

Deconstructing gender differences in experienced well-being among older adults in the developing world: The roles of time use and activity-specific affective experiences

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Background

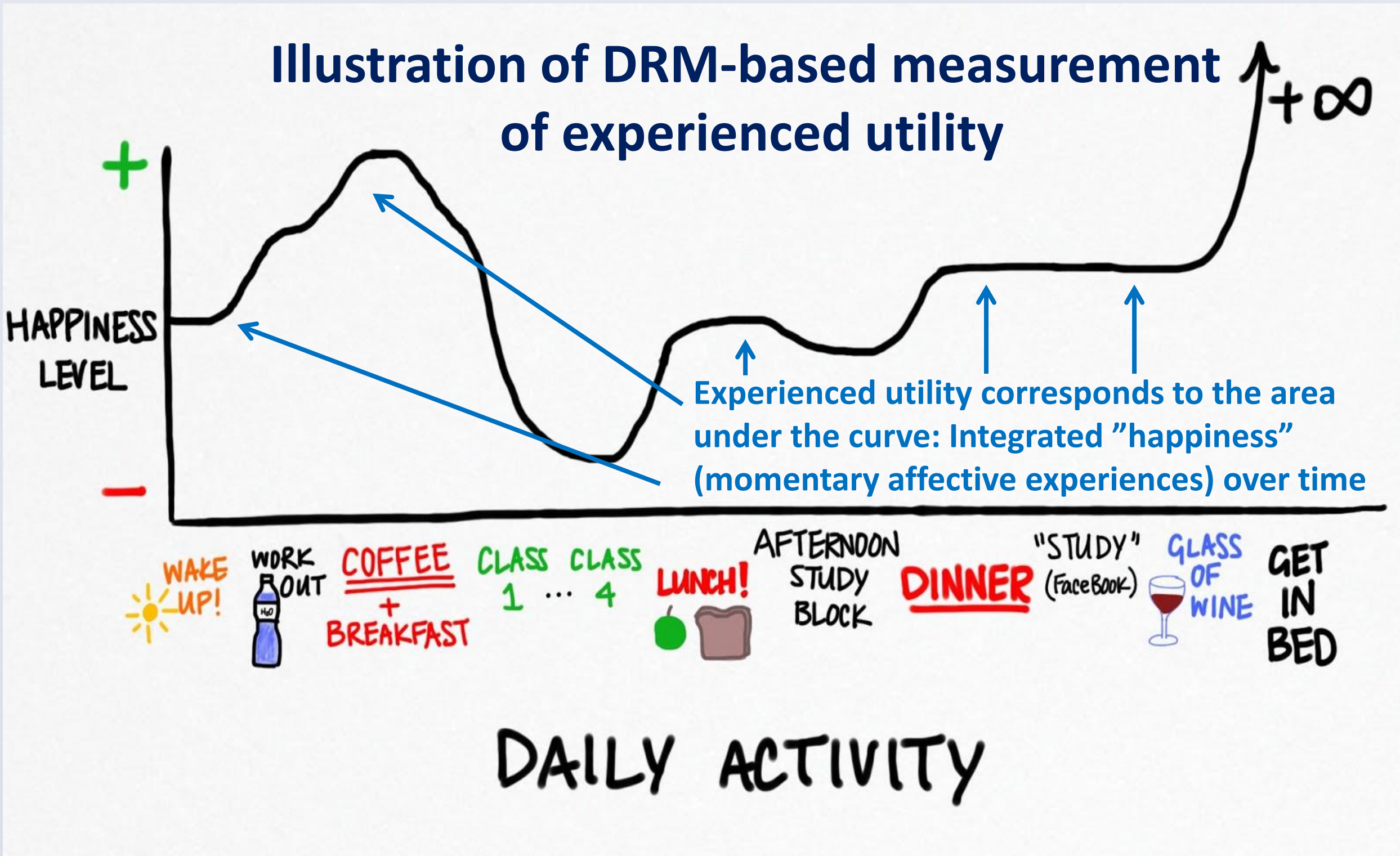
- Population aging is a global trend that affects countries of all income levels.
- The World Health Organization (WHO) defines “Healthy Ageing as the process of developing and maintaining the functional ability that enables wellbeing”.
- Women often remain disadvantaged compared to men, especially in the developing world.

Objectives of our study

- Assess gender differences in “Healthy Ageing” as measured through old-age gender differences in emotional well-being/experienced utility.
- Explore the importance of
 - Gender differences in time use;
 - Gender differences in affective experiences; and
 - Gender differences in individual characteristics and life circumstances for overall gender differences in experienced utility.

Data and measures

- We use cross-sectional data on persons aged 50 and older from the first wave of the WHO’s Study on Global Ageing and Adult Health (SAGE), 2007-2010.
- Five study sites: Ghana, India, China, South Africa and Russia for a combined sample size of 21,488 observations (2,005 in South Africa to 9,106 in China).
- Outcome measure: Experienced utility, which captures the affect component of subjective wellbeing as the continuous flow of individuals’ “pleasures and pains”.
- In SAGE, experienced utility is measured based on an abbreviated version of the Day Reconstruction Method (DRM).
 - The DRM is a diary-based method for measuring subjective wellbeing by linking time use with affective experiences across activities.
 - Time use data on 21 activities aggregated into five activity groups: Work, housework, travel, leisure, self-care.
 - Activity-based measurement of positive and negative affects: Calm/relaxed, enjoying, worried, rushed, irritated/angry, depressed, tense/stressed.



- In mathematical notation, we measure experienced utility as

$$U_i = \sum_a \tau_{ia} u_{ia} \quad \text{with} \quad \tau_{ia} = \frac{T_{ia}}{T_i} \quad \text{being the time share of activity } a \text{ and}$$

$$u_{ia} = \sum_s \left(\sum_l h_{is} P A_{is}^l - \sum_k h_{is} N A_{is}^k \right) \quad \text{being the average affective experience of activity } a.$$

- Experienced utility is standardized based on its country-specific distribution such that partial effects can be interpreted in standard deviation units.
- Main explanatory variable: Gender
- Other control variables: Age, household composition, partnership status, education, household assets, subjective economic status, health (WHODAS-12, self-rated pain), community characteristics.

Methods

- Partial effects of gender in age-adjusted and multivariable linear regression models for overall experienced utility and activity-specific net affect and in age-adjusted and multivariate fractional regression model of time use.
- Counterfactual thought experiment to isolate the impact of disability-related differences in affective experiences (“saddening effects”) and differences in time use (“time composition effects”) for overall differences in experienced utility.

• “Saddening effects”: $\Delta_U^{Affect} = \sum_a \bar{\tau}_a \times \delta_a^u$ with $\delta_a^u = \partial \bar{u}_a / \partial \text{female}$

• “Time composition effects”: $\Delta_U^{Time} = \sum_a \bar{u}_a \times \delta_a^{\tau}$

Key results and conclusions

- In the SAGE countries, older women have lower levels of experienced utility than older men.
- Gender differences in experienced utility are only significant in the age-adjusted models, but attenuate and become insignificant in the fully-adjusted models.
- The gender differences in age-adjusted experienced utility are mainly linked to “saddening effects”, which are largely attributable to lower levels of health and income among older women compared to older men (results not shown).

Counterfactual partial association of gender with experienced utility and its time composition and saddening effects for individuals aged 50+

	Ghana	India	China	South Africa	Russia
Panel A. Age-adjusted					
Difference	-0.102**	-0.154***	-0.049**	-0.142*	-0.195**
Time Composition Effect	-0.004	-0.002	-0.010**	0.014	-0.015
Saddening Effect	-0.075*	-0.179***	-0.015	-0.167***	-0.155**
Panel B. Fully-adjusted					
Difference	-0.054	-0.082	0.007	-0.033	-0.106
Time Composition Effect	-0.007	-0.049***	-0.025***	0.008	-0.042*
Saddening Effect	-0.041	-0.055	0.050**	-0.036	-0.049

* (p<0.10). ** (0<0.05). *** (p<0.01)

Partial Association of Gender with time shares τ_a for individuals aged 50+

	Ghana	India	China	South Africa	Russia
Panel A. Age-adjusted Differences in Time Use					
Work	-0.032***	-0.135***	-0.0835***	-0.080***	-0.072**
Housework	0.111***	0.197***	0.1673***	0.1345***	0.213***
Travel	-0.025***	-0.039***	-0.0081***	-0.0188***	-0.048
Leisure	-0.047***	-0.013	-0.0671***	-0.0515**	-0.076***
Self-care	-0.006	-0.009	-0.0086***	0.0158	-0.016
Panel B. Fully-adjusted Differences in Time Use					
Work	-0.032**	-0.055***	-0.051***	-0.056***	-0.043
Housework	0.116***	0.219***	0.159***	0.120***	0.217***
Travel	-0.020***	-0.027***	-0.009***	-0.014**	-0.039*
Leisure	-0.070***	-0.113***	-0.089***	-0.062***	-0.107***
Self-care	0.006	-0.024***	-0.010***	0.011	-0.028

* (p<0.10). ** (0<0.05). *** (p<0.01)

Partial association of gender with activity-specific net affects u_a

	Ghana	India	China	South Africa	Russia
Panel A. Age-adjusted differences in activity-specific net affects					
Work	-0.104	-0.041	0.027	-0.157	-0.023
Housework	-0.014	-0.321***	-0.059*	-0.155**	-0.235**
Travel	-0.098	-0.305***	-0.045	-0.17	-0.414
Leisure	-0.112**	-0.159***	-0.009	-0.232***	-0.114
Self-care	0.027	-0.126***	-0.0212	-0.046	-0.212**
Panel B. Fully-adjusted differences in activity-specific net affects					
Work	-0.076	0.099	0.109**	0.187	0.0187
Housework	0.046	-0.113	0.011	-0.070	-0.152
Travel	-0.029	-0.240**	0.004	0.031	-0.240
Leisure	-0.078	-0.062	0.048**	-0.128**	0.043
Self-care	0.034	-0.019	0.047**	0.053	-0.125

* (p<0.10). ** (0<0.05). *** (p<0.01)

Counterfactual partial association of gender and its time composition effect (decomposed across activity groups) for individuals aged 50+

	Ghana	India	China	South Africa	Russia
Panel A. Age-adjusted					
Time Composition Effect	-0.004	-0.002	-0.010**	0.014	-0.015
Work	0.009***	0.041***	0.028***	0.017*	0.030**
Housework	-0.007*	-0.043***	-0.024***	-0.000	-0.016
Travel	0.004***	0.004*	0.000	0.001	0.002
Leisure	-0.009***	-0.002	-0.01***	-0.005	-0.024**
Self-care	-0.001	-0.002	-0.001***	0.002	-0.007
Panel B. Fully-adjusted					
Time Composition Effect	-0.007	-0.049***	-0.025***	0.008	-0.042*
Work	0.009**	0.017***	0.017***	0.012	0.018
Housework	-0.007*	-0.049***	-0.023***	-0.000	-0.016
Travel	0.004***	0.003*	0.000	0.001	0.002
Leisure	-0.013***	-0.015***	-0.017***	-0.006*	-0.033***
Self-care	0.001	-0.005***	-0.002***	0.002	-0.012

* (p<0.10). ** (0<0.05). *** (p<0.01)

Counterfactual partial association of gender and its saddening effect (decomposed across activity groups) for individuals aged 50+

	Ghana	India	China	South Africa	Russia
Panel A. Age-adjusted					
Saddening Effect	-0.075*	-0.179***	-0.015	-0.167***	-0.155**
Work	-0.020	-0.005	0.005	-0.019	-0.005
Housework	-0.002	-0.063***	-0.012*	-0.029**	-0.057**
Travel	-0.006	-0.020***	-0.001	-0.008	-0.031
Leisure	-0.051**	-0.069***	-0.004	-0.102***	-0.039
Self-care	0.004	-0.023***	-0.003	-0.009	-0.023**
Panel B. Fully-adjusted					
Saddening Effect	-0.041	-0.055	0.050**	-0.036	-0.049
Work	-0.015	0.012	0.019**	0.022	0.004
Housework	0.006	-0.022	0.002	-0.013	-0.037
Travel	-0.002	-0.015**	0.000	0.002	-0.018
Leisure	-0.035	-0.027	0.023**	-0.057**	0.015
Self-care	0.006	-0.004	0.006**	0.010	-0.013

* (p<0.10). ** (0<0.05). *** (p<0.01)