between the over 70% of respondents in all age groups who have HIV, hypertension or diabetes, and subjective lived experiences of health, with the largest disjunction at younger ages.

Figure 1. Self-Rated Health Reports by Age Group and Gender, Full Sample

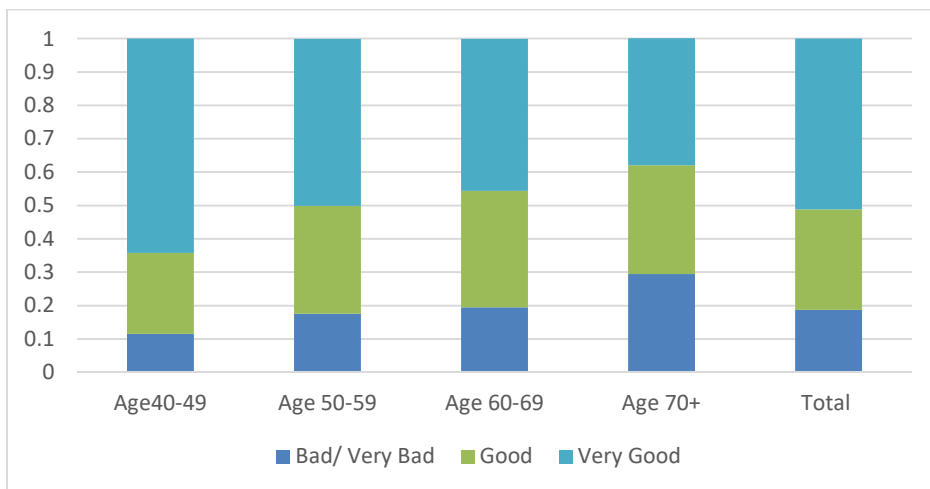


Figure 2 illustrates results for women while Figure 3 illustrates the results for men. Among those in their 40s, more women report bad or very bad health (31%) compared to men

(23%); correspondingly 8% more men report very good health compared to women. This gender disparity is similar among those aged 70+, with 10% more women reporting bad or very bad health compared to men. However, among those in their 50s and 60s, proportions reporting bad or very bad health do not differ by gender. Similarities in self-rated health among those in their 50s and 60s match the similarities in objective health measures illustrated in Table 2.

Figure 2. Self-Rated Health Reports by Age Group, Women

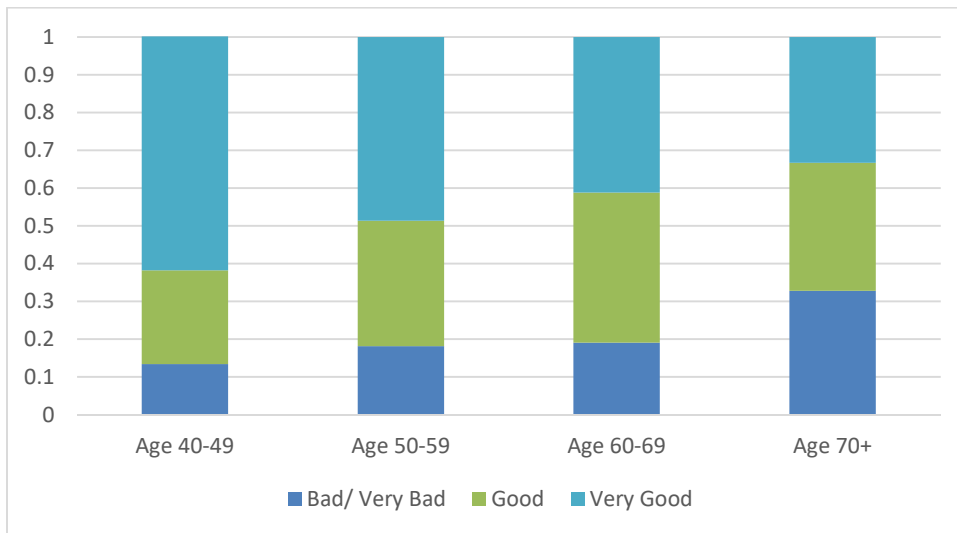
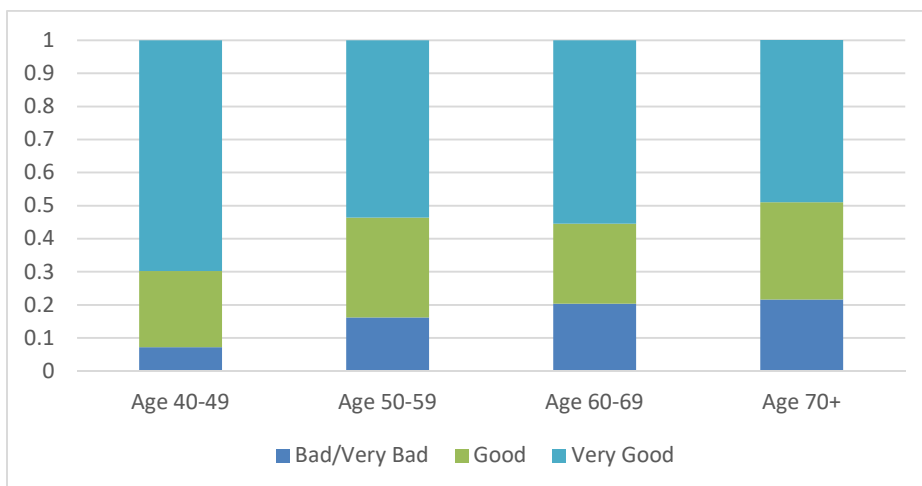


Figure 3. Self-Rated Health Reports by Age Group, Men



Regression Analyses:

Table 3 presents five ordinal logistic regression models predicting self-rated health: Model 1 includes only an indicator “global burden of disease” for if the respondent has one of three diseases, HIV, hypertension, or diabetes. Model 2 includes age group and gender. Model 3 includes socioeconomic variables (education, wealth, and working status). Model 4 is the full model with all variables. Model 5 includes an interaction between working status and gender that emerged from qualitative analyses. The coefficients are presented in log-odds form, so positive values indicate a positive effect (indicating a higher likelihood of reporting better SRH) and negative values indicate a negative effect (indicating a lower likelihood of reporting better SRH categories).

Table 3. Ordinal Logit Predicting Three Levels of Self-Rated Health Among Age 40+

	Model 1: Health		Model 2: Age and Gender		Model 3: SES		Model 4: Full Model		Model 5: Full Model with Interaction	
	B	95% CI	B	95% CI	B	95% CI	B	95% CI	B	95% CI
<i>Global Burden of Disease</i>	-0.07	-0.27,0.13					-0.02	-0.22,0.18	-0.02	-0.23,0.18
<i>Age Category (ref=40-49)</i>										
Age 50-59			-0.52 ***	-0.77,-0.27			-0.39 **	-0.65,-0.13	-0.39 **	-0.65,-0.13
Age 60-69			-0.69 ***	-0.93,-0.46			-0.52 ***	-0.77,-0.26	-0.52 ***	-0.77,-0.27
Age 70+			-1.04 ***	-1.29,-0.79			-0.78 ***	-1.06,-0.50	-0.77 ***	-1.05,-0.49
Male			0.40 ***	0.22,0.59			0.31 **	0.12,0.51	0.18	-0.043,0.41
<i>Formal education (ref=none)</i>										
1-5 Years					0.19	-0.053,0.43	0.01	-0.25,0.26	0.02	-0.24,0.27
6-11 Years					0.49 ***	0.27,0.71	0.20	-0.031,0.43	0.21	-0.027,0.44
12+ Years					0.94 ***	0.53,1.35	0.56 *	0.13,0.99	0.56 *	0.12,0.99
<i>Wealth tertile (ref=low)</i>										
Medium					0.00	-0.22,0.21	0.01	-0.21,0.23	0.01	-0.21,0.23
High					0.11	-0.12,0.33	0.14	-0.093,0.37	0.14	-0.093,0.38
Currently Working					0.34 **	0.13,0.55	0.16	-0.068,0.38	0.01	-0.26,0.28
In a formal/informal union							0.16	-0.033,0.34	0.16	-0.031,0.35
Working Male									0.46 *	0.042,0.88
cut1	-1.50 ***	-1.69,-1.31	-1.90 ***	-2.10,-1.70	-1.12 ***	-1.31,-0.94	-1.56 ***	-1.87,-1.24	-1.59 ***	-1.91,-1.28
cut2	-0.05	-0.23,0.12	-0.40 ***	-0.58,-0.22	0.36 ***	0.19,0.53	-0.05	-0.35,0.26	-0.08	-0.38,0.23
N	1970		1970		1970		1970		1970	

Note: Coefficients are in Log-Odds Form and Higher levels of SRH indicate better health. The categories of SRH are Bad/Very Bad (0), Good (1), and Very Good (2)

* p≤.05; **p≤.01 ***p≤.001

Model 1 shows there is no significant relationship between disease status and self-rated health.

Model 2 shows that as age increases, there is a decreased log odds of reporting better health

($p < .001$). Men have an increased odds of reporting better health ($p < .001$). Model 3 shows that those with 6-11 and 12+ years of schooling have a higher odds of reporting better health compared to those with no formal education ($p < .001$). Likewise, those who are currently working have a higher odds of reporting better health ($p < .01$). There is no significant relationship between wealth and SRH³⁴. When including all variables in Model 4, the significant relationship between age and health and gender and health are robust. The effect of education is only significant for those with more than 12 years of schooling. There is no longer a significant relationship between employment status and health. Being in a union is positively and significantly associated with self-rated health in a bivariate model, but is not significant in the full model. Union status was included in the model following qualitative analysis. Finally, Model 5 includes an interaction between working status and gender. This interaction was examined in response to findings from qualitative analysis. The interaction is significant, indicating that working men have significantly higher odds of reporting good health than non-working men. However, there is no significant relationship between work and health for women (as indicated by the non-significant main effect of working).

Table 4 presents a similar set of models as Table 3 but examines specific health conditions. Because the findings are similar, we will focus specifically on disease status. In

³ A number of supplementary analyses confirm no significant relationship between wealth and SRH after adjusting for education. When wealth is included in a model with only health covariates, those in the high wealth category have a .32 decreased log-odds of reporting poorer SRH ($p < .01$). However, the addition of educational attainment eliminates this significant relationship. When wealth is modeled continuously, the same result is found. Further, there is no significant interaction between educational attainment and wealth category, meaning that the importance of education does not vary by wealth status.

⁴ Separate analyses (not shown) examined whether health behaviors explained the positive relationship between educational attainment and SRH. Variables examined included frequency of drinking alcohol, hours sitting per day, the number of days a week that the respondent eats fruits and vegetables, if the respondent eats at least one meal not at home a week, and if they are current smokers. After adjusting for these health behaviors, the relationship between education and SRH remains significant and a similar magnitude. This suggests that the relationship is not explained by differences in health behaviors across educational groups.

Model 1 of Table 4, there is no significant relationship between hypertension or diabetes and self-rated health. However, those who are HIV positive have an increased likelihood of reporting better health. Once age, gender, and SES are adjusted for in Model 4, the relationship between HIV status and SRH is no longer significant.

Table 4. Ordinal Logit Predicting Three Levels of Self-Rated Health Among Age 40+

	Model 1: Health		Model 2: Age and Gender		Model 3: SES		Model 4: Full Model		Model 5: Full Model with Interaction	
	B	95% CI	B	95% CI	B	95% CI	B	95% CI	B	95% CI
HIV Positive	0.28 *	0.062,0.51					0.08	-0.16,0.32	0.09	-0.15,0.32
Hypertensive	-0.18	-0.37,0.010					-0.08	-0.27,0.12	-0.08	-0.27,0.11
Diabetes	-0.08	-0.52,0.37					-0.05	-0.48,0.39	-0.06	-0.50,0.38
<i>Age Category (ref=40-49)</i>										
Age 50-59			-0.54 ***	-0.80,-0.28			-0.40 **	-0.66,-0.13	-0.40 **	-0.66,-0.13
Age 60-69			-0.67 ***	-0.91,-0.43			-0.47 ***	-0.73,-0.20	-0.47 ***	-0.73,-0.21
Age 70+			-1.04 ***	-1.29,-0.79			-0.75 ***	-1.04,-0.45	-0.74 ***	-1.04,-0.45
Male			0.40 ***	0.21,0.58			0.30 **	0.10,0.50	0.18	-0.050,0.41
<i>Formal education (ref=none)</i>										
1-5 Years					0.18	-0.064,0.43	0.01	-0.25,0.26	0.01	-0.24,0.27
6-11 Years					0.52 ***	0.30,0.75	0.23	-0.0091,0.47	0.23	-0.0060,0.47
12+ Years					0.93 ***	0.51,1.35	0.54 *	0.098,0.98	0.54 *	0.095,0.99
<i>Wealth tertile (ref=low)</i>										
Medium					0.04	-0.18,0.26	0.05	-0.18,0.27	0.05	-0.18,0.27
High					0.12	-0.11,0.35	0.16	-0.074,0.40	0.17	-0.072,0.41
Currently Working					0.32 **	0.10,0.53	0.14	-0.085,0.37	0.01	-0.27,0.28
In a formal/informal union							0.14	-0.049,0.34	0.15	-0.046,0.34
Working Male									0.43 *	0.0041,0.86
cut1	-1.50 ***	-1.68,-1.32	-1.9 ***	-2.09,-1.68	-1.10 ***	-1.28,-0.91	-1.54 ***	-1.85,-1.23	-1.57 ***	-1.88,-1.25
cut2	-0.04	-0.20,0.12	-0.4 ***	-0.56,-0.20	0.39 ***	0.22,0.56	-0.02	-0.32,0.28	-0.05	-0.35,0.25
N	1893		1893		1893		1893		1893	

Note: Coefficients are in Log-Odds Form and Higher levels of SRH indicate better health. The categories of SRH are Bad/Very Bad (0), Good (1), and Very Good (2).

* p≤.05; **p≤.01 ***p≤.001

Qualitative and Mixed Methods Findings

The regression analyses present a puzzle that our qualitative findings help to illuminate. Specifically, there is no significant relationship between having a major chronic disease (HIV, hypertension, diabetes) and reports of self-rated health. This is likely in part due to high and fairly constant levels of morbidity in the population across age groups, with over 70% managing one or more of these chronic diseases. However, it also suggests that having a chronic disease does not necessarily determine the lived experience of good health, but rather other factors may

play an important role in explaining variation in self-reported health in this population. In our findings below, we examine the meaning of health in a context where most people are ill, and focus on how gender and the life course might shed light on how aging adults assess their health and wellbeing.

Gender and the Meaning of Self-Rated Health

Divergent 40s

When women in their 40s were asked “how is your health these days?” most, including those who were HIV positive, reported that their health was good. When probed, they would mention ailments such as headaches, eye problems, and reproductive issues. Below is a typical response from 41 yr old Rita⁵ who was living with HIV and was on medication:

I: How is your health these days?

R: My health is still ok, I don't feel any pain.

I: Current health issues?

R: Mmm... Haa... My health?

I: Yes.

R: I'm not sure about my health. I never went to a doctor to check if I have a problem. The thing that I know is that I have problems with my eyes. We are working under the sun and my eyes have become a problem.

Many women were keen to discuss what they *did not* have. 46 yr old Leila, for example said,

I don't have high blood pressure, or sugar diabetes, I don't have anything. What I'm trying to do these days is to lose weight [she laughs] and it helps me.

⁵ All names are pseudonyms to preserve respondent anonymity.

45 yr old Khanseni who was hypertensive in the survey but did not discuss it in her interview noted,

R: I don't have anything. I don't have HIV. I have tested several times but I'm negative.

While 48 yr old Noma did not have any major illness, as she noted, she discussed body aches and pains for which there was no survey question.

I: How is your health nowadays?

P: I'm always having body pains and this left eye, sometimes it is painful and it causes me headaches, sometimes there are tears coming out.... most of the time when I go to the clinic, they normally check me for almost everything and they told me I don't have high blood pressure (HBP) or HIV.

What is striking in these accounts, is that major illnesses do not seem to be part of their assessment of overall health, but rather aches and pains, despite the fact that several of them were screened as having major chronic illnesses on the survey 2-3 years earlier. Many respondents reported going to the clinic for major illnesses, and did not have problems getting or taking treatment, unless the clinic was far and required transportation money. Thus they could have a well-managed chronic illness, and only report bad health if they had a condition for which there was no diagnosis or medication.

However, when same aged men were asked the same question about their health, their responses focused on their work and employment status. When asked how his health was, 41 yr old Moses who was HIV positive in the survey but said he was negative in the interview discussed work:

Int: How is your health nowadays?

Part: Nowadays...my health... I'm feeling healthy, but I'm having mental problems.

Int: Ok... Do you have health concerns?

Part: My concern is work, and I don't have identity document [ID].

When 41 yr old Masingita who disclosed being HIV positive, and was not on medication was asked whether he had any health concern or issues, he responded:

P: What I'm worried about my health is the way I work and when I want to do something only to find that I don't have money. I feel it is a big change in my life. I feel not living very well that way.

40 yr old Enoch who was also HIV positive, along with his wife and child, and on treatment similarly responded:

I: Now I would like to talk about your health. How is your health these days?

R: My health is okay. I don't have a problem.

I: Do you have current health concerns?

R: My problem is money. It's what makes me worried.

I: On your body do you have concerns?

R: No. I am feeling well.

Finally, Lazarus who did not have any major illness also responded similarly:

I: How is your health these days?

R: It is good. There is no problem. I don't have any pain. It's only a job problem.

I: Current health concerns or issues in the last year?

R: No. I am just looking for a job.

The interviews reveal that a clear contrast between men and women was how they viewed health – for men, health concerns were linked to whether they were able to earn a living. This seemed to override the management of specific health challenges such as HIV or disability – all were filtered through the lens of their ability to provide for themselves and their family. This was perhaps even more exacerbated in a context where work for many men was manual and involved

their bodies – typical occupations were mining, farming and construction, all of which required considerable physical energy to perform. Men in their 40s were two decades away from government provision of pensions, and unless they were really ill, were not eligible for disability grants which would provide some financial support.

These gender differences carried through to how women and men thought about their future health concerns. Among women in their 40s, many had not thought about future health concerns; those who did thought that their current health conditions might be exacerbated in the future. In a typical example, Rita, aged 41 and living with HIV responded:

I: As you get older, what do you think your major health concerns will be?

R: I never thought about what is going to happen to my health. I'm still caring for my children. They are still young. I still want them to grow up. I don't know the future, only God knows what is going to happen to me.

Among same aged men, they either had not thought about it, didn't anticipate any difficulties arising in the future, or the concerns about work reflected in their responses to their health status were reflected in their reflections on future health concerns. For example, 41yr Tom who was HIV positive and reported being on treatment noted:

I: As you get older, what do you think your major health concern will be?

R: My concern will be not working. I think a lot of things don't work and I am growing old. And you finally destroy your future, and you think about children, that they will suffer. There will be a time that they will want to go to tertiary level, and you are not working.

When asked a similar question, 43 yr old Lazarus who did not have any major illness reiterated:

R: My only problem is a job.

These findings prompted adding an interaction to the regression analyses for work and gender; being a man was no longer significantly associated with reporting better health, but being a man who was employed was significantly associated with reporting better health.

Converging 50s and 60s

Both men and women in their 50s and 60s reported many co-morbid ailments. Many were now living not only with HIV, but also with diabetes and high blood pressure. Those who did not have HIV were now living with an increasing number of chronic conditions which brought along with them aches and pains, and vision, hand, waist and leg problems. 65 yr old Tandia who was on medication for high blood pressure and HIV, and overall described herself as “feeling okay” now, also noted that she “ had a painful body, feeling tired all the time” over the past few days. 65 year old Melissa who was taking medication for high blood pressure and pain, said, “ I’m always sick. I don’t have good life. My body is always in pain; I’m on and off.” As 62 yr old Hezekiah who was in a wheelchair due to a disability put it:

R: My health doesn’t have a station (is not stable). I have sugar diabetes and high blood pressure. These things are troubling a lot. Sometimes you have pains even if you have taken your medication. Sometimes it goes down. It is changing; it doesn’t have a station where you can say today you are all right.

Sifiwe aged 50 and HIV positive is part of a group of friends and relatives who help each other – they are each dealing with a major chronic illness. As she describes:

RES: I can say they are friends and also they are my relatives. One of them is not feeling well. She is unable to walk. Then I push her with a wheelbarrow to go to the toilet. Yesterday I was there helping her...It has just come to our minds. Like now, if she calls saying that she didn’t sleep very well, she is very sick and hungry and very weak. I will cook my food and give it to her. When I arrive there I will warm water and give her to bathe and give her food after bathing.... No, we just thought that if we can live in this way, things will go well...They are HIV negative. Their problems are sugar diabetes and high blood pressure.

Inter: Each has her own illness.

Res: Yes. [she laughs]

Both male and female respondents in these age groups described people their same age having similar significant health challenges. However income continued to be a salient issue for men, especially when asked about future health concerns as they got older. Indeed men in their 50s were caught in a bind – still supporting families, but not yet eligible for old age pension at age 60. This was especially challenging for men who were disabled or otherwise unable to work and earn an income. As 51 yr old Ben who was HIV positive and reported that his health was “very bad” in the survey noted;

I: As you get older, what do you think your major health concern will be?

P: Being sick and without employment will be my problem because I have to provide food for my family and we need to build a house. On the other side we need to join a burial society for in case a death occurs, we should able to afford burial costs.

For 59 yr old Dyonzani, at the conclusion of his interview, when asked if there was anything else he wanted to share responded:

P: Hhh... I have nothing to share besides that I'm waiting for old age to come so I can get what I'm due, just like those who are getting it.

I: Can you clarify that for me. What do you mean getting what is due to you when you years come?

P: I mean my right as an old man that is the pension

Divergent 70s

A key reason for gender divergence in reports of poor health in the 70s was likely differential mortality – with the sickest men having already died. However, aside from the question of selection, while both women and men in their 70s reported multiple co-morbid health problems and all were pension eligible, a key gender difference that emerged in their lived experience of health was that of caregiving. These differences were most salient in responses to the question “who takes care of you when you are ill” and what they anticipated their future

health concerns would be. Men almost invariably mentioned their wife as their caregiver, and only occasionally mentioned children or relatives as caregivers. The biggest health concern for many men was what would happen if their wife died. Women predominantly mentioned their children (often their daughters), and occasionally mentioned spouses as primary caregivers. Many women in this setting were never married, divorced or widowed. Among women in their 40s and 50s, a third were either never married or widowed, and less than half (46%) were in a union. Among those aged 60 and above, 59% were widowed. By contrast among men, 50% of those in their 40s and 50s were in a union, and 63% of those aged 60+ were in a union. Only 14% of men in this age group were widowed (Houle et al 2018).

Many men still had living wives, and when asked who would take of them when they were ill invariably mentioned their wife. In thinking about future health concerns, for many, it was what would happen when their wife died. 79 yr old Leonard who was hypertensive and reported his health as good in the survey associated it with the presence of his wife:

I: As you get older, what do you think your major health concerns will be?

R: I don't know any difficulties. My difficulties will be when my wife dies. I will have difficulties if I am left alone. There is no one who can take care of me when I am sick. Now that I am here and my wife's still here we are able to give each other soft porridge. She is getting a pension and I am also getting my pension. If I am sick she gives me soft porridge. I don't know what my difficulties will be in the future.

74 yr old Nathan who reported very good health gave a similar response:

I: Okay, I want to know that now that you are getting very old, what your major health problem going to be?

P: I can have problems only if my wife is not there anymore but if she is alive I don't see myself having problems. Look when I was ill, she was taking care of me. I couldn't walk and she was able to carry me on a wheelbarrow to the clinic and even to hospital. And I thank her for all of that.

By contrast, many women were already widowed and were already dealing with the concern that men had brought up about caregiving. 71 yr old Mary who was HIV positive and hypertensive and reported her health as bad in the survey noted:

Int: As you grow older, what do you think will be your major health challenges?

Part: I don't want to grow until I'm too old.

Int: [smile] Why?

Part: I don't want to be a burden. People will get tired of me and I won't have anyone to take care of me. I don't want to be too old that I don't even manage to go to the toilet/do things on my own. When I grow older, if this God was mine, I will tell him to take me.

84 yr old Thomasina who was hypertensive and reported her health as bad in the survey was also experiencing challenges:

Int: When you get older, do you think you will have health problems?

Part: Even now I have emotional problems because I have lost all my older children.

Int: So you think you will have major problems when you grow older?

Part: It is difficult even now.

Int: Can you please tell me what you mean when you say it is difficult?

Part: They were helping me a lot because they were older, so it is difficult because they are no longer here.

Women in this setting were likely not only to have buried a husband, but also to have buried one or more children due to the severe AIDS epidemic and the absence of medication in the previous decade. As such the loss of caregivers made the experience of aging particularly challenging, compounding the illness and co-morbidities that are typical of old age.

DISCUSSION

This paper sheds new light on research on gender and health drawing on a unique mixed methods dataset from rural South Africa in a population where the majority of the middle aged and older population was dealing with a major illness, but most people reported good or very good health. We find that self-rated health was not associated with objective health measures of HIV, diabetes or high blood pressure. This may be in part due to relative assessments of self-rated health. Research suggest that people evaluate their health against different comparison groups (Hardy et al 2014, McMullen & Lubrowsky 2006). Thus people who are ill in communities where a large proportion of people are ill may rate their health differently compared to those in communities where they are exceptional in their illness. Additionally, in communities where access to medication is relatively recent, such as in rural South Africa where the government denied ART medication for many years, people may compare their current health to previous times in their life when they were sicker, and thus positively evaluate their health.

We also find that gender and life course stage shaped how our respondents assessed their health in both our quantitative and qualitative data. We find that while for women health more closely reflected objective experiences of poor health such as aches and pains (but not necessarily medically diagnosed conditions) across all age groups, for men, there was greater variation across age groups in how they assessed health. In their working ages, work, income and the ability to provide for their family were primary filters through which men interpreted their health. This shifted to a focus on aches and pains, similar to women, and finally shifted to the availability of caregivers, and having a wife in particular, to take of them in their older ages. Previous research in this setting highlights the holistic way in which older South African women

assess their health, and in particular, how undiagnosed aches and pains contribute to their inability to engage in daily household tasks. (Schatz and Gilbert 2012, 2014). Many older women in this setting engaged in subsistence and non-wage economy livelihood strategies at younger ages and were dependent on their husbands for income. At older ages, many women's husbands had died, but they were now eligible for government pensions. As such, women were likely to have experienced a measure of stability in their gendered family roles and expectations throughout their life course. By contrast, men's ability to provide for their families was characterized by fluctuation; limited employment options in Agincourt, and the need to engage in circular labor migration to find work (60% of men in this site migrated – Clark et al 2007, Blalock 2014) meant that men's life course in this setting was likely marked by uncertainty in their ability to financially provide for a family until they were pension eligible. Overall, this research highlights the significance of gendered family roles and expectations in shaping individual experiences and interpretations of good health.

Next steps: we plan to further examine the role of education in qualitative analyses, and run separate models by age group in quantitative analyses to further investigate our findings.