Gender Differences in Healthy Life Expectancy

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INTRODUCTION

People are living longer across the globe. In developing countries similar patterns have been reported. The critical question being asked is if the years gained are being spent in good or bad health?

In order to answer this key question, a measure is required that can summarize population health by combining information on mortality and morbidity into a single index.

Health Life Expectancies (HLE) have been created by adjusting total life expectancy (TLE) by a variety of measures which include objective (e.g. functional, disease) and subjective (e.g. self-rated health status)[1].

The purpose of this study is to estimate Health Life Expectancies (HLE) for South Africa, based on different measures

OBJECTIVES

To estimate healthy life expectancy using different measures health states for men and women in South Africa
– Self reported health
– Quality of life and well-being
– Functional status

To compare HLE derived from the different health attributes

METHODS

We calculate Health Life Expectancies (HLE) using the Sullivan Method[2,3]
– l_x – survivors at exact age x
– $_nL_x$ - Person years lived between ages x, $x+n$
– $_n\pi_x$ - Prevalence of health indicators

→ HLE (e'_x) =

$$e_x = \frac{1}{l_x} \sum_{i=x}^{w} (1 - _n\pi_x) _nL_i$$

METHODS cont.

Data sources

Mortality data - obtained from life table published by the United Nations[4]

Morbidity data – obtained from the Study on Ageing and Adult Health (SAGE) wave I - WHO/HSRC
– nationally representative, longitudinal study, 50+
– self-reported and objective health measures (performance tests, anthropometry and biomarkers)

Measures

Self Rated Health Status (SRHS): was rated on a 5 point scale;
– 1 'very good', 2 'good', 3 'moderate', 4 'bad', and 5 'very bad'. This was recoded as 1/3=0 4/5=1 (poor SRHS)

Quality of Life and Well-being (WHOQoL)
– responses to questions on overall life satisfaction and specific aspects of life in four broad domains: physical, psychological, social and environmental

Functional Health (ADL and IADL): was assessed at 2 levels
i. Basic - Activities of Daily Living (ADLs)
- ADLs - a set of daily self-care activities that assess the need for help with personal care activities such as eating, bathing, and dressing
ii. Advanced - Instrumental Activities of Daily Living (IADLs)
– IADLs – include carrying out household responsibilities, daily work, higher-level functioning considered necessary to live independently
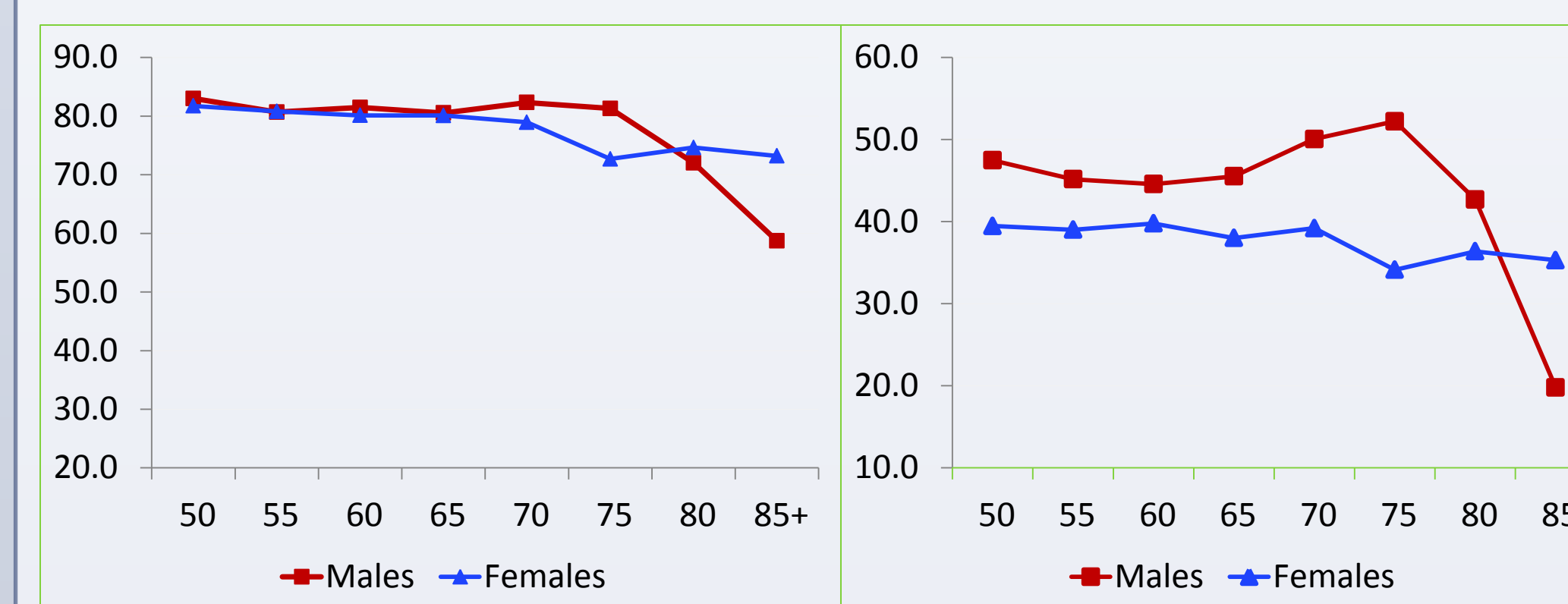
RESULTS

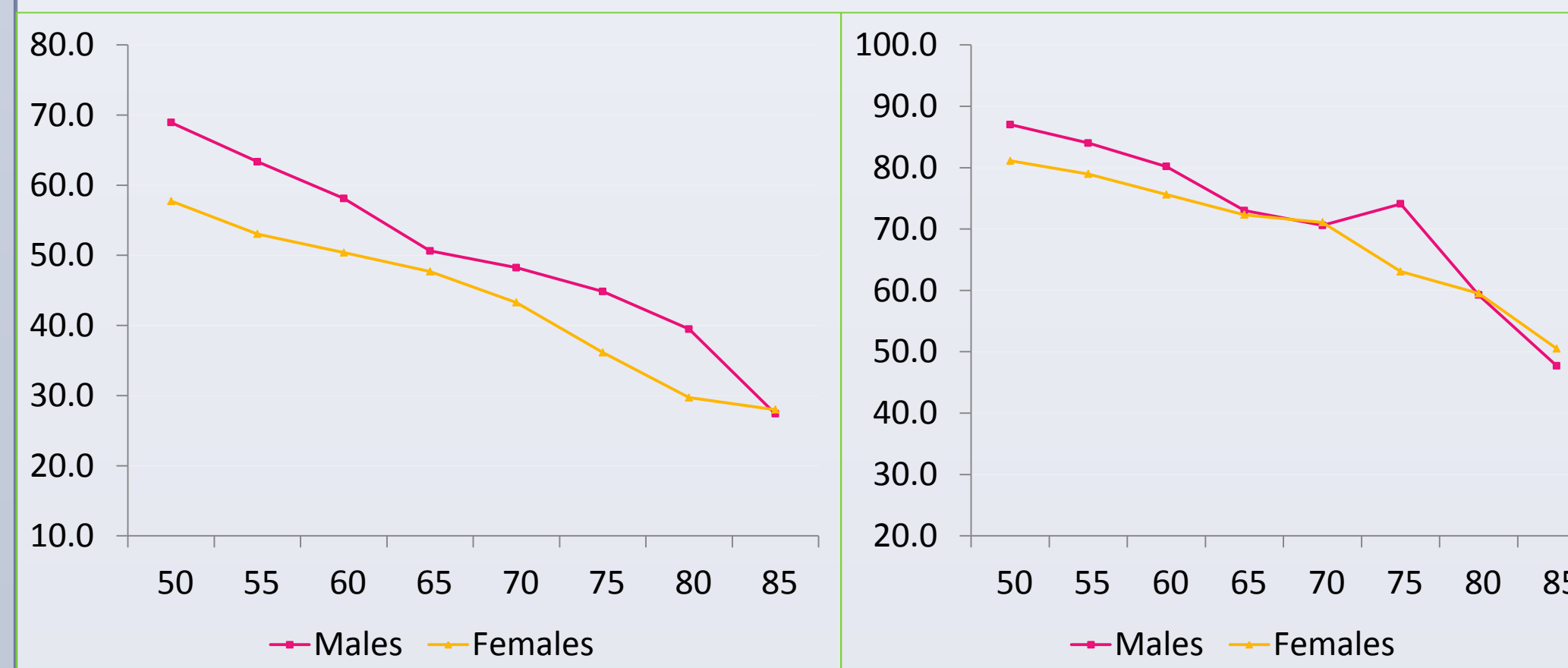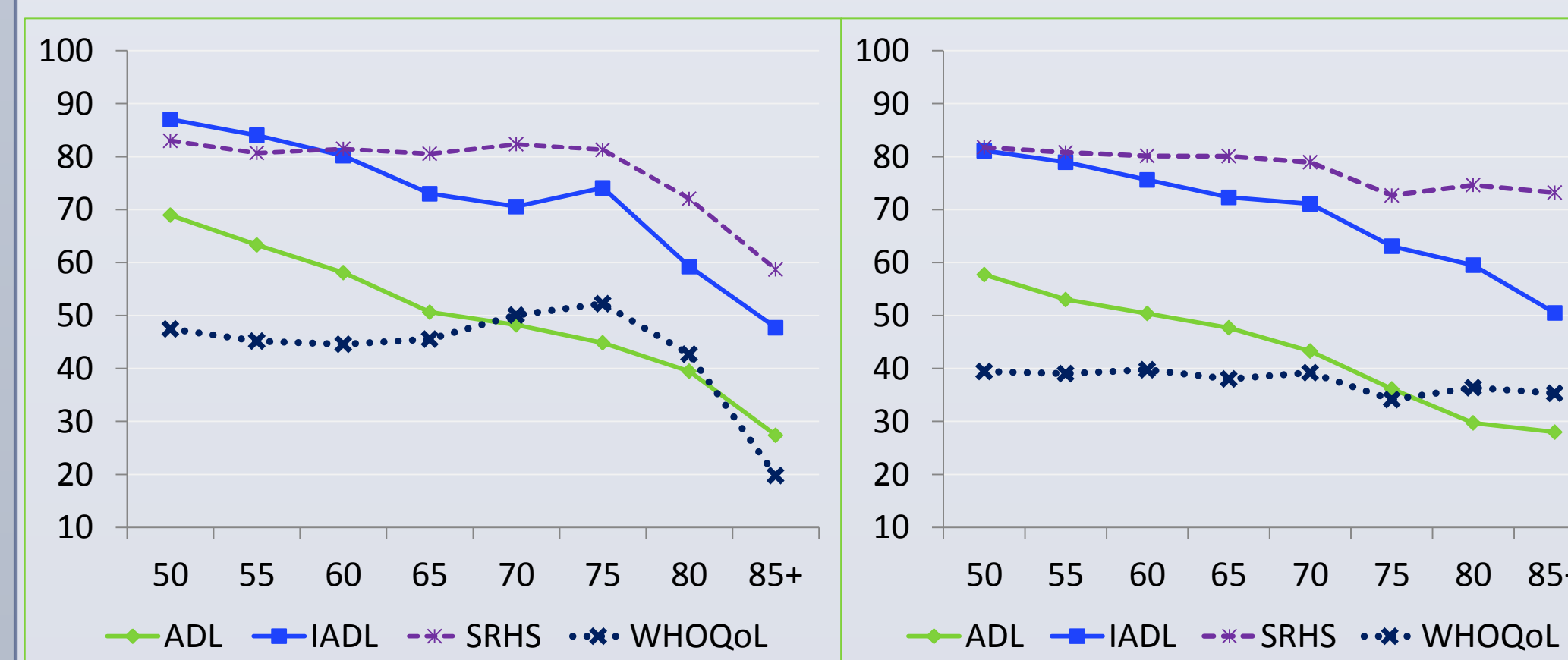### Total Life Expectancy above age 50 by Sex
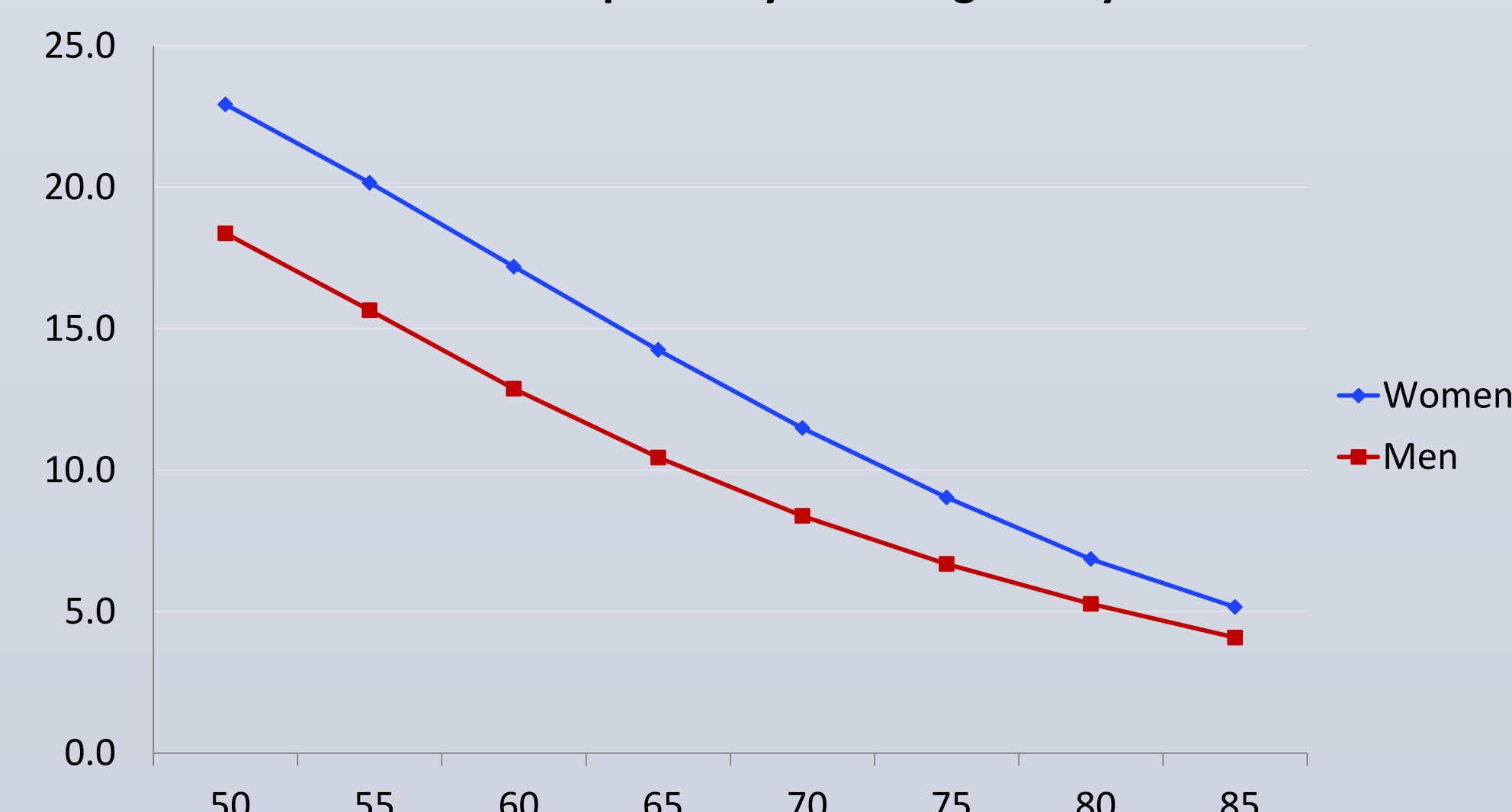
RESULTS cont.

Proportion of life with 'good' SRH (L) and quality of life (R)
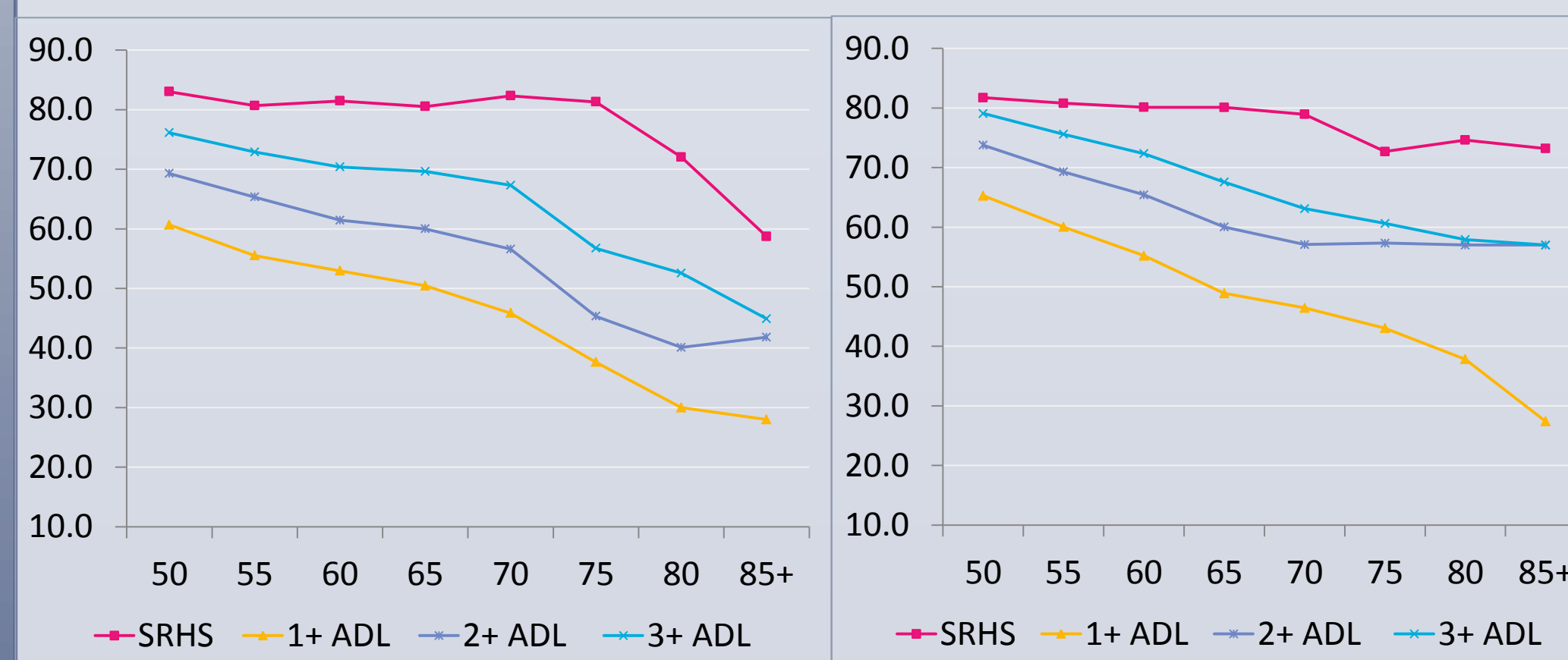

Proportion of life without ADL (L) and IADL limitations (R)

Comparison of Health Indicators for Men (L) and Women (R)

SRH and index of 3 ADLs for Men (L) and Women (R)

CONCLUSIONS

• Proportion of life expectancy in good health are more stable when measured by less subjective measures namely: SRHS and WHOQoL
• The proportions fall rapidly when measured by 'objective' measures namely: ADLs and IADLs
• An index of 3 IADLs or more approximates SRHS – making it a more objective index of measuring health
• Older people have coping mechanism, although they have higher levels of disability – they still perceive their health less poor
• Although women have higher TLE, they spent much of their later life with more disability and poor health compared to men
• Programmes are required that address the disability related needs of the elderly, with a special focus on women

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2. Sullivan, D. F. (1971). A single index of mortality and morbidity. *HSMHA health reports*, 86(4), 347–54.
3. Jagger C, Cox, B, Le Roy S E. Health Expectancy Calculation by the Sullivan Method. Third Edition. EHEMU Technical Report.
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