

# Life satisfaction of rural young people in Tanzania

Jordan Chamberlin



**Integrated Development Program Discussion Paper ##**

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## **Declaration of interest statement**

The authors declare no conflicts of interest in the publication of this research.

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## Abstract

The stylized narrative of an exodus of young people from rural areas in Africa implicates stagnant rural areas with limited economic prospects as the key push factor. Using nationally representative survey data from Tanzania, we explore patterns in self-reported satisfaction with various aspects of life. Lending some support to the stylized narrative around disaffected rural youth, we find that rural young people are neither strongly dissatisfied nor strongly satisfied with their lives. However, young people are notably *less* dissatisfied than older people, in both rural and urban areas, and in all domains of satisfaction measured. We also find that women are less dissatisfied than men. While there is evidence that people in less remote areas are slightly more satisfied with life than those in more remote rural areas, this is not a strong relationship. Furthermore, young people are markedly *less* satisfied in urban areas as compared with rural areas. After controlling for observable factors, we find that young people's life satisfaction is strongly conditioned by their household's level of consumption expenditures, as well as their familial context, and direct experience of crime. While some of these factors have strong spatial expressions, they map onto rural remoteness in different ways: while consumption expenditure tends to increase with population density, for example, so does the likelihood of experiencing crime. After controlling for individual and household-level characteristics, the residual effect of remoteness on life satisfaction is largely attenuated, although this residual effect is more pronounced for young people than older people, in line with the stylized narrative. We also find evidence that young individuals expressing lower levels of life satisfaction are more likely to migrate from their households to other locations. Our results provide a more nuanced update to the stylized picture of life satisfaction of young rural people in sub-Saharan Africa.

## Highlights:

- Young people report greater life satisfaction than older people in rural Tanzania
- Individuals in rural areas are less dissatisfied with life than those in urban areas
- However, rural people's satisfaction decreases with remoteness
- Less satisfied individuals are more likely to migrate
- We argue for more nuance in the narrative on disaffected rural youth in Africa



## Preface

Progress toward creating decent jobs and reducing rural poverty requires transformations of economies, rural spaces, and food systems. Economywide transformation brings changes in relative factor costs (i.e., land, labor, and capital), new patterns of consumption, and changes in opportunities for trade and specialization. Food system transformation is shaped by changing food demand, which creates investments and jobs in food value chains and increases commercial farming opportunities. Both transformations will have substantial effects on rural economies, but maximizing the positive effects requires attention to policies and investments.

PIM's Flagship 2 teams study these processes and analyze policy options to promote inclusive rural growth and transformation. Specific topics include assessment and implications of transformation processes, agri-food systems as source of jobs, key public and private investments to stimulate rural development, and the political economy of agricultural and food policy reforms.

The foresight team at CIMMYT has been contributing to the research on rural transformation with special emphasis on the development of farm size, rural migration, the effects of rural transformation on youth and the effects on gendered outcomes of these processes.

This discussion paper aims to contribute to the ongoing discussions of the role of rural transformation in overall development and the effects that this should have on agricultural research for development priorities.



Sieglinde Snapp

Director CIMMYT Integrated Development Program

# 1. Introduction

Whether framed as “makers” or breakers” (Honwana and de Boeck, 2005), young people figure prominently in contemporary policy narratives around the future of rural Africa. On the one hand, their education, energy and willingness to embrace innovation are portrayed as essential to the transformation of agriculture and the rural economy (for a recent review see Sumberg and Hunt, 2019). On the other, their misplaced dreams of formal employment and urban life are linked to the aging of the farming population, the hollowing out of rural communities, and, when those dreams are frustrated, the potential for civil unrest and radicalization (Brück *et al.*, 2016). The working assumption that underpins much policy discourse is that young people are dissatisfied with the economic and broader livelihood prospects available to them in rural areas, and that for a significant number, this dissatisfaction drives them to abandon agriculture and relocate to towns and cities. There continues to be debate as to whether the young people have assessed the situation correctly, or, as proposed by some, a lack of information and negative “mindset” has caused them to misread the rural landscape of opportunity.

The aspirations of young rural African have received some attention in the rural development research literature, motivated by beliefs that (1) increasing levels of education and connectivity will fuel rising aspirations, and (2) to a greater or lesser degree, aspirations inform decisions about education, employment, marriage, migration and so on. Perhaps not surprisingly much of this literature suggests that agriculture does not figure prominently in young people’s aspirations, while professional jobs, formal employment and urban settings do (Tadele and Gella, 2012; Petesch and Rodríguez Caillava, 2012; White, 2012; Anyidoho *et al.*, 2012; Leavy and

Hossain, 2014; Berckmoes and White, 2014; Temudo and Abrantes, 2015; Yeboah *et al.*, 2017; BMZ, 2017; OECD, 2017; Elias *et al.*, 2018). It is important to note that this literature generally leaves unquestioned the conceptual and theoretical dimensions of aspirations and their links to action, and the associated methodological and interpretive challenges. In contrast, these are important concerns within the sociological and youth studies literatures (Zipin *et al.*, 2015). Hardgrove *et al.* (2015) for example, argue that alternatives to aspirations, including “imagined futures”, “future selves” and “possible selves”, deserve attention because they provide “a theorization of the link between imagined possibilities in the future and motivation to act in the present”.

Another possible, and yet largely unexplored window into young rural African’s motivation to act, is provided by the positive psychology movement and its now well established focus on life satisfaction (Seligman and Csikszentmihalyi, 2000; Gilman and Huebner, 2003). Over the last two decades there has been an explosion of research on subjective measures of well-being, including life satisfaction and happiness, but to date the research gaze has largely bypassed rural youth in Africa. We argue that any empirical insights into the relationship between young people’s satisfaction with current conditions or anticipated prospects, and their decisions about education, training, residence, job orientation, marriage, political engagement etc. should be of significant interest to policy makers, perhaps particularly in Africa, given the predominance of the highly stylized and weakly substantiated narrative on disaffected rural youth.

Rooted in insights from positive psychology, individuals’ subjective assessment of their

level of satisfaction with their own lives is now accepted as a valuable indicator of well-being (Dolan *et al.*, 2008; Diener, 2000). Life satisfaction (LS) research, usually using questions with the form “All things considered, how satisfied are you with your life as a whole these days?”<sup>1</sup>, is meant to capture a holistic evaluation of an individual’s life, not simply satisfaction or happiness at the moment. The fact that LS data is subjective is not a limitation but a strength: rather than a cheap and cheerful proxy for more valuable “objective” measures of social welfare, LS provides an alternative window into lived experience. It is nevertheless important to note that subjective and objective welfare measures do correspond, albeit imperfectly (Carletto and Zezza, 2006; Lokshin *et al.*, 2006). In their summary of findings from psychology, economics and sociology, Frey and Stutzer (2002) concluded that LS data are valid, consistent and reliable measures of individual well-being. People are able to evaluate their own quality of life without systematic errors, and their evaluation is relatively stable over time.

Because subjective well-being is increasingly recognized as a legitimate component of economic performance and social progress (Fitoussi and Stiglitz, 2013) there has been much research interest in the correlates of life satisfaction both within and between countries. One key finding is that life satisfaction changes over the life cycle is broadly similar ways across a diversity of countries: LS generally declines between youth and middle age, and rises again in old age, forming the commonly observed U pattern (Blanchflower and Oswald, 2017).

Another important set of correlates of LS relates to consumption, with LS being positively associated with own consumption but often negatively associated with

consumption level of neighbors or peers (e.g. (Luttmer, 2005; Easterlin, 2001). Fafchamps and Shilpi (2008) also find this to be true in Nepal, and furthermore find that respondents residing far from markets care even more about the consumption level of their neighbors in forming their own subjective welfare assessments.

While the correlates of LS have received much attention, the role of LS in decision making has not. Perhaps the most relevant work is that of Otrachshenko and Popova (2014) who studied LS as a motivator for migration amongst individuals from Central and Eastern Europe. They found that people who are more dissatisfied with life have a higher intention to migrate. These results held for internal, temporary international, and permanent international migration.

There is a growing literature on life satisfaction in SSA (Addai *et al.*, 2014; Affram *et al.*, 2019; Botha and Snowball, 2015; Conzo *et al.*, 2017; Ngamaba, 2016; Tsai and Senah, 2014; Hinks and Davies, 2008; Sulemana, 2015; Sulemana and Agkyapong, 2019; Chin, 2010). In terms of our particular interest in the rural economy and youth, however, there has been relatively little research. Working in rural areas of northern Ethiopia, Akay and Martinsson (2011) found that the impact of relative income on subjective well-being is insignificant and small in magnitude. In South Africa, Mulcahy and Kollamparambil (2016) found that rural-urban migration leads to a decrease in subjective well-being by 8.3 per cent, which they suspected reflected “false expectations and changing relative groups used to peg aspirations” (p.1368) as well as the emotional cost of being away from family and a home environment. Vath *et al.* (2019) used a quasi-natural experiment to compare the subjective well-being of outgrowers and independent

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<sup>1</sup> An overall life satisfaction question, as adopted in the World Values Survey: All things considered, how satisfied are you with your life as a whole these days? Using this card on which 1 means you are

“completely dissatisfied” and 10 means you are “completely satisfied” where would you put your satisfaction with life as a whole? (Bjørnskov, 2010)

farmers around the biggest palm oil producer in Ghana. They found a positive causal effect of the outgrower scheme on subjective well-being (1.5 points on a scale of 0–10) and linked this to secure rights to land. In the Saint-Louis region in Senegal, Van den Broeck and Maertens (2017) found that women's employment improves subjective well-being for the poorest rural women, but not for women whose household income is above the poverty threshold. They suggest that while well-being is improved through an income effect, there is also a negative effect related to a higher workload and low job satisfaction due to unfulfilled expectations. The positive income effect outweighs these negative non-income effects for poor women but not for relatively wealthier women. Finally, Natali *et al.* (2018) find that an unconditional cash transfer program in rural Zambia led to an increase in women's self-reported happiness by 7.5% and 10% after 36 and 48 months, respectively.

Of particular relevance to our interest in the subjective well-being of youth in the rural economy is the analysis by Markussen *et al.* (2018) of different kinds of employment on subjective well-being in rural Vietnam. They find a positive effect of self-employment in farming, relative to self-employment in non-farm enterprises and wage labor. Their interpretation is that self-employment in farming increases self-perceptions of autonomy and competence, while the negative effects of non-farm employment reflect psychological costs of economic transformation. This stands in contrast to the typical rendering of the disaffected rural African youth story, which attributes said

disaffection to limited employment and off-farm opportunities (Mabiso & Benfica 2019).

To begin to address the gap in understanding of life satisfaction among rural youth in SSA, in this paper we use data from the 2014-15 Tanzanian National Panel Survey to describe patterns in self-reported satisfaction. We find that people report being moderately unsatisfied with their lives on average; young people are less dissatisfied than middle-aged people; and rural people who are economically engaged have higher levels of life satisfaction than those who report no main economic activity.

Our analysis makes several contributions to this literature. First, we directly engage the question of whether rural young people are satisfied with their lives in absolute terms, as well as relative to older people, urban people, etc. Secondly, we provide a unique nationally representative evaluation of subjective well-being in a sub-Saharan African context. Thirdly, we address the linkage between rural economic vibrancy – measured as individual level labor allocation outcomes, as well as community-level proxies – and life satisfaction outcomes in rural populations. Fourth, we examine the role of self-reported life satisfaction in conditioning out-migration.

The rest of the paper is structured as follows. After describing our data and key variables, we outline our empirical framework. We then present and discuss our main descriptive and regression results. The final section concludes with summary remarks about our findings and their implications for the ongoing policy discussions around rural youth in Africa.

## 2. Data

Data for this study come from the 2014-15 Tanzanian National Panel Survey conducted as part of the World Bank's Living Standards Measurement Surveys – Integrated Surveys on Agriculture (LSMS-ISA) project. The key variables of interest are individual responses to the questions about seven dimensions of well-being, and overall life satisfaction. Questions took the form “How satisfied or dissatisfied would you say you are with...”:

- your health?
- your financial situation?
- your housing?
- your job?
- the health care available to you?

- the education available for your household?
- your safety?
- your life as a whole?

Responses to these questions are measured on a Likert-type ordinal scale, with seven possible answers: *very satisfied*, *satisfied*, *moderately satisfied*, *neutral*, *moderately dissatisfied*, *dissatisfied*, and *very dissatisfied*.

These questions were in principle asked of all members of the household who were (a) able to answer for her/himself, and (b) were aged 15 or older. Of the 8,418 individuals aged 15-64 in the sample, 6,438 (76%) provided responses.

### 3. Empirical model and estimation strategy

A key interest in this analysis is to understand the effect of a variety of measures of farm and non-farm activities on subjective well-being. Our key hypothesis is that, *ceteris paribus*, larger opportunity sets will be associated with more positive life satisfaction. To explore this, we run regression models of the following type:

$$w_i = \gamma E_i + \delta V_j + \beta x_i + \varepsilon_i$$

where  $w_i$  is the answer of respondent  $i$  to the life satisfaction questions described above,  $E_i$  is a vector of indicators for employment/labor allocation category;  $V_j$  is a vector of indicators of opportunity in the community (which may be taken as measures of economic “vibrancy”),  $x_i$  is a vector of other variables that may affect subjective well-being at the individual, household or community level, and  $\varepsilon_i$  is an error term. Errors are allowed to be correlated within clusters, i.e. the primary sampling unit of the survey, roughly corresponding to a community.  $\gamma$ ,  $\delta$ , and  $\beta$  are vectors of coefficients to be estimated.

While the sample of households is randomly selected and nationally representative, the actual respondents to these particular questions are likely a non-random subset of all household members. To correct for this in our regression work, we first estimate the probability of an individual providing responses to the subjective welfare questions,

and then construct an inverse probability weight to control for non-random selection in our main models of interest.

Another issue is the possibility that individual respondents’ answers may be influenced by the behavior or other characteristics of the enumerator. In a recent study in Uganda, Di Maio and Fiala (2018) found this “enumerator effect” to be minimal for many types of factual data elicitation, but more pronounced for political opinions. To investigate and control for such bias, we include controls for each enumerator ID in the survey data.

Finally, some acknowledgement of endogeneity issues is in order. We expect that labor allocation decisions, as well as many intermediate outcomes, may well be affected by life satisfaction. For example, individuals with greater life satisfaction may be more likely to successfully pursue wage employment or business activities. However, we do not believe that there are viable instrumental variables available to deal with these. As such, we do not make claims of causal identification in our regression results. Rather, we evaluate our coefficient estimates as conditional correlations. This caveat notwithstanding, the overall stability of our results, and the sensible coefficient estimates which we obtain, suggest confidence in the coherence of our results, which we believe to have important interpretive value.

## 4. Results

### 4.1. Descriptive statistics

There is a wide variation in levels of satisfaction in relation to different dimensions of well-being in rural Tanzania [Fig 1 & Table 1]; most aspects have non-trivial shares of respondents who are either very dissatisfied or very satisfied. On average, people are relatively more satisfied with health and

protection from crime (“safety”), and are most dissatisfied with their financial situation, followed by access to education and healthcare. Overall, despite the wide variation in responses, the average score for overall satisfaction with life is slightly negative.

Table 1: subjective welfare measures as numeric scores (range: [-3,3]; neutral = 0)

Age of respondent	health	finances	housing	job	healthcare	education	safety	overall
15-24	1.9	-0.5	0.5	0.4	-0.1	-0.5	1.5	-0.2
25-34	1.6	-1.0	0.2	0.3	-0.6	-0.8	1.5	-0.4
35-44	1.3	-1.1	0.0	0.3	-0.5	-0.7	1.4	-0.4
45-54	0.9	-1.1	0.0	0.2	-0.7	-0.8	1.4	-0.6
55-64	0.5	-1.3	0.1	0.2	-0.7	-0.6	1.6	-0.6
65+	-0.3	-1.3	0.3	-0.1	-0.4	-0.7	1.7	-0.6
<i>overall</i>	<i>1.3</i>	<i>-1.0</i>	<i>0.2</i>	<i>0.2</i>	<i>-0.4</i>	<i>-0.7</i>	<i>1.5</i>	<i>-0.4</i>

Note: Sample consists of all rural individuals who responded to subjective welfare questions (n=4,180). A score of -3 corresponds to “Very dissatisfied”, and a score of +3 corresponds to “Very satisfied.” Neutral responses, i.e. neither satisfied nor dissatisfied, have a score of zero.

Both Table 1 and Figure 2 indicate strong age-related patterns to satisfaction: generally speaking, young people are more satisfied than older people. This is true for all dimensions: scores for the 15-24 year old age group are uniformly higher than for other age groups. Levels of dissatisfaction tend to increase with age, although this trend is more pronounced for some dimensions than others. The strongest age-related trend in satisfaction is for available health care, which drops strongly with increasing age of respondent.

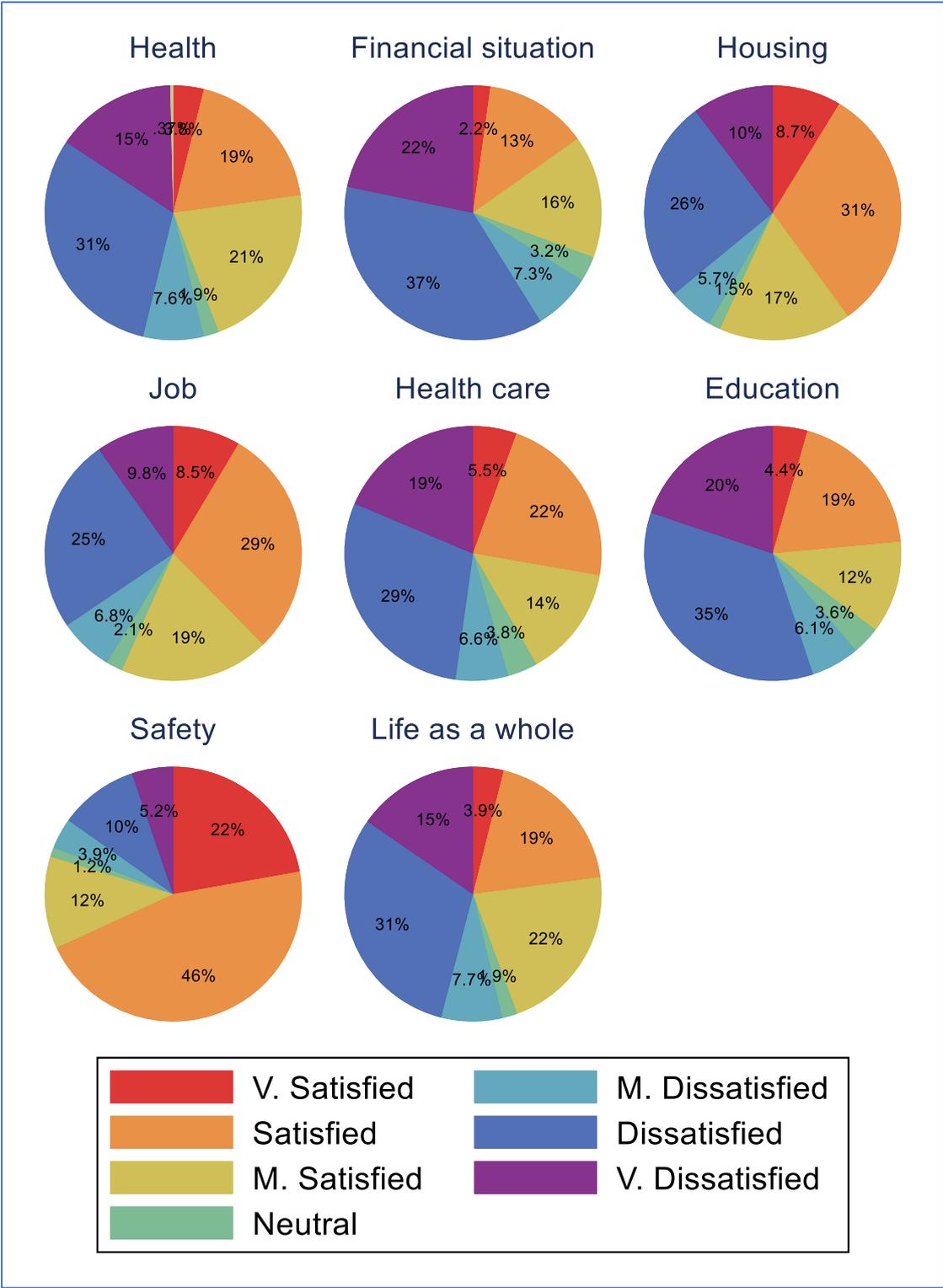


Figure 1: Distribution of subjective welfare measures across entire sample

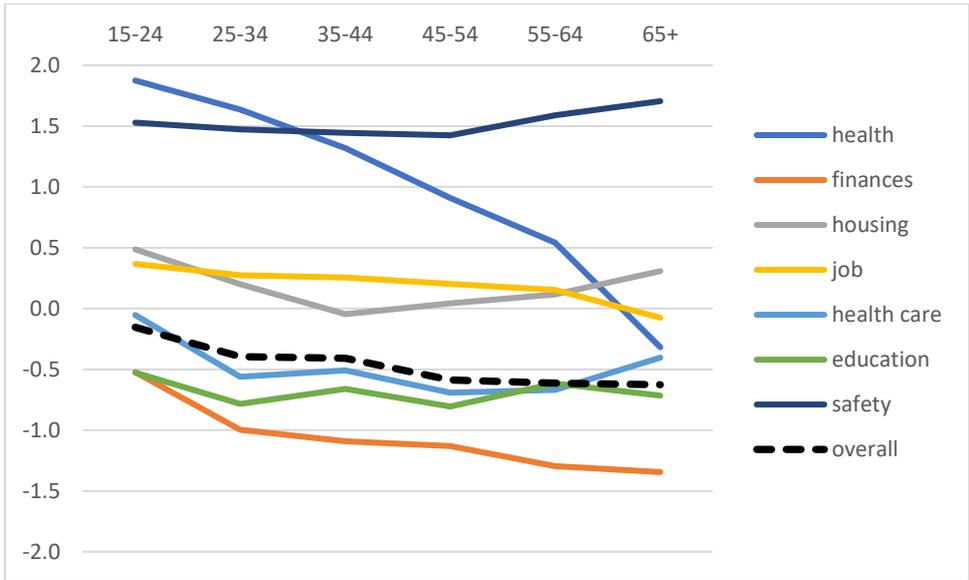


Figure 2: subjective welfare scores by age

Figure 3 shows a spider diagram of levels of satisfaction for young and non-young rural populations to further illustrate age-related patterns. In relative terms, young people are

most satisfied than older individuals in all dimensions, but particularly so with respect to health, health care, housing and (although dissatisfied in absolute terms) finances.

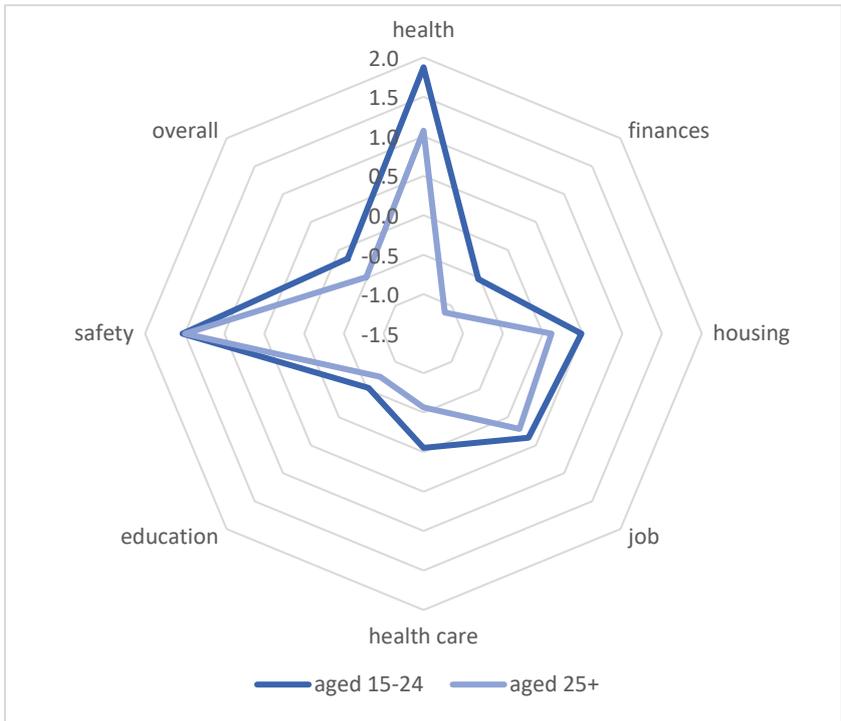


Figure 3: Spider diagram of satisfaction in multiple dimensions for young and non-young rural populations

Figure 4 shows a non-parametric estimate of the relationship between overall life

satisfaction and age. We see a small but pronounced U-shaped pattern. This is

consistent with findings of life satisfaction over the course of a lifetime in other

empirical studies as noted in the introduction.

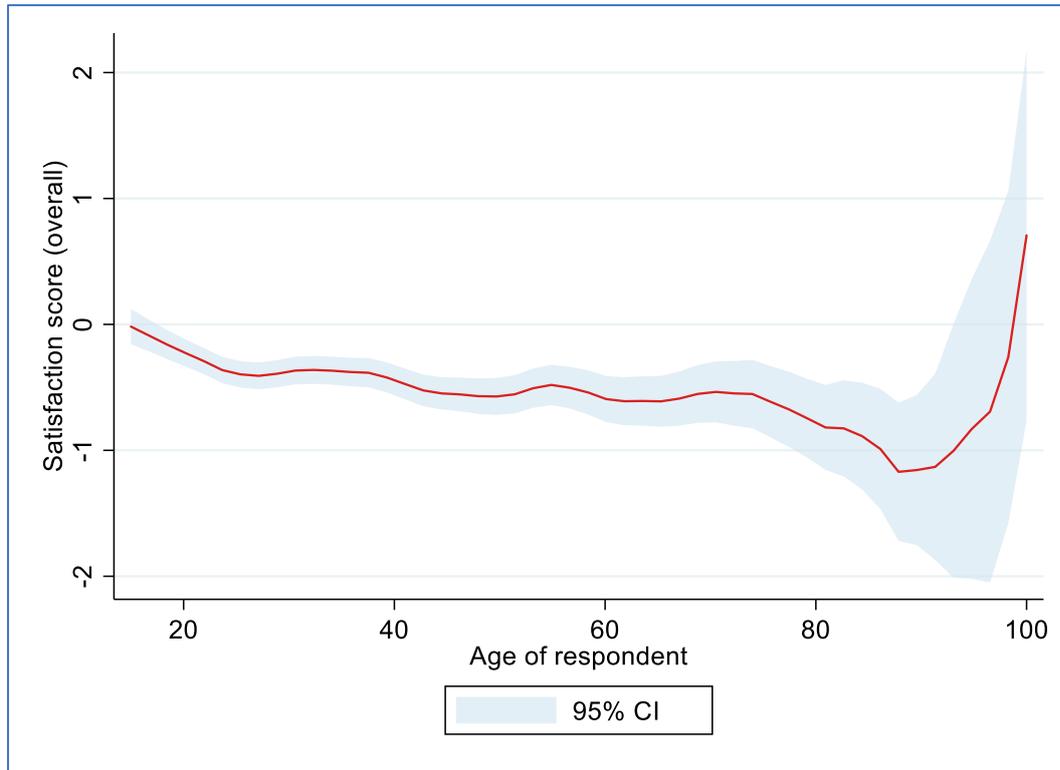


Figure 4: Life satisfaction by age of respondent

Table 2 shows correlations across the dimensions of well-being. Overall life satisfaction is most highly correlated with scores for financial situation, job situation,

and housing. Although not shown, this pattern holds true for different age-based subsets of the sample.

Table 2: Correlation between satisfaction scores

	health	finances	housing	job	healthcare	education	safety	overall
health	1							
finances	0.22	1						
housing	0.19	0.40	1					
job	0.19	0.40	0.42	1				
health care	0.16	0.29	0.27	0.26	1			
education	0.10	0.29	0.28	0.31	0.28	1		
safety	0.13	0.16	0.21	0.17	0.20	0.14	1	
overall	0.18	0.54	0.43	0.47	0.30	0.37	0.24	1

Note: all correlation coefficients significant at  $p < 0.001$ .

We also find evidence of gendered patterns to life satisfaction, with women being more satisfied than men, on average (Figure 5). 38% of women are dissatisfied or very dissatisfied with life, compared with 48% of men. Women's life satisfaction declines steadily with age, whereas men's drops precipitously throughout the teens and twenties (Figure 6). Gendered differences are most pronounced at earlier years of life. The wider confidence intervals at the higher age ranges suggest caution in interpreting these trends, and their gendered differences, in later years.

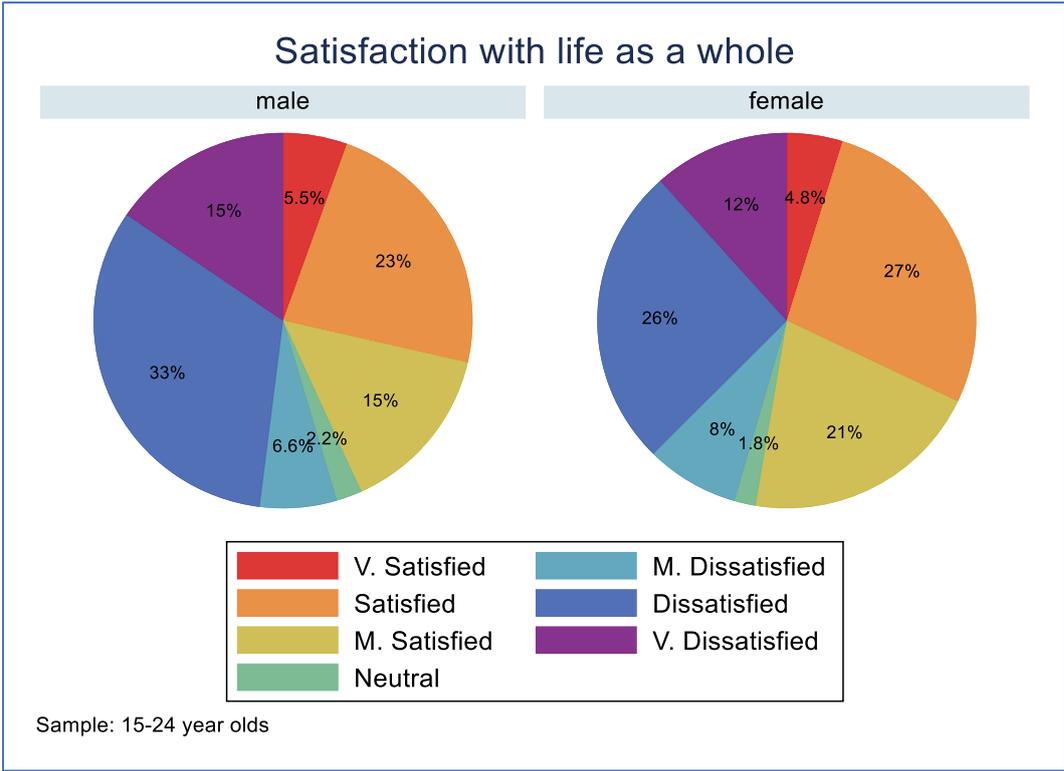


Figure 5: Gendered satisfaction

Interestingly, the strongest spatial gradient in satisfaction is with population density, which we would expect to reflect at least some of aspects of the potential for rural economic vibrancy. The inverted-U shape shown in Figure 7 peaks at a population density of about 400 persons per square kilometer, which roughly corresponds with periurban and urban environments (although not cleanly so). This indicates that, without controlling for other factors, increasing levels of population density are positively associated with life satisfaction in rural areas, but increasingly dense urban environments are negatively associated with life satisfaction.

A key hypothesis in our analysis is that life satisfaction in rural people is positively

associated with economic engagement, which in turn is enabled by the vibrancy of the local rural economy. Our primary window into economic engagement at the individual level is their categorical indication of the nature of their primary occupation over the prior 12 months. These responses are summarized in Table 4, organized by age of respondent as well as the urban/rural designation of the survey cluster. Some strong patterns are evident. Firstly, young people are more likely to work as unpaid family labor than older people, and are also more likely to indicate no activity at all. The share reporting no activity is much higher in urban areas (60%) versus rural areas (20%), despite the presumably greater economic opportunities in urban areas.

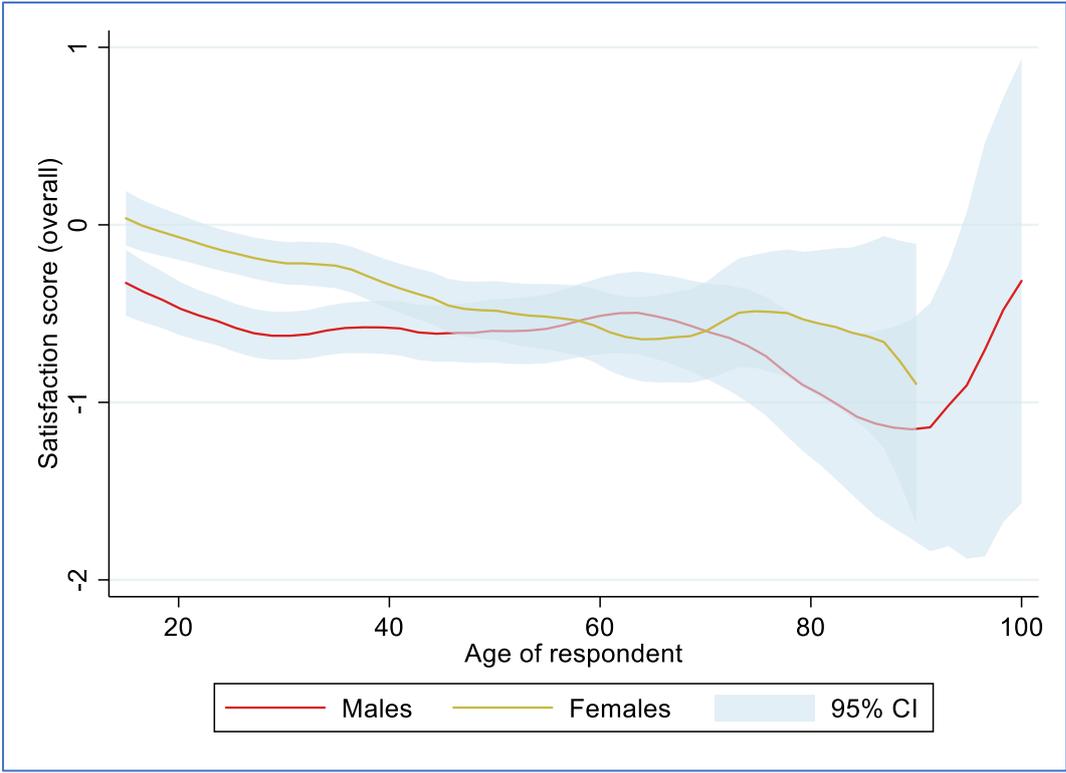


Figure 6: Overall life satisfaction score by age and sex

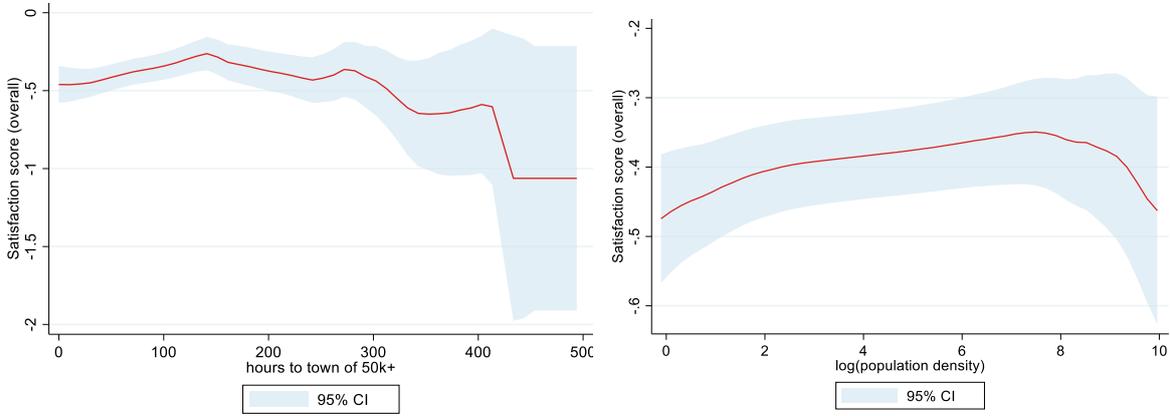


Figure 7: Overall life satisfaction by market remoteness & rural population density

We find evidence that satisfaction scores reported by individuals are positively and significantly correlated with those of other members of the same household, as well as individuals in other households within the

same cluster (Table 5). This provides some initial indications that household and spatial factors are important determinants of individual level satisfaction outcomes.

Table 3: Life satisfaction by age of respondent in urban & rural areas

<b>Age</b>	<b>Urban</b>	<b>Rural</b>
15-24	-0.34	-0.23
25-34	-0.80	-0.36
35+	-0.82	-0.54

Table 4: Distribution of main economic activity by age and location

<b>activity</b>	<b>age of respondent - rural areas</b>						<b>Total</b>
	<b>15-24</b>	<b>25-34</b>	<b>35-44</b>	<b>45-54</b>	<b>55-64</b>	<b>65+</b>	
paid employee	5	12	9	8	8	2	8
self-employed	3	9	10	5	5	3	6
unpaid family	61	35	24	21	16	12	37
own farm	11	37	55	62	65	55	37
apprentice	0	0	0	0	0	0	0
no activity	19	7	2	4	7	28	12
<i>total</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>

<b>activity</b>	<b>age of respondent - urban areas</b>						<b>Total</b>
	<b>15-24</b>	<b>25-34</b>	<b>35-44</b>	<b>45-54</b>	<b>55-64</b>	<b>65+</b>	
paid employee	18	33	31	29	27	6	26
self-employed	8	32	42	40	27	20	26
unpaid family	10	6	6	5	7	4	7
own farm	1	4	6	11	20	18	6
apprentice	2	0	0	0	0	0	1
no activity	60	24	14	15	20	53	34
<i>total</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>

Table 5: Correlation between individual score, family member's average score, and village neighbor's average satisfaction score

	<b>Individual</b>	<b>Household</b>	<b>Cluster</b>
<b>Individual</b>	1		
<b>Household</b>	0.52***	1	
<b>Cluster</b>	0.16***	0.30***	1

Note: \*\*\* denotes significance at  $p=0.01$ .

The sample distribution of values of the variables used in the regression model are shown in Table 6. This population is predominantly agriculturally oriented, with generally low levels of formal education and asset endowments. However, there is considerable diversity of characteristics

across the sample, many of which have strong age-related patterns. For example, younger people are more likely to be dependents than household heads or spouses, and they are more likely to work as unpaid family labor than have wage income, non-farm businesses or farm their own lands.

Table 6: Characteristics of rural individuals

	15-24	25-34	35-44	45-54	55-64	65+	total
Satisfaction with health	1.9	1.6	1.3	0.9	0.5	-0.3	1.3
Satisfaction with finance	-0.5	-1.0	-1.1	-1.1	-1.3	-1.3	-1.0
Satisfaction with housing	0.5	0.2	0.0	0.0	0.1	0.3	0.2
Satisfaction with job situation	0.4	0.3	0.3	0.2	0.2	-0.1	0.2
Satisfaction with healthcare	-0.1	-0.6	-0.5	-0.7	-0.7	-0.4	-0.4
Satisfaction with education	-0.5	-0.8	-0.7	-0.8	-0.6	-0.7	-0.7
Satisfaction with safety	1.5	1.5	1.4	1.4	1.6	1.7	1.5
Satisfaction with life	-0.2	-0.4	-0.4	-0.6	-0.6	-0.6	-0.4
male	51%	45%	49%	44%	50%	46%	48%
education (years)	4.1	5.6	5.2	5.1	3.6	1.6	4.5
household position: head	5%	35%	57%	62%	70%	64%	37%
household position: spouse	13%	37%	35%	33%	23%	14%	25%
household position: dependent	81%	28%	7%	5%	7%	22%	38%
monogamously married	21%	52%	57%	49%	48%	39%	40%
polygamously married	2%	10%	17%	19%	19%	11%	10%
co-habiting	6%	15%	11%	10%	4%	2%	9%
separated	2%	5%	6%	4%	7%	5%	4%
divorced	1%	2%	3%	4%	5%	3%	2%
never married	68%	15%	3%	4%	2%	0%	28%
widowed	0%	1%	4%	10%	16%	39%	6%
victim of crime	3%	8%	12%	10%	10%	4%	7%
main activity: paid employment	5%	12%	9%	8%	8%	2%	8%
main activity: self-employed	3%	9%	10%	5%	5%	3%	6%
main activity: unpaid family labor	61%	35%	24%	21%	16%	12%	37%
main activity: own farm	11%	37%	55%	62%	65%	55%	37%
in female-headed household	26%	17%	15%	22%	26%	30%	22%
household size	4.3	3.1	3.1	3.6	3.4	3.4	3.6
farm size (ha)	4.5	3.4	3.3	3.4	2.7	3.9	3.8
cons. expenditure (1000s TSh)	4,667	4,098	3,952	4,143	3,803	3,439	4,199
population density	296	351	347	296	387	279	322
hours to town 50k+	1.9	1.9	2.1	1.9	1.8	1.9	1.9

## 4.2. Regression results

Results from our regression models are shown in Table 6. We estimated our basic model over several sub-samples, starting with our primary population of interest, rural youth (aged 15-24; column 1), as well as rural non-youth (aged 25-64; column 2), the entire set of rural individuals (aged 15-64, column 3), and the entire survey sample of individuals aged 15-64 in both rural and urban areas (column 4).<sup>2</sup> As mentioned above, all models are weighted to correct for the probability of not providing responses to the subjective welfare module in the survey; estimation results from the probit model used to define these weights are available upon request. All models are estimated using standard errors which are robust to clustering at the community level.

In harmony with our descriptive results, we find pronounced evidence that age is inversely associated with life satisfaction. In other words, young people indicate higher levels of satisfaction than older people, even after controlling for other factors. This can be seen in the coefficient estimates for the age of the respondent, which are highly significant and largest in magnitude in the rural youth sub-sample. The fact that this coefficient estimate is negative in all samples (although not significantly so in the rural non-youth sample) indicates that satisfaction continues to decline with age beyond the conventionally “youthful” years.

We find evidence that females are more satisfied with life than males, after controlling for other factors. This appears particularly to be the case with younger individuals and those in rural areas, as indicated by the significance of the coefficient estimates in the rural youth and rural all ages sub-samples (columns 1 & 3).

Interestingly, education is not a strong correlate of life satisfaction for the rural youth sample, after controlling for other factors. However, education is a significantly negative correlate of life satisfaction in the other samples, perhaps indicating unmet expectations about returns to education. Marital status plays an important role: relative to being married (the reference category), being separated, divorced or widowed (or never having been married, in the case of the youth) are strong negative correlates of life satisfaction. Finally, in terms of household membership context, there is some evidence that being a young spouse is associated with lower life satisfaction (relative to being a young household head).

In terms of the main economic activity reported by respondents, for most of the sub-samples having any activity is associated with higher life satisfaction than having no activity (the reference category). However, this is not significantly so, in most cases, and the coefficient estimate for self-employment (which may include working in another household member’s business) is negative – albeit insignificant – in the rural youth and full samples. This may reflect limited non-farm business opportunities and the low returns to such activities. The relatively larger coefficient estimate in the rural youth sample may also reflect the relatively more limited options for capital-constrained young people, relative to older people who may be able to invest more human and financial capital in specialized business activities. Having wage income, and working on one’s own farm, are more consistently positive correlates of life satisfaction across the sub-samples, and significantly so (at  $p < 10$  and  $p < 5\%$  respectively) in the full rural sample of

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<sup>2</sup> We acknowledge that discrete, aged-based classification criteria for defining “youth” is problematic (Ripoll et al 2017). However, some form of discretization is necessary to facilitate this

analysis, and the 15-24 age range, which is the United Nations definition, is conveniently amenable to comparison with the many other studies using the same definition (Mabiso and Benfica 2017).

individuals (column 3). This supports the idea that productive economic engagement – of any sort – is a source of satisfaction.

Being a victim of a crime is, unsurprisingly, associated with lower satisfaction. Interestingly, this appears to be particularly true for young people, as evidenced by the much larger and highly significant coefficient estimates in the rural youth sample.

In terms of household-level factors, fewer household members and more farmland are associated with higher levels of satisfaction, although these coefficient estimates are not significant in the rural youth sample (which is not what the stylized narrative of limited land opportunities for rural youth would suggest). In line with other studies, household consumption expenditures are very strongly associated with life satisfaction, indicating a correspondence between subjective and objectively material welfare measures.

Table 7: Correlates of overall life satisfaction, by sub-sample

	(1) Rural, aged 15-24	(2) Rural, aged 25+	(3) Rural, all ages	(4) Rural/urban, all ages
<i>Individual factors</i>				
age	-0.0707* (0.0401)	-0.00249 (0.00414)	-0.00795** (0.00364)	-0.00967*** (0.00343)
1=female	0.343** (0.172)	0.320 (0.235)	0.368** (0.156)	0.212 (0.141)
education (years)	0.00364 (0.0197)	-0.0227* (0.0116)	-0.0194* (0.00997)	-0.0182** (0.00893)
<i>Marital status</i>				
1=living together <sup>1</sup>	0.253 (0.264)	0.0226 (0.164)	0.0458 (0.131)	-0.0322 (0.122)
1= separated/divorced/widowed <sup>1</sup>	-0.747** (0.330)	-0.393** (0.174)	-0.330** (0.150)	-0.179 (0.153)
1=never married <sup>1</sup>	-0.347* (0.199)	-0.0977 (0.212)	-0.0678 (0.132)	-0.0948 (0.125)
<i>Household position</i>				
1=spouse <sup>2</sup>	-0.549* (0.308)	0.0659 (0.239)	-0.0650 (0.173)	0.0928 (0.166)
1=dependent <sup>2</sup>	-0.553 (0.337)	0.00604 (0.190)	-0.143 (0.166)	-0.104 (0.167)
<i>Main activity reported</i>				
1=paid employee <sup>3</sup>	0.530 (0.438)	0.387 (0.423)	0.488* (0.281)	0.288 (0.232)
1=self-employed <sup>3</sup>	-0.427 (0.420)	0.268 (0.457)	0.137 (0.256)	-0.0683 (0.209)
1=works on farm <sup>3</sup>	0.255 (0.255)	0.341 (0.427)	0.455** (0.209)	0.275 (0.183)
1=in school	0.121 (0.215)	0.686 (1.215)	0.105 (0.206)	0.118 (0.190)
1=victim of crime <sup>4</sup>	-1.020*** (0.380)	-0.194 (0.131)	-0.355** (0.138)	-0.269** (0.125)

Table 7: Correlates of overall life satisfaction, by sub-sample (cont.)

<u>Household factors</u>				
1=female head	-1.219** (0.575)	-0.0586 (0.257)	-0.118 (0.203)	-0.0632 (0.198)
HH members (#)	0.0159 (0.0216)	-0.0396* (0.0203)	-0.0152 (0.0162)	-0.0294* (0.0167)
Farm size (ha)	0.00193 (0.00914)	0.0132* (0.00722)	0.0122* (0.00735)	0.0187** (0.00786)
Log(consumption)	0.437*** (0.114)	0.381*** (0.102)	0.410*** (0.0869)	0.383*** (0.0779)
<u>Community factors</u>				
Hours to town of 50k+	0.000678 (0.000887)	0.000652 (0.000611)	0.000635 (0.000579)	0.000287 (0.000576)
log(pop. density)	0.122** (0.0536)	0.00451 (0.0346)	0.0599* (0.0354)	0.0403 (0.0307)
Enumerator FE?	Yes	Yes	Yes	Yes
Observations	1,029	2,388	3,417	4,133
R-squared	0.379	0.243	0.271	0.256

Notes: Full sample consists of all individuals aged 15-64. <sup>1</sup>Marital status of individual; base category is married. <sup>2</sup> Household position of individual; base category is household head. <sup>3</sup>Main activity during previous 12 months; base category is no activity reported <sup>4</sup>Respondent indicated being the victim of a crime within the previous 12 months. Cluster robust standard errors shown in parentheses, with significance indicated by asterisks: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

After controlling for other factors, we find only limited evidence that additional indicators of economic vibrancy matter. The estimated coefficient on log population density is positive, as we would expect if more densely populated areas offer more opportunities, and largest in magnitude for the rural youth sub-sample relative to the other sub-samples. This is possibly an indicator that, to the extent that local economic vibrancy is important to life satisfaction, it is already being captured in the other covariates. To explore this, we estimate non-parametric estimates of household-level consumption expenditure and individual-level reports of being a victim of crime – both strong

determinants of subjective well-being – against population density and distance from markets (Figure 8). There is a strong spatial gradient for both of these factors, with people in less remote areas both more likely to have higher household consumption levels but also higher risk of personal exposure to crime. These tradeoffs imply that the opportunities of geographical accessibility – which presumably include many of the features of relatively more vibrant rural economies – have multiple dimensions that may operate in opposing ways on life satisfaction and other welfare outcomes.

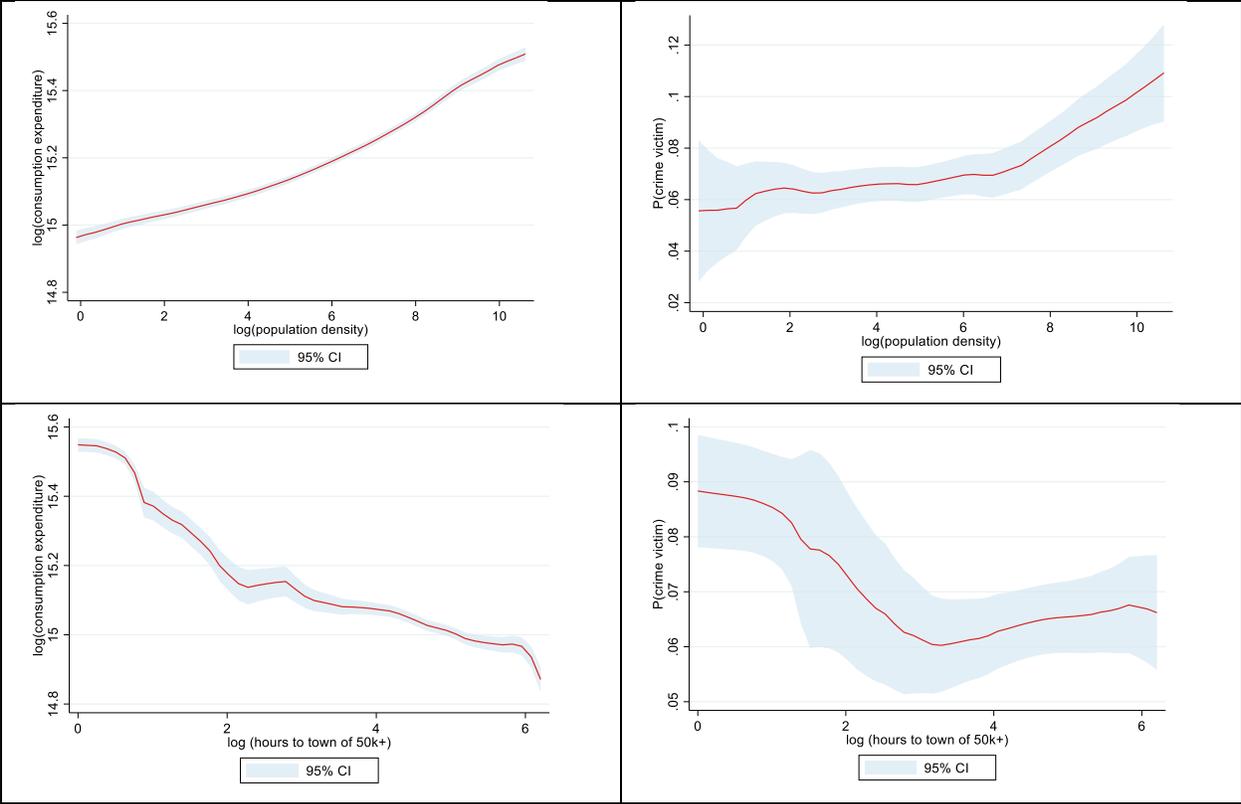


Figure 8: Household consumption expenditure and individual experience of crime by population density

To test whether the residual effect of remoteness/vibrancy may differ by age, we estimated a model in which log population density is interacted with a youth dummy (taking a value of 1 if the individual is aged 15-24). The resulting coefficient estimates (shown in Table 8) indicate that younger rural people do have higher elasticities of life satisfaction to population density. In other words, after

controlling for other observable factors, young people's life satisfaction is relatively more influenced by population density than those of older people. This would lend some support to the notion that young people may be particularly disaffected in lower density rural areas with (presumably) lower levels of economic vibrancy.

Table 8: Correlates of overall life satisfaction, with youth-specific population density coefficients

	(1)	(2)
log(pop. density)	0.0612*	0.0379
	(0.0353)	(0.0357)
log(pop. density)*1[aged 15-24]		0.0564**
		(0.0269)

Notes: Model (1) above is identical to model (3) in Table 6. Model (2) differs only in the interaction term shown. Full model results provided upon request. Cluster robust standard errors shown in parentheses, with significance indicated by asterisks: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

To explore this further, we tested a large number of alternative measures of local economic vibrancy, including: cluster-level averages of household consumption expenditures, farmland productivity, commercialized share of crop production, share of individuals with wage labor, share of individuals with business activities, share of individuals with skilled work, and the number of community services. None of these measures was a significant correlate of life satisfaction, after controlling for the other individual and household level observable factors.<sup>3</sup> This is not to say that geography does not matter. It is possible that we simply do not have a measure that adequately captures important spatial variation in economic opportunity. Another possibility, as alluded to above, is that aggregate-level indicators of economic vibrancy reflect both positive factors (e.g. greater economic opportunities) and negative factors (e.g. exposure to greater levels of inequality). This latter conjecture is in line with Markussen et al.'s (2018) description of “psychological costs” of some aspects of economic transformation. It is also congruent with empirical findings elsewhere of an “invidious comparison” effect, wherein subjective welfare is positively associated with own material welfare status but negatively associated with some measures of neighbors’ welfare status (Fafchamps and Shilpi 2008) or inequalities therein (Gautam and Andersen, 2016).

In addition to the covariates already described, we also tested for an enumerator effect, by using dummy variables for each

enumerator. These turn out to have a large aggregate impact, explaining approximately 20% of the variation in the satisfaction scores. This is consistent with empirical findings elsewhere (Di Maio and Fiala, 2018; Himelein, 2015). For this reason, we include these controls in all models.

Finally, we addressed the linkage between rural life satisfaction and individual migration decisions, using data from previous waves of the Tanzanian LSMS, which tracked individuals and households if they changed locations. For this analysis, we define a migrant as any individual who leaves their household of record in 2011 and shows up in a different household in 2013 that is not located within the same community. About 6% of the individuals aged 15-64 in our sample met this criterion (8.5% of individuals aged 15-24). Controlling for sample selection with inverse probability weights, we estimated models on the same sub-samples as above in which the dependent variable is a migration dummy (i.e. these are linear probability models). Results, shown in Table 9, indicate that after controlling for other observables, individuals with lower life satisfaction are more likely to migrate than those with higher life satisfaction. Interestingly, this seems to be particularly true for rural-rural movements, which constitute the majority of moves in the data; when we estimate similar linear probability models for rural-urban moves, the life satisfaction estimate is insignificant, although this may also be a reflection of the more limited number of rural-urban movers in the sample.

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<sup>3</sup> The results are not reported for reasons of space, but are available from the authors upon request.

Table 9: Correlates of out-migration probability

	(1) Rural, aged 15-24	(2) Rural, aged 25+	(3) Rural, aged 15-64	(4) Rural/urban, aged 15-64
<i>Individual factors</i>				
age	0.00442 (0.00323)	-0.000452* (0.000260)	-0.000421 (0.000302)	-0.000216 (0.000270)
1=female	0.0671*** (0.0190)	0.00282 (0.0230)	0.0475*** (0.0143)	0.0421*** (0.0145)
education (years)	0.00307 (0.00231)	0.000600 (0.000778)	0.00147 (0.000987)	0.00169* (0.000983)
<i>Marital status</i>				
1=living together <sup>1</sup>	0.0179 (0.0268)	0.0219*** (0.00839)	0.0269*** (0.00920)	0.0231*** (0.00849)
1= separated <sup>1</sup>	-0.0205 (0.0410)	0.0208 (0.0131)	0.0127 (0.0143)	0.0177 (0.0142)
1=never married <sup>1</sup>	0.0483 (0.0323)	0.00220 (0.0210)	0.0257 (0.0176)	0.0285* (0.0172)
<i>Household position</i>				
1=spouse <sup>2</sup>	-0.0407 (0.0311)	0.00735 (0.0243)	-0.0313** (0.0151)	-0.0263* (0.0155)
1=dependent <sup>2</sup>	0.00227 (0.0382)	0.0426** (0.0177)	0.0190 (0.0170)	0.0305* (0.0165)
1=worked for wages	0.000571 (0.0218)	-0.00458 (0.00963)	-0.000229 (0.00954)	0.00752 (0.00956)
1=business activities	0.00212 (0.0316)	0.00116 (0.0109)	0.00870 (0.0119)	0.0148 (0.0125)
1=worked on farm	0.0147 (0.0186)	-0.0195*** (0.00707)	-0.00522 (0.00888)	-0.00841 (0.00816)
Satisfaction score (overall)	-0.00783* (0.00420)	-0.00256** (0.00127)	-0.00457** (0.00186)	-0.00274 (0.00172)
<i>Household factors</i>				
Fem. head = 1	-0.131** (0.0626)	0.0102 (0.0225)	-0.0300* (0.0175)	-0.0331* (0.0175)
HH members (#)	-0.00252 (0.00192)	0.00183 (0.00135)	-0.000292 (0.00136)	-0.000731 (0.00128)
Farm size (ha)	0.00130 (0.00180)	-0.00115** (0.000534)	4.91e-06 (0.000850)	-0.000589 (0.000528)
Log(consumption)	0.00721 (0.0127)	-0.000717 (0.00582)	0.00147 (0.00643)	0.00408 (0.00584)

Table 9: Correlates of out-migration probability (continued)

<i>Community factors</i>				
Hours to town of 50k+	-8.22e-05 (8.02e-05)	-8.28e-06 (3.93e-05)	-3.28e-05 (4.06e-05)	-6.04e-05 (3.96e-05)
log(pop. density)	-0.000993 (0.00610)	-0.000652 (0.00277)	-0.00152 (0.00302)	-0.000423 (0.00253)
Regional FE?	Yes	Yes	Yes	Yes
Enumerator FE?	Yes	Yes	Yes	Yes
Observations	1,657	3,068	4,725	5,615
R-squared	0.086	0.049	0.054	0.056

## 5. Conclusions

In this paper, our primary intention has been to shed some empirical light on the much referenced but poorly substantiated claim that young rural Africans are disappointed and disillusioned with their economic prospects. We use a subjective welfare module from the 2014-2015 round of Tanzanian LSMS-ISA survey, which is nationally representative of both urban and rural areas. Our results align with some elements of the stylized narrative: for example, people report being moderately unsatisfied with their lives on average, while rural people who are economically engaged have higher levels of life satisfaction than those who report no main activity. However, there is no evidence that young rural people are particularly dissatisfied with their lives: indeed they are *less* dissatisfied than older rural residents, even after controlling for other factors. Rural young people are also notably less dissatisfied with life than their urban counterparts.

However, there is evidence that the life satisfaction of young people is relatively more responsive to proxies for rural vibrancy (particularly rural population density) than that of older people. Furthermore, we also find evidence that relatively more satisfied people (of all ages) are less likely to move. However, those who do move are more likely to go to other rural areas. We do not find evidence of a dissatisfaction-driven rural-urban exodus.

The fact that our regression results align well with empirical studies in other regions lends credence to the robustness of our conclusions. For example, we find strong positive correlations of satisfaction with household consumption expenditures, and strong negative correlations with being the victim of a crime within the prior year. The patterns of satisfaction scores across ages is

also consistent with other literature (Blanchflower and Oswald, 2017). Some of our findings – notably, the strong gendered dimension of life satisfaction – stand in contrast to the findings of other studies of rural populations (e.g. Markussen et al. 2018) and deserve additional study in Tanzania and other African contexts.

The contribution of this study is important in at least two ways for the ongoing development policy discussion around young people in rural Africa. First, if the narrative suggesting that the majority of rural youth are severely dissatisfied lacks empirical support, this undermines the rationale for many youth-focused interventions. Our findings indicate that the satisfaction of rural youth is more complex than suggested by the commonly heard stylized story: yes, meaningful economic engagement appears to be important, but so do other household level contextual factors, as well as basic welfare indicators. This highlights the need for an alternative and more nuanced narrative that can help re-orient policy and intervention. Second, our findings reaffirm that subjective welfare should be an outcome of interest in the quantitative analysis of changes taking place in the rural economies of sub-Saharan Africa. Our analytical results correspond with structural interpretations of changes taking place in the rural economy but raise important questions for further research. Certainly, more work needs to be done to further explore the internal and external validity of our findings, as well as their implications. In particular, new empirical work on the role of subjective well-being in a greater range of youth decisions (e.g. to prioritize off-farm employment) would be valuable.

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