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Self-perceived Health and its Socio-spatial Differentiation - Case Study of the Senior Population of Brno.

NEW WAVE 6th ,International Students and Early Careers' Conference

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Presentation structure:

1) **Theory** of Aging, Models of Health
2) **Spatial Differentiation of** Population **Ageing in Czechia** with a Specific Focus on the **Municipality of Brno**
3) **Self-rated Health of the Elderly** and Its Spatial Differences at National Level
4) **Factors of the Self-rated Health** – Social and Environmental Determinants
5) **Conclusion**

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Theory:

1) Ageing and „**Seniors**“ – does not exist uniform definition (60+; 65+ event.); Age →*„Chronological“* vs. *„Biological“* vs. *„Social“*

   → the **social construction** issue (shared *values*, *norms*, *expectations* and given *social roles*)

2) „**Active Ageing**“ (WHO, 2002): „the process of optimizing opportunities for (i) **health**, (ii) **participation** and (iii) **security** in order to enhance the quality of life as people age“

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Theory (2):

3) **Models of Health** – *„biomedical“ (patofyziological)* vs. *„environmental“* vs. *„ecological“* vs. *„behavioral“* vs. *„mulltilevel“* and *„multifactorial“*
4) Pro-longing life-expectancy, population ageing and epidemiological transition bring the question about the **future public health of the elderly** (3 contradictory models):
   i) *compression of morbidity* (FRIES 1980)
   ii) *expansion of morbidity* (GRUENBERG 1977; KRAMER 1980)
   iii) *dynamic equilibrium* (MANTON 1982)

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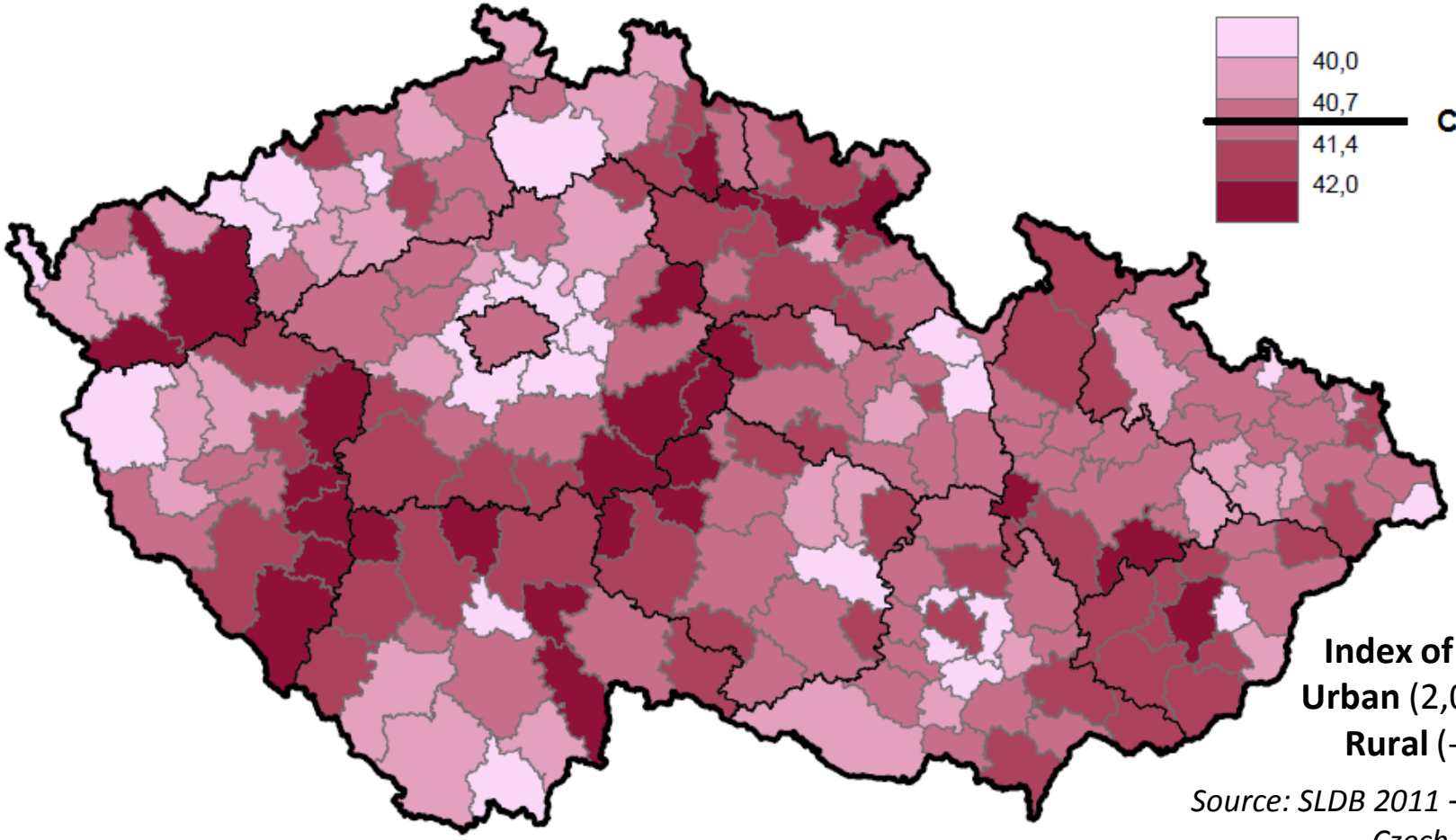
Population Ageing Spatial Differentiation :

Population Mean Age (2011, Census):



Index of Ageing (2011):
Urban (2,000+) = **115.5%**
Rural (-1,999) = 97.7%

Source: SLDB 2011 – Pramenné dílo, Czech Statistical Office

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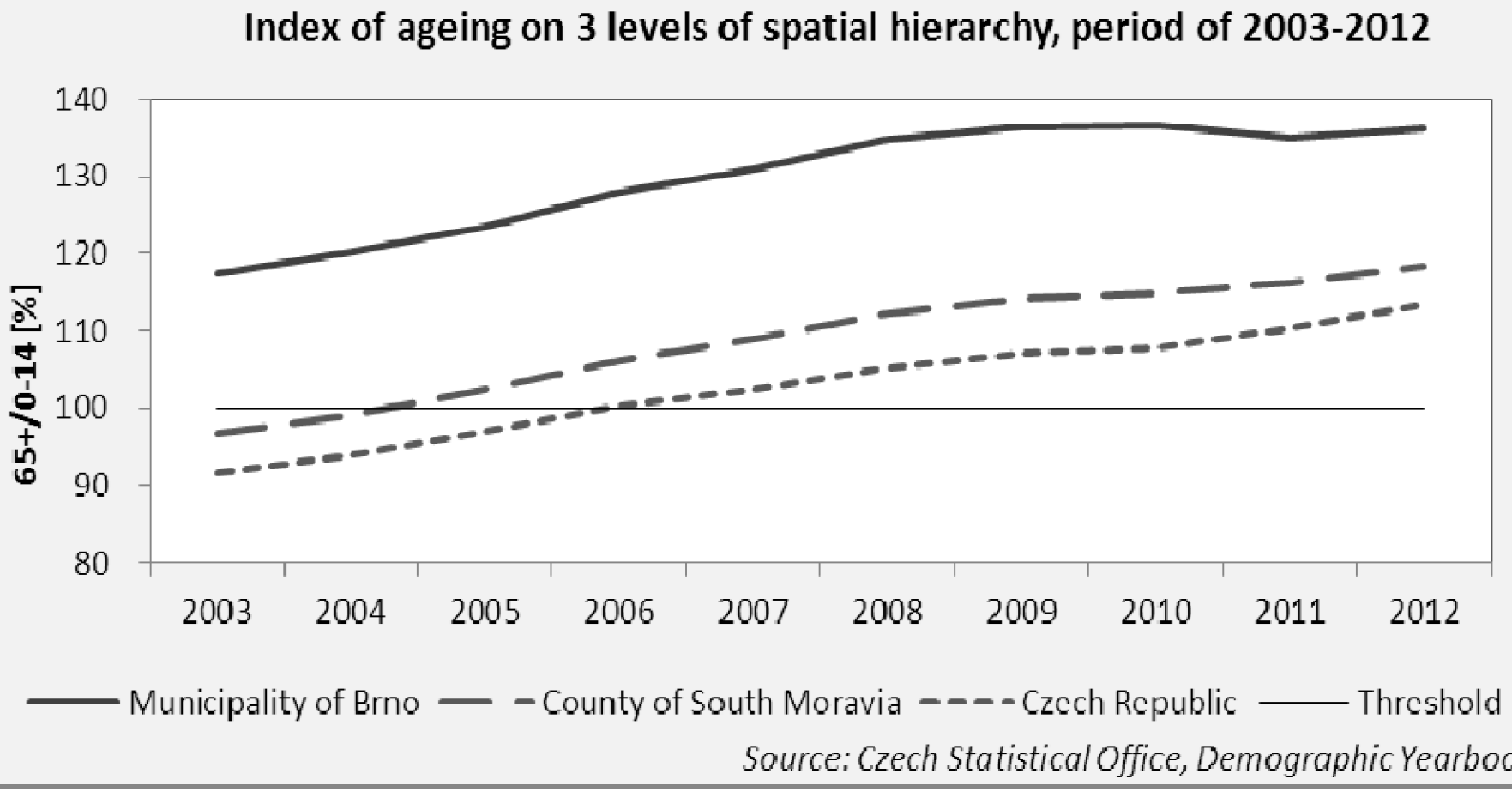
Time-space Structuration of Population Ageing Processes:



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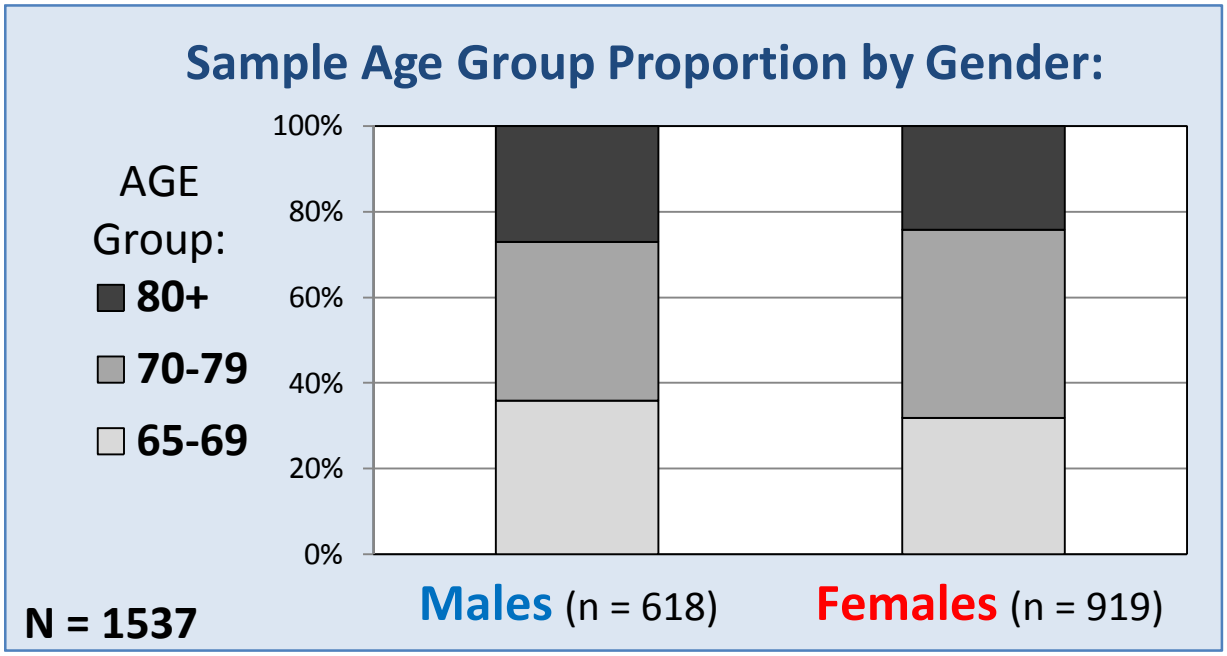
„The Housing Situation and Housing Preferences of the 65+ Population of Brno“ (Institute of Sociology, 2013) - **Survey Description**

Quota Sampling - SLDB (2011) based data on:

- **Gender**
- **Age Group**
  1) 65-69
  2) 70-79
  3) 80+
- **Urban Area Population**

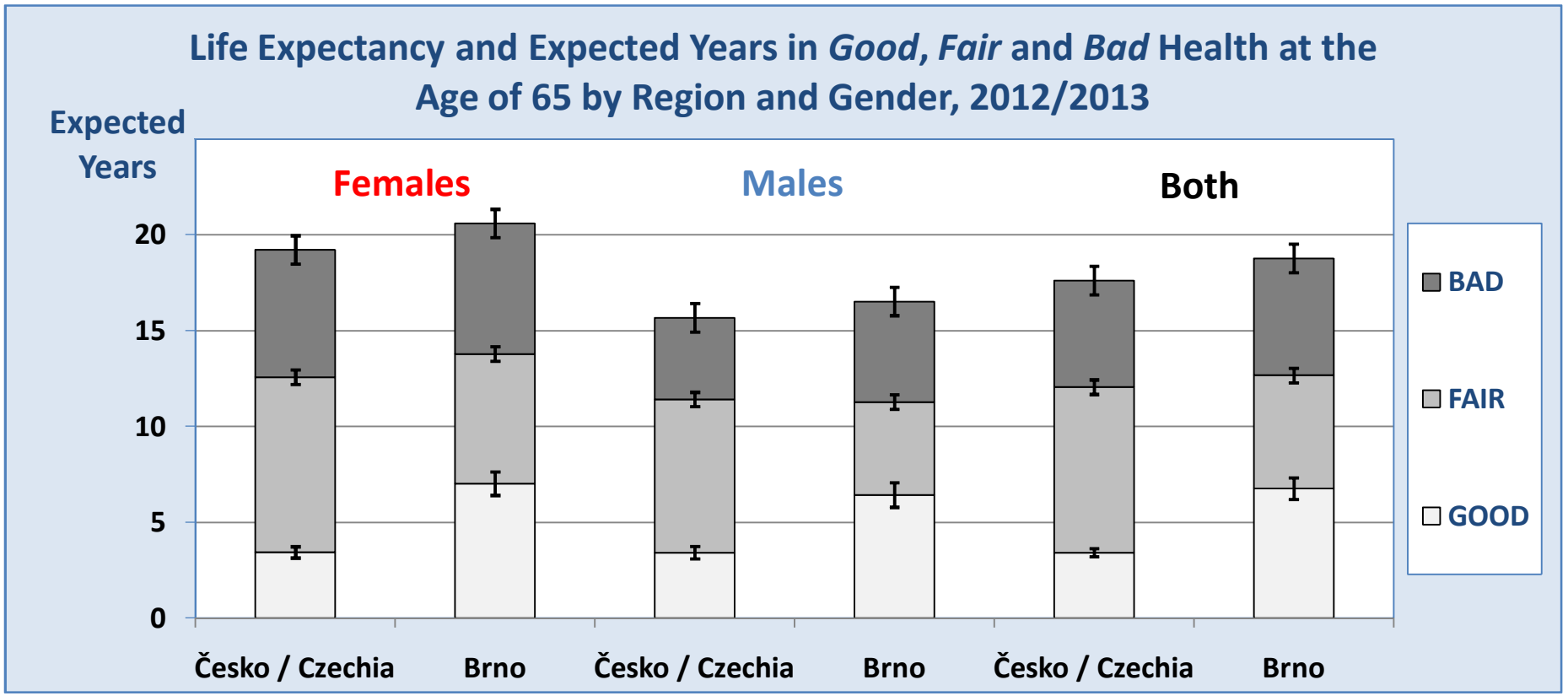


Self-rated Health Status Prevalence Estimates by Age and Gender.

Municipality of BRNO, (2013) / Gender			**Self-rated Health (%)**			Sample Size (N)
			Good	Fair	Bad	
Males	Age	65-69	**55,40%**	26,10%	18,50%	222
		70-79	**38,40%**	32,30%	29,30%	229
		80+	**21,70%**	29,50%	48,80%	166
	Total		**40,00%**	29,30%	30,60%	617
Females	Age	65-69	**53,80%**	28,80%	17,50%	292
		70-79	**36,50%**	34,70%	28,80%	403
		80+	**19,40%**	32,90%	47,70%	222
	Total		**37,80%**	32,40%	29,80%	917
Total	Age	65-69	**54,50%**	27,60%	17,90%	514
		70-79	**37,20%**	33,90%	29,00%	632
		80+	**20,40%**	31,40%	48,20%	388
	Total		**38,70%**	31,20%	30,10%	1534
CZECHIA, (2012, *EU-SILC*) / Gender			**Self-rated Health (%)**			Sample Size (N)
			Good	Fair	Bad	
Males	Age	65-69	**33,40%**	50,50%	16,10%	533
		70-79	**18,20%**	56,00%	25,90%	638
		80+	**13,80%**	42,00%	44,20%	276
	Total		**22,90%**	51,30%	25,80%	1447
Females	Age	65-69	**29,90%**	53,50%	16,60%	793
		70-79	**16,20%**	51,50%	32,30%	946
		80+	**8,90%**	39,70%	51,40%	481
	Total		**19,50%**	49,60%	30,90%	2220
Total	Age	65-69	**31,30%**	52,30%	16,40%	1326
		70-79	**17,00%**	53,30%	29,70%	1584
		80+	**10,70%**	40,60%	48,70%	757
	Total		**20,90%**	50,30%	28,90%	3667

Socio-Spatial Structuraction of Health:

Higher % of *„Good“* or *„Fair“* in Brno elderly than in the general Czech senior population **+** Lower mortality rates by age-and-gender in urban areas than in rural ones **=** **higher Healthy Life Expectancy** and **higher % of Life Lived in *Good* Health in Brno elderly** population compared to Czech general senior population



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Self-rated Health of the Czech Elderly by „Space“:

Dependent Var.: **Self-Rated Health** *- Ordinal Logistic Regression („Good“=ref.), EU-SILC, 2012*

Factor / Age-and-Gender Adjusted Odds Ratios		Model 1	Model 2	Model 3
		Adj. OR	Adj. OR	Adj. OR
Category of Municipality	**Rural Sites**	**1,21***	.	.
	Urban Sites	1,03	.	.
	Regional Centers	0,90	.	.
	Prague = ref.	***1 = ref.***	.	.
Degree of Urbanisation	**Thinly Populated Area**	.	**1,20***	.
	Intermediate Area	.	1,00	.
	Densely Populated Area = ref.	.	***1 = ref.***	.
Population Size	**-199**	.	.	**1,51***
	200-499	.	.	**1,34***
	500-999	.	.	**1,33***
	1 000-1 999	.	.	**1,24***
	2 000-4 999	.	.	1,18
	5 000-9 999	.	.	1,08
	10 000-49 999	.	.	1,06
	50 000-99 999	.	.	1,10
	100 000+ = ref.	.	.	***1 = ref.***

* significant parameter estimate at the level of $p<0.05$

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Socio-Spatial Determinants of the Brno Elderly Self-rated Health (6 complex models):

Dependent Var.: **Self-rated Health**, *Ordinal Logistic Regression („Good"=ref.),* ***municipality of Brno**, 65+, 2013*

Factor / Age-and-Gender Adjusted Odds Ratios		Model 1	Model 2	Model 3
		Adj. OR	Adj. OR	Adj. OR
Education	Elementary	1,28	1,07	1,02
	Secondary Lower	**1,52***	**1,32***	1,25
	Secondary Higher	**1,32***	1,22	1,17
	University	***1 = ref.***	***1 = ref.***	***1 = ref.***
Marital Status	Divorced, Single	1,16	1,15	1,12
	Widowed	**1,39***	**1,39***	**1,35***
	Married, Cohabited	***1 = ref.***	***1 = ref.***	***1 = ref.***
IADL Score (7-Point Ordinal Scale)	Very High or Full Disability	.	**3,06***	**2,97***
	4-5	.	**3,35***	**3,35***
	2-3	.	**2,32***	**2,32***
	None or Low Disability	.	***1 = ref.***	***1 = ref.***
Economic Activity	Economic Non-Active, Retired	.	.	**1,90***
	Economic Active	.	.	***1 = ref.***
Housing Costs Perception	High	.	.	**1,27***
	Adequate	.	.	***1 = ref.***

* significant parameter estimate at the level of $p<0.05$

Dependent Var.: **Self-rated Health**, *Ordinal Logistic Regression, („Good“=ref.)* ***municipality of Brno***, *65+, 2013*

Factor / Age-and-Gender Adjusted Odds Ratios		Model 4	Model 5	Model 6
		Adj. OR	Adj. OR	Adj. OR
Education	Elementary	0,99	1,02	1,03
	Secondary Lower	**1,25**	**1,16**	1,19
	Secondary Higher	**1,20**	1,23	1,23
	University	***1 = ref.***	***1 = ref.***	***1 = ref.***
Marital Status	Divorced, Single	0,98	0,92	0,95
	Widowed	1,14	1,13	1,15
	Married, Cohabited	***1 = ref.***	***1 = ref.***	***1 = ref.***
IADL Score (7-Point Ordinal Scale)	Very High or Full Disability	**3,19***	**3,32***	**3,22***
	4-5	**3,13***	**3,22***	**3,19***
	2-3	**2,14***	**2,20***	**2,12***
	None or Low Disability	***1 = ref.***	***1 = ref.***	***1 = ref.***
Economic Activity	Economic Non-Active, Retired	**1,88***	**1,88***	**1,88***
	Economic Active	***1 = ref.***	***1 = ref.***	***1 = ref.***
Housing Costs Perception	High	**1,22***	1,19	1,15
	Adequate	***1 = ref.***	***1 = ref.***	***1 = ref.***
Loneliness Feelings (10-Point Ordinal Scale)	Most Frequent, Persistent	**1,99***	**1,73***	1,58
	7-8	**2,39***	**2,41***	**2,25***
	5-6	1,23	1,23	1,16
	3-4	1,04	1,02	1,02
	Rarely, Never	***1 = ref.***	***1 = ref.***	***1 = ref.***
Type of Dwelling	Multidwelling Building (>8 flats)	.	**1,38***	**1,34***
	Multidwelling Building (<8 flats)	.	0,98	0,96
	Family House	.	***1 = ref.***	***1 = ref.***
Tenure	Other	.	1,25	1,17
	Tenant	.	0,95	0,90
	Cooperative Member	.	0,98	0,91
	Owner	.	***1 = ref.***	***1 = ref.***
Neighbourhood Safety Perception	Negative	.	**1,48***	**1,32***
	Fair	.	1,00	0,98
	Positive	.	***1 = ref.***	***1 = ref.***
Overall Housing Satisfaction	Low	.	.	**1,88***
	Fair	.	.	1,23
	High	.	.	***1 = ref.***

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Conclusion:

1) Population ageing is socio-spatially structured with the most significant impact on urban population compared to rural one.
2) Quality of life of the elderly is strongly determined by his/her (perceived) physical and mental health.
3) Self-rated health outcome is in turn strongly predicted by social as well as environmental determinants.
4) With respect to health, the most vulnerable elderly are lonely retired persons with poor housing conditions, living in rural areas with low level of services accessibility.

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Discussion …

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