European Centre for Social Welfare
Policy and Research, Sept. 7, 2011

Active Ageing. Conceptual and methodological issues

Rocío Fernández-Ballesteros

Autonomous University of Madrid

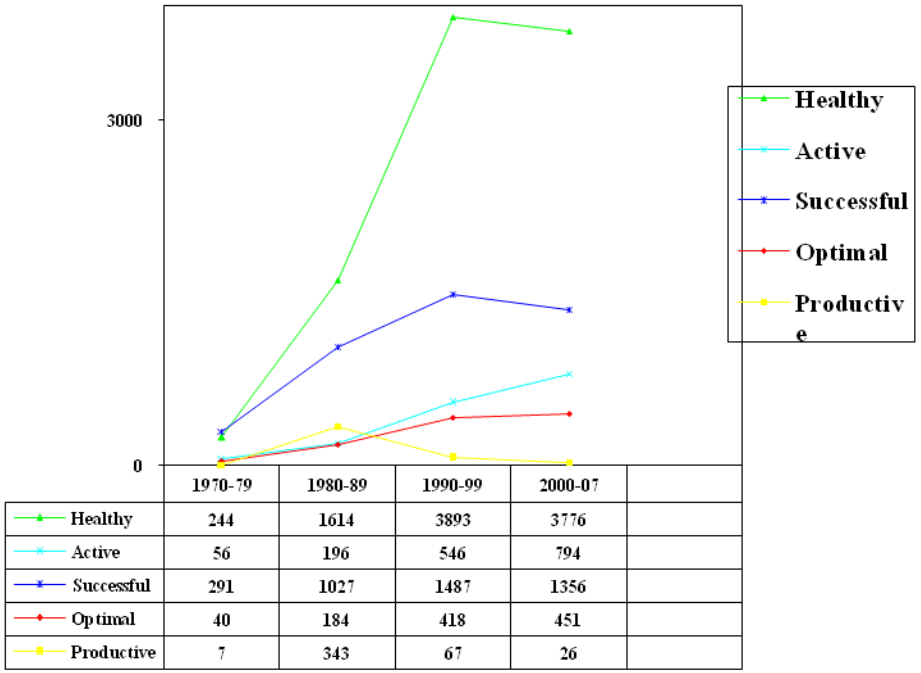
r.fballesteros@uam.es

Outline

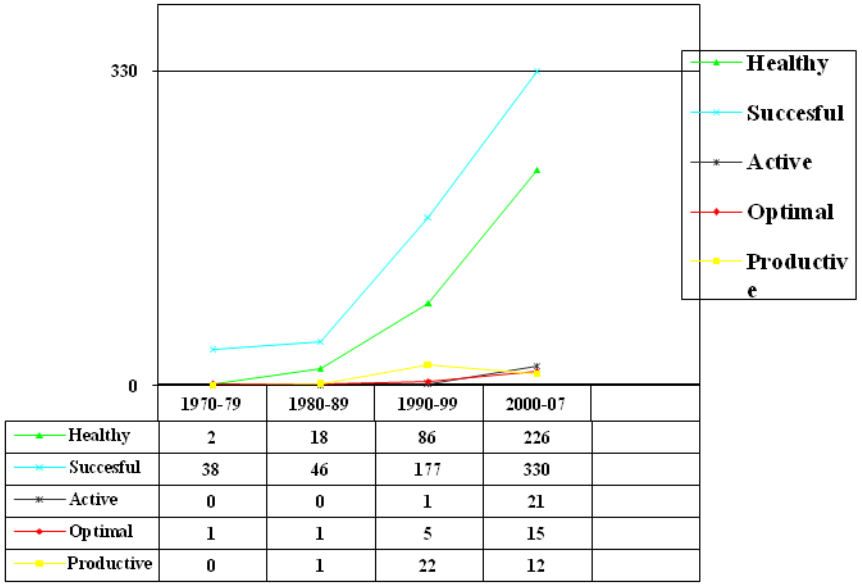
- Brief history of a semantic network “positive” ageing (healthy, successful, active, productive) through scientific data base
- Lay definitions of “ageing well"
- Main theoretical definitions
- Main cross-sectional and longitudinal empirical studies
- Multidimensional (bio-psycho-social components) and Multilevel (from individuals to populations) aspects.
- Problematic issues:
  - Nomological set of constructs: Are healthy, successful, active, productive ageing synonymous? Or are they several concepts?
  - Confusion among outcomes and predictors
  - Objective vs. subjective measures
  - Confusion with other concepts such as Satisfaction or Quality of Life
  - The concept of active ageing changes through age?
  - Forgotten concepts: Self-image about ageing and Aging stereotypes
  - Confounding lifelong, concurrent and multilevel predictors
- List of measures at population and individual levels
- Conclusions

Active ag(e)ing and related concepts research in PubMed and PsychInfo scientific data base (1970-2007)

(Fdez.-Ballesteros, 2007)



	1970-79	1980-89	1990-99	2000-07
Healthy	244	1614	3893	3776
Active	56	196	546	794
Successful	291	1027	1487	1356
Optimal	40	184	418	451
Productive	7	343	67	26



	1970-79	1980-89	1990-99	2000-07
Healthy	2	18	86	226
Succesful	38	46	177	330
Active	0	0	1	21
Optimal	1	1	5	15
Productive	0	1	22	12

The lay concept of *ageig well* in several regions

ITEM	Japanese	Japanese American	White American	European	Latin-American
1. Living a very long time	48	27	29	56	61
2. Remaining in good health until death*	91	93	95	99	91
3. Feeling satisfy with life*	81	78	84	95	93
4. Having the kind of genes helping age well	83	60	70	87	77
5. Having friends and family who are there for me*	83	86	90	97	95
6. Stay involved with world and people	63	77	88	92	86
7. Being able to make choices about how to age	72	85	92	94	92
8. Being able to meet all my needs	59	81	92	97	94
9. Not feeling lonely or isolated	69	75	84	93	78
10. Adjusting to changes related to aging	76	76	83	87	86
11. Being able to take care of myself*	87	93	95	98	93
12. Having sense of peace when I think in dying	74	72	75	85	85
13. Feelings of influencing others	45	55	67	76	85
14. Having no regrets about how I lived my life	69	61	67	86	77
15. Being able to work after usual retirement	47	43	50	63	81
16. Feeling good about myself	70	79	85	98	95
17. Being able to cope with challenges	64	84	93	90	92
18. Remaining free of chronic diseases	81	91	90	96	77
19. Continuing to learn new things	58	62	79	69	89
20. Being able to act according to my own values	65	81	92	94	96
Mean	69	73	80	87	86
Number of items with % ≥ 80	6	10	13	17	14

(a) % of respondents rated this item as important in successful aging.

(Phelan et al., 2005; Fdez.-Ballesteros, 2008, 2010; Matsubayashi, et al, 2006;)

Theoretical definitions of *active ageing* and related concepts

- Havighurst (1963*): "adding life to the years" and "getting satisfaction from life";*
- Palmore (1979): "*longevity, health, and life satisfaction"*.
- Fries (1989, 1990): "*independence, healthy life styles, to be active, to be enthusiastic, to have a good image of one' self, and to be individual*".
- Baltes & Baltes (1990b): *"length of life, biological health, mental health, cognitive efficacy, social competence and productivity, personal control, and life satisfaction*" (more important is their process model of Slective Optimization with Compensation (SOC).
- Rowe & Khan (1987): *"low probability of disease and disability, high physical and mental functioning, and active engagement with life*". This model has been tested through longitudinal research McArthur Studies USA
- M.M. Baltes and Carstensen (1996): *"life satisfaction and subjective well-being, perceived social support and involvement in life; physical health, functional abilities and lifestyle; bio-physical conditions, such as strength or vital capacity; and social conditions, such as social network or education"*.

Theoretical definition of *active ageing* and related concepts

- Vaillant & Vaillant (1990): *"physical health, mental health and life satisfaction".*
- Schulz & Heckhausen (1996): *Cardiovascular and pulmonary functioning, absence of disability, cognitive and intellectual performance, primary control and achievements in physical and artistic domains"*.
- Yoon (1996): *physical health, personal income and financial stability, family dynamics and cohesiveness; social support networks, meaning of life, optimal cognitive functioning, personal control, prevention for depression; coping strategies, mastery bereavement, self-justification mechanism of negative life outcomes. "*
- *WHO (2002) ".....The process of optimising opportunities for health, participation and security in order to enhance well-being and quality of life as people age..."*.
- Kahana & Kahana (2003): *"Affective States, Meaning in Life, and Maintenance of Valued Activities and Relationships"*
- Fernández-Ballesteros (2008)*"Is de life life adaptation process for arriving at an optimal physical (including health), psychological (optimal cognition and emotion-motivation regulation) and social functioning in old age"*

Studies ON HEALTHY/SUCCESSFUL AGEING identified by Peel, McClure & Bartlett (2005): Authors, Outcome definition, and Determinants

Author, publication year	Outcome definitions	Determinants
Guralnik, 1989	**Healthy aging**: survival, high level of functioning.	Smoking, Alcohol consumption, Weight, Eating breakfast, Snaking, Hours of sleep
Strawbridge, 1996	**Successful aging**: Survival with high level of functioning	Smoking, Alcohol use, Exercise
Reed, 1998	**Healthy aging**: Surviving, free of major life-threatening illness and maintaining physical and mental capacities	Smoking, Physical activity, Alcohol intake, BMI, Diet
Leiveille, 1999	**Aging successfully**: living to an advance old age and having little or no disability prior death	Smoking, Alcohol, Activity level, BMI
Ford, 2000	Successful aging: sustained independent living in the community	Smoking, Alcohol, Exercise
Vaillant & Mukamal, 2001	**Successful aging**: survival with high level of physical, mental and social well-being	Smoking, alcohol, Exercise, BMI
Newman, 2003	**Successful aging**: remaining free of major life-threatening disease and having normal physical and cognitive functioning	Smoking, Physical activity
Haveman-Nies, 2003	**Healthy aging**: maintenance of health at old age (being alive and remaining functionally independent)	Physical activity, Diet, Smoking

Depp & Jeste (2006) Review in PubMed and google scholar(1978-2005)

- Successful aging, Healthy aging, Productive aging, Optimal aging and Aging well.
- Use of operationalized definition as continous or categorical dependent variable
- It was accepted both cross-sectional and longitudinal predictors of successful aging:
  - 407 about “successful aging”
  - 490 for “healthy aging”,
  - 12 for “productive aging”,
  - 1 for “aging well” or “robust aging”.
- 28 articles (7 of them were coincident with those reviewed by Peel et al.) were selected given 29 definitions (27 categorical definitions and 2 used continuous measures)

Depp & Jeste (2006): Outcomes and predictors/ determinants of 28 studies of successful ageing

Outcomes (NO studies)	Predictors/Determinants (NO studies)
• Disability/physical functioning (26), • Cognitive functioning (15), • Life satisfaction/Well-being (9), • Social/Productive engagement (8), • Presence of illness (6), • Longevity, (4), • Self-rated health (3) • Personality (2), • Environment/finances (2), • Self-rated successful aging (2).	•Younger age (10 /10 l..; 3/5 cs.). •Higher income (2/5 l., 2/4 cs.). •Education (3/7 l., 1/2 cs.) •Gender: female (4/8 l., 0/2 cs.);male (1/1 l., 1/1 cs). •Creatine protein (2/2 l.). •Ankle arm index (2/2 l.). •Presence of medical conditions (2/3 l., 2/4 cs.). •Diabetes (4/6 l., 1/1 cs.). •Cardiovascular disease (0/2 l., 0/1cs.). •Cancer (1/3 l.). •Hypertension (1/3 l., 1/1 cs.). •Stroke (1/3 l., 0/1 cs.). •Arthritis (2/3 l., 1/1 cs.). •Hearing problems (4/4 l.), and •Depression (2/3 l., 3/4 cs.).

PREVALENCE OF ACTIVE AGEING

Author, publication year	Outcome definitions	Prevalence
Guralnik, 1989	Survival, High level of functioning.	12.7%
Strawbridge, 1996	Survival with High level of functioning	35%
Reed, 1998	Surviving, Free of major life-threatening illness Physical and mental capacities	19%
Leiveille, 1999	Old age and having little or No disability prior death	49%
Ford, 2000	Idependent living	20.1%
Vaillant & Mukamal, 2001	Survival High level of physical, mental and social well-being	26/29%
Depp & Jeste (2006)	22 studies that had disability/physical function and reported a proportion of successful agers . Those Studies including both cognitive func. disability & physical function	27.2% (range:0.4-63; median:20.8; SD:27.1. 3to95%(mean:20.4;median:19, SD:14.8

Simple and Combined definition/outcomes prevalence
ELEA STUDY (N= 458 , 55-75 year old Spaniards)

(Fdez.-Ballesteros et al., 2006, 2010)

TYPE	Outcomes	Prevalence
SIMPLE	1. "No support needed" 2. "High or very high life" satisfaction", 3. "Good or very good reported health", 4. "MMSE score more than 28" 5. "No illness reported"	93% 80% 57.2% 47% 27.24%
COMBINED	1. SUBHEALTH $\geq$ 3 & func1 = 3 & MMSE $\geq$ 29 & Satis1$\geq$ 3; 2. ILLNESS $\leq$ 1 & func1= 3 (yes); & MMSE $\geq$ 29 & satis1 $\geq$ 3; 3. LEISURE ACTIVITIES $\geq$ mean & Func1 = 3 & MMSE$\geq$ 29 & Satis1$\geq$ 3; and 4. PRODUCTIVITY $\geq$ mean & SubjHealth>3& Func1 = 3 & MMSE $\geq$ 29 & Satis1>3.	41.4% 27.9% 19.5% 15.5%

Predictors of simple and combined outcomes in ELEA

(Fdez.-Ballesteros et al., 2006, 2010)

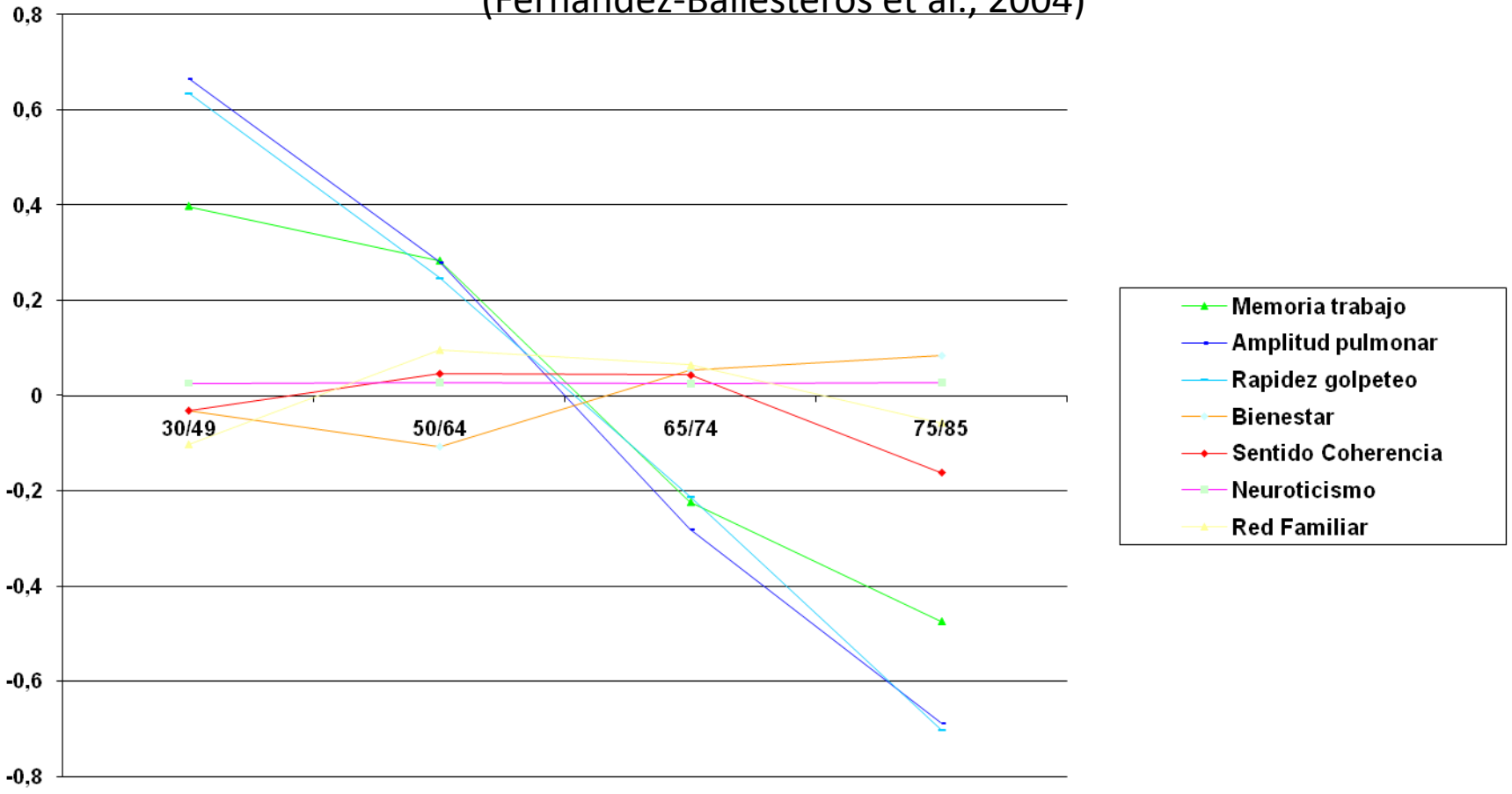
PREDICTORS / Outcomes	Socio-Demographic	Life Styles	Physical Fitness	Cognition	Personality, Affect, Subj. appraisal	Social Networks, Participation
Number of illness	-Gender -Income	-Drinking usually	-Strenght -Tapping	-Digit Symbol	-Neuroticism -Emotional Balance -Self Efficacy for ageing	-Family network
No help needed	-----	-Physical activity	--------	-MMSE -Digit Symbol	----------	----------
Subjective health	-Education -Gender	-Drinking usually Physical activity	-Strenght -Body Mass -Peakflow	-Digit Symbol	- Emotional Balance -Self Efficacy for ageing	-Helping others
Mental Status (MMSE)	-Education -Gender -Income -Age	-Drinkig usually	-Strenght	-Digit Symbol -Digit backward -Learning	-Fitness appraisal -Neuroticism -Extraversion	-Helping others -Receiving help
Life satisfaction	-Income -Gender	-Physical activity Drinking usually	-Tapping -Strenght	-Digit Symbol	-Neuroticism -Emotional Balance .Self-efficacy for aging	-Family network
1.SUCCESSFUL AGING NoIllness- ADL-High MS- High Satisfaction-	-Gender -Income	-Drinking usually	-Strenght, -BodyMass -Peakflow	-Digit Symbol	-Neuroticism -Fitness	--------
2.SUCCESSFUL AGING Subj .Health-ADL-High MS- Satis.	-Gender -Income	- Drinking usually	-Strenght -Peakflow	-Digit Symbol	-Fitness -Neuroticism -Extroversion -Openess	--------
3.SUCCESSFUL AGING 2 + Leisure activ.	-------	-Drinking usually -Physical activity	-Strenght	-Digit Symbol	-Fitness -Neuroticism	-----
4.SUCCESSFUL AGING 2+Produtivity.	-Age -Income	-Drinking usually	-Peakflow		-Fitness	-Helping others

Three European Studies

Study	Characteristics	Outcome variables	Determinants/Predictors
HALE. Healthy Ageing an EU study on ageing (Bogers et al 2005)	It combines 3 longitudinal studies (1959-2000): *SEVEN countries*, *FINE* & *SENECA* studies (7,047 men;40-95yrs. From FI, Gr IT,NL,SR & 3,805 men & women, 70-99 yrs. from BE,DK,FI,FR,GR, HU,IT,NL,PL,P,ES,SW) .	Objective: Diet and Nutrition Mortality: -Blood pressure -Cholesterol	**Life styles**: -Metiterranean diet -Non smoking -Moderate drinking -Regular physical activity **Social network:** -Be married -Living with others
EXCELSA. Cross-European Long. Study Fdez.-Ballesteros, Rudinger,Schroots et al (2004)	Cross-sectional Study (1999-01) 7 EU countries (AT,DE,ES,IT,FI P,PL) quota sampling by age, gender, education, rural/urban (N=672; 30-85 yrs.)	Competence: -Physical (vital capacity and Speed) and -Cognitive competence (working memory and learning)	**Socio-demographics**: -Education and Income **Life styles:** .Regular activity . Non Smoking . Moderate drinking **-Illness** -**Social networks** **-Control** -**Fitness subjective appraisal**
SHARE. Health and Retirement Study Börsch-Supan, Hank, & Jürges (2005)	Representative samples of the non-institutionalized population aged 50 years or older in 14 EU: AT,DE, SE,ES, SE,FR,DK,GR, CH, BE, IL, CZ,PL, IE. The 11 first contribute to SHARE's first wave in 2004–2005. The last two to the second wave 2006–2007	-No major disease, -No activity of daily living (ADL) disability, -No more than one difficulty with seven measures of physical functioning, -Obtaining a median or higher score on tests of cognitive functioning, - Being actively engaged.	**Socio-demographics:** -Sex -Age -Education -Income **Life styles:** -Non Smoking -Physically active -Drinking Occasionally **Childhood determinants at 10:** -Parental SES -Cognitive abilities at school -General health

Which would be the best criteria for defining active ageing, those stable or those declined across life span?

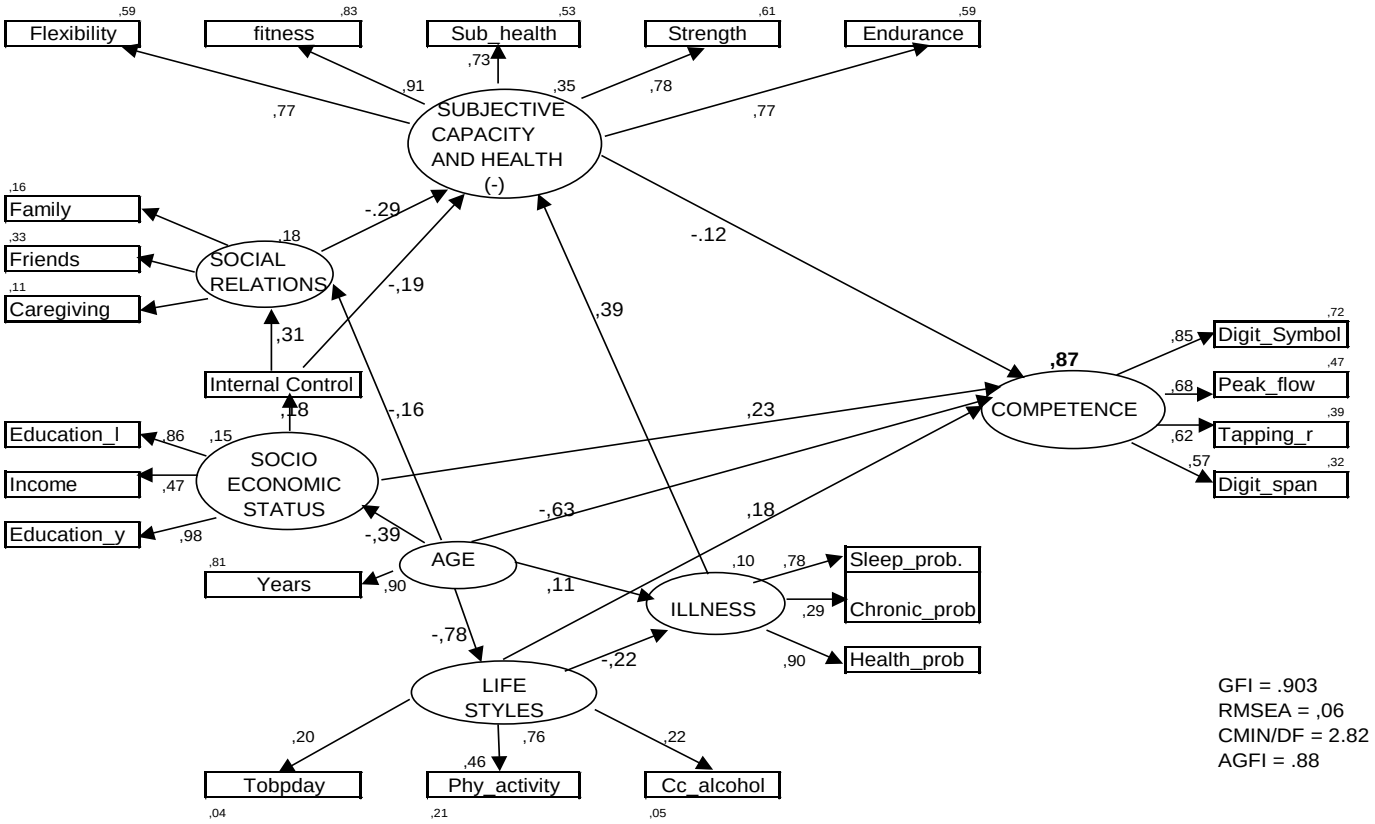
EXCELSA physical, psychological and social characteristics as an age function in Z scores (Fernández-Ballesteros et al., 2004)



EXCELSA: Confirmatory model of Competence

(Fernández-Ballesteros, Rudinger, Schroots, Zamarrón, Heikinnen, Charzeska, Drusini, Paul. Rosenmayr, 2004)

Figure 1.Competence Confirmatory analysis



Active ageing definition: High independence, Minor health problems, High cognitive functioning, & High activity, by Age & Country in EXCELSA

7 EU countries, quota sampling by age, gender, education, rural/urban (N=672; 30-85 yrs.)

Fdez.-Ballesteros, Rudinger, Schroots, Heikinnen, Drusini, Charzeska, Paul, Rosenmeyer, 2004

			naids <= 1 & nprob <= 1 & d.span >= 5 & phy_act >= 5		
			,00	1,00	Total
GROUP AGE	**30/49**	Recuento	90	84	174
		% de edadagru	51,7%	**48,3%**	100,0%
	50/64	Recuento	106	69	175
		% de edadagru	60,6%	39,4%	100,0%
	65/74	Recuento	136	33	169
		% de edadagru	80,5%	**19,5%**	100,0%
	75/85	Recuento	156	14	170
		% de edadagru	91,8%	**8,2%**	100,0%
Total		Recuento	488	200	688
		% de edadagru	70,9%	**29,1%**	100,0%

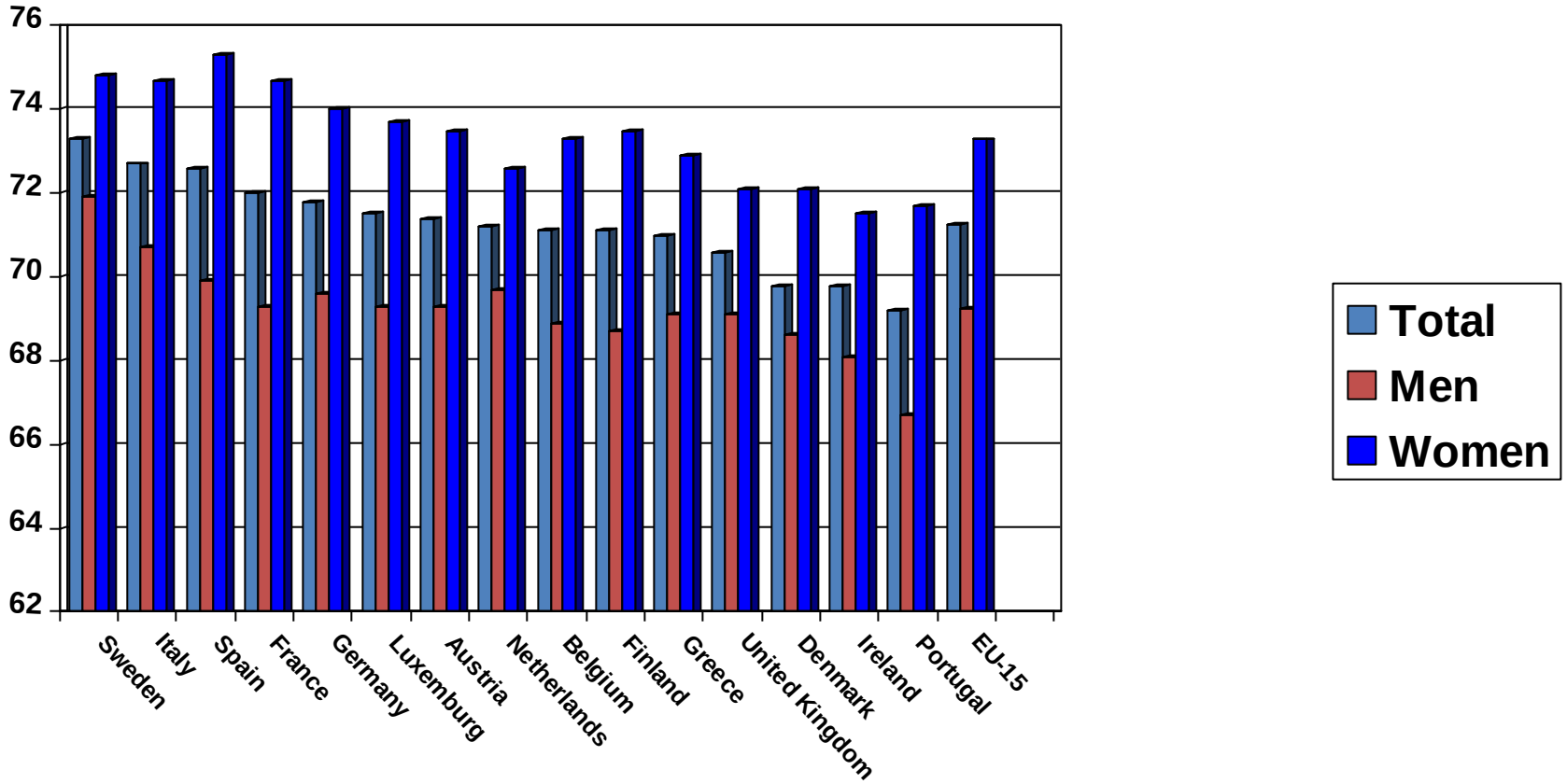
			naids <= 1 & nprob <= 1 & d.span >= 5 & phy_act >= 5		Total
			,00	1,00	N
Country	**Spain**	Recuento	80	16	96
		% de Country s Number	83,3%	**16,7%**	100,0%
	Germany	Recuento	65	31	96
		% de Country s Number	67,7%	**32,3%**	100,0%
	Austria	Recuento	68	46	114
		% de Country s Number	59,6%	**40,4%**	100,0%
	Finland	Recuento	62	34	96
		%de Country s Number	64,6%	**35,4%**	100,0%
	Italy	Recuento	63	32	95
		% de Country s Number	66,3%	**33,7%**	100,0%
	Poland	Recuento	82	14	96
		% de Country s Number	85,4%	**14,6%**	100,0%
	Portugal	% de Country s Number	71,9%	**28,1%**	100,0%
Total		Recuento	489	200	689
		% de Country s Number	71,0%	29,0%	100,0%

How "Successful" Do Older Europeans Age in 15 countries? Findings From SHARE (Hank, 2011)

INDICATOR	AT	DE	SE	NL	ES	IT	FR	DK	GR	CH	BE	IL	CZ	PL	IR	ALL	US
No major disease	59.0	47.5	45.2	49.8	40.3	39.0	39.3	51.0	48.1	59.6	46.4	31.5	41.2	25.5	55.0	42.6	37.0
No disability	88.0	84.2	86.8	88.8	85.3	83.8	83.5	85.9	88.7	90.8	81.7	83.0	88.2	67.0	83.5	83.7	82.1
High cognitive func.	68.4	67.5	64.8	63.4	20.9	36.3	45.3	67.2	53.2	70.9	52.5	44.2	60.2	30.5	60.8	48.5	57.8
High physical func.	64.6	61.4	68.5	69.4	51.4	54.2	60.6	69.4	49.5	79.0	62.6	42.3	59.0	31.1	64.7	57.3	49.0
Actively engaged	22.3	27.4	39.7	40.7	22.8	24.2	29.5	42.6	27.0	31.4	37.5	35.1	18.0	17.1	40.6	27.1	49.7
Successful aging -(global)	10.2	11.6	17.4	17.0	3.1	5.3	8.4	21.1	7.7	16.1	11.8	10.2	6.4	1.6	15.7	8.5	10.9

Notes: Pooled baseline interviews from SHARE Waves 1 and 2 (Release 2.3.0), 2004–2007; cross-sectional weights applied. AT = Austria; DE = Germany; SE = Sweden; ES = Spain; IT = Italy; FR = France; DK = Denmark; GR = Greece; CH = Switzerland; BE = Belgium; IL = Israel; CZ = Czech Republic; PL = Poland; IE = Ireland.

Dysability Free Life Expectancy in European Countries, and EU-15 (EUROSTAT, 2005)



Prevalence of successful ageing in selected Countries and Life Expectancy and Disability Free LE

From SHARE, Hank (2011)

NDICATOR	AT	DE	SE	NL	ES	IT	FR	DK	GR	BE	CZ	PL	IE
No major disease	59.0	47.5	45.2	49.8	40.3	39.0	39.3	51.0	48.1	46.4	41.2	25.5	55.0
No disability	88.0	84.2	86.8	88.8	85.3	83.8	83.5	85.9	88.7	81.7	88.2	67.0	83.5
High cognitive unc.	68.4	67.5	64.8	63.4	20.9	36.3	45.3	67.2	53.2	52.5	60.2	30.5	60.8
High physical unc.	64.6	61.4	68.5	69.4	51.4	54.2	60.6	69.4	49.5	62.6	59.0	31.1	64.7
Actively engaged	22.3	27.4	39.7	40.7	22.8	24.2	29.5	42.6	27.0	37.5	18.0	17.1	40.6
Successful aging (global)	10.2	11.6	17.4	17.0	3.1	5.3	8.4	21.1	7.7	11.8	6.4	1.6	15.7
LE TOTAL	**78.9**	**78.8**	**80.1**	**78.8**	**79.9**	**80.3**	**79.4**	**77.3**	**78.9**	**77.6**	**75.4**	**74.7**	**70.2**
LE MAN	**76**	**75.7**	**77.7**	**76.4**	**76.3**	**77.1**	**77.3**	**74.8**	**76.3**	**74.2**	**72.1**	**70.4**	**74.6**
LE WOMEN	**81.6**	**81.6**	**82.3**	**81.1**	**83.3**	**83.2**	**81.5**	**79.5**	**81.7**	**80.8**	**78.7**	**78.9**	**79.9**
Healthy LE TOTAL	**71.4**	**71.8**	**73.3**	**72.7**	**72.6**	**72.7**	**72**	**69.8**	**71**	**71.1**	**68.4**	**65.8**	**69.8**
Healthy LE MEN	**69.3**	**69.6**	**71.9**	**70.7**	**69.9**	**70.7**	**69.3**	**68.6**	**69.1**	**68.9**	**65.9**	**63.1**	**68.1**
Healthy LE WOMEN	**73.5**	**74**	**74.8**	**74.7**	**75.3**	**74.7**	**74.7**	**72.1**	**72.9**	**73.3**	**70.9**	**68.5**	**71.5**

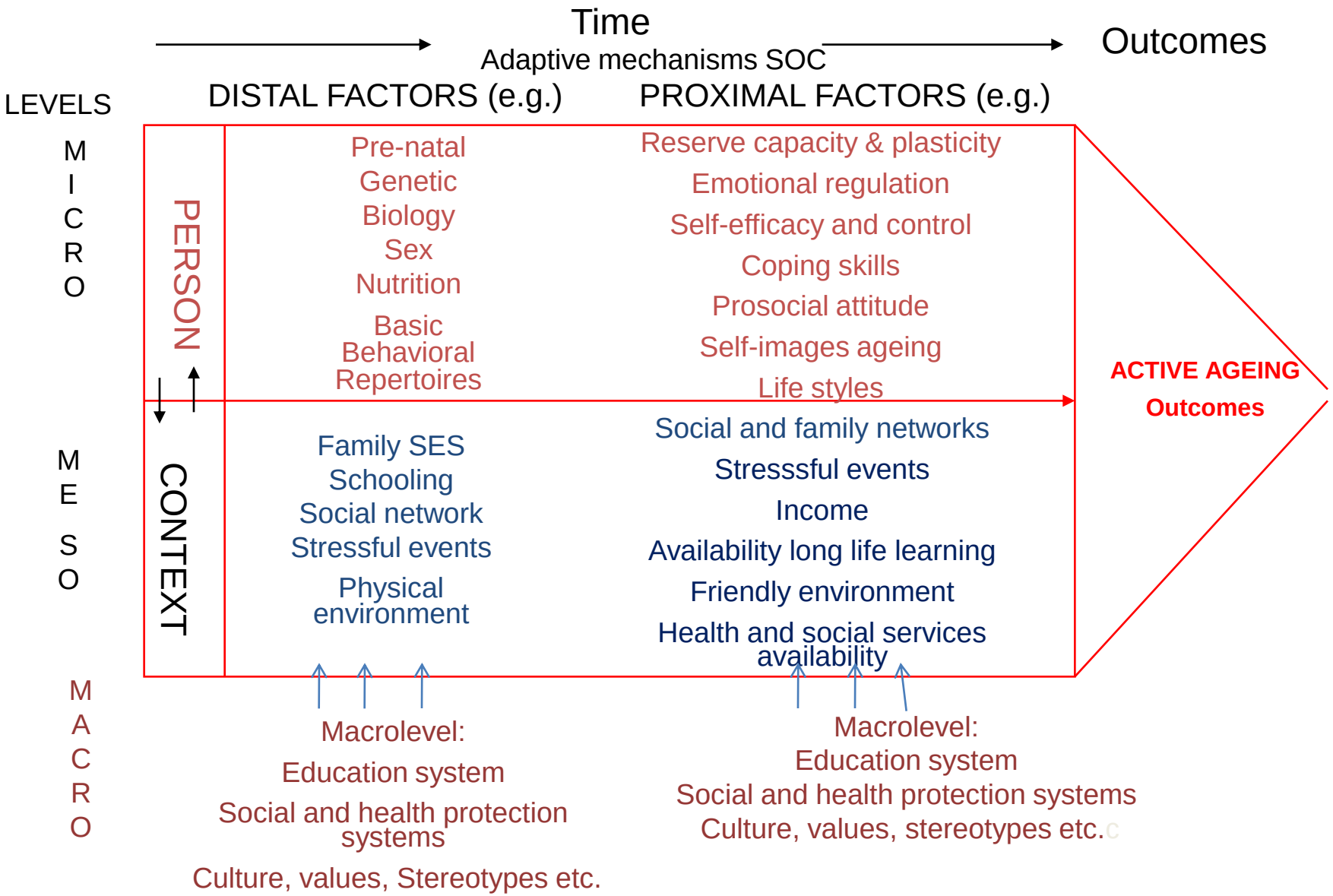
Results: No significant correlations between prevalence of successful ageing and DFLE!

Individual and population "successful" aging measures correlations

Spearman RHO	No_major_disease	No_disability	High_cognitive_func	High_physical_func	Actively_engaged	Successful_aging_GLOBAL	LE_TOTAL	LE_MAN	LE_WOMEN	Healthy_LE_TOTAL	Healthy_LE_MEN
No_disability	,448										
High_cognitive_func	,786**	,468									
High_physical_func	,674*	,273	,726**								
Actively_engaged	,500	,096	,401	,806**							
Successful_aging_GLOBAL	,681*	,242	,725**	,941**	,890**						
LE_TOTAL	-,292	,215	-,149	-,126	-,066	-,140					
LE_MAN	-,091	,317	,025	,176	,292	,173	,873**				
LE_WOMEN	-,124	,179	-,124	-,174	-,055	-,151	,902**	,760**			
DFLE_TOTAL	-,113	,230	,036	,257	,278	,196	,844**	,886**	,783**		
DFLE_MEN	-,050	,330	,118	,244	,248	,196	,848**	,872**	,821**	,983**	
DFLE_WOMEN	-,166	,180	-,072	,149	,199	,088	,864**	,852**	,827**	,956**	,934**

Multidimensional- multilevel life course model for active ageing

(adapted from Fernández-Ballesteros, 2002 b, p.43)



Main problematic issues

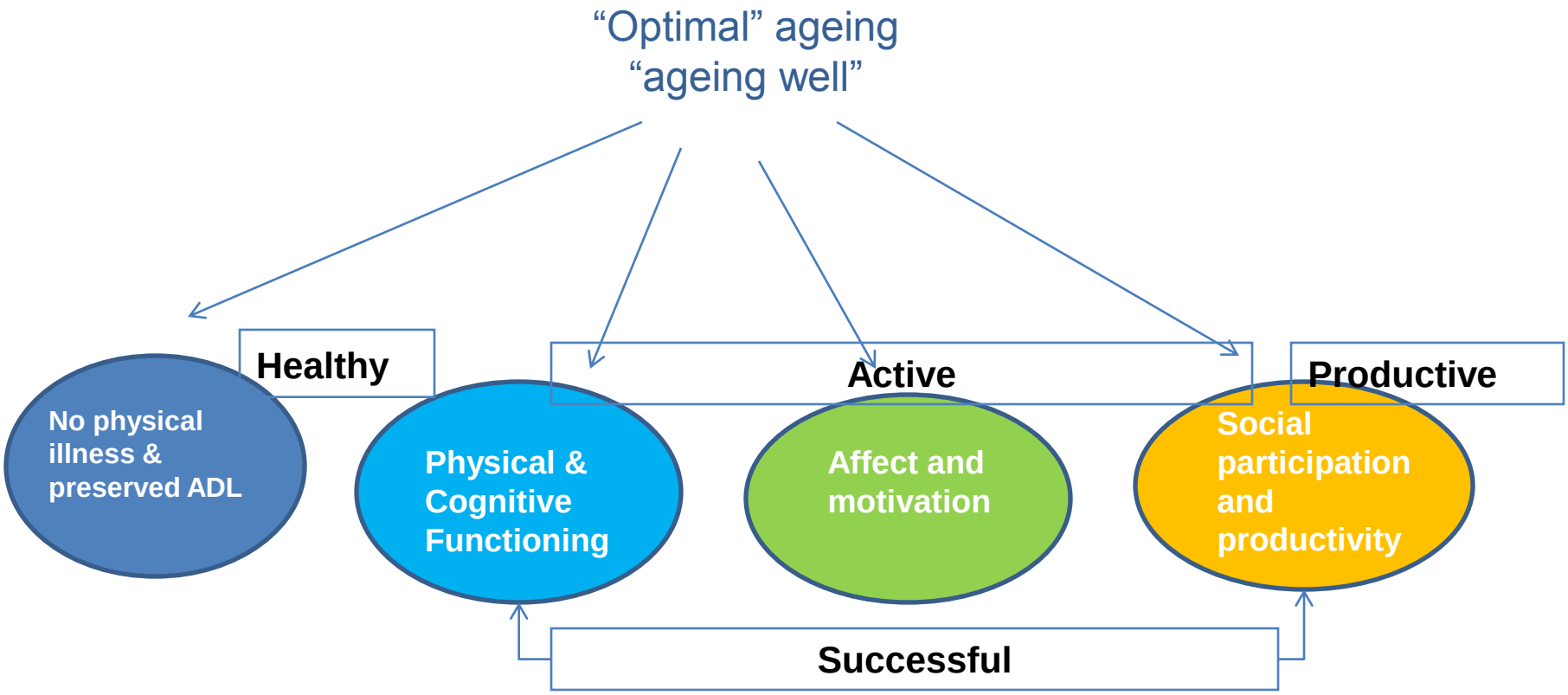
- Are active/healthy/successful/productive equivalent (synonymous) or are they different concepts?
- Confounding “outcome” and “predictors or determinants” (in most of the reviewed studies).
- Objective versus subjective indicators give several prevalence (Pruchno et al. 2011, two factor models: subjective and objective).
- Confounding active ageing with other constructs: Is Active Ageing equivalent to Quality of Life/Life satisfaction?.
- Has active ageing different profiles (outcomes) through the ageing process?
- Forgotten concepts: Self-image about ageing and Aging stereotypes
- Confounding life-long, concurrent and multilevel predictors

Are healthy, successful, active, productive ageing synonymous? Or, are they several concepts?

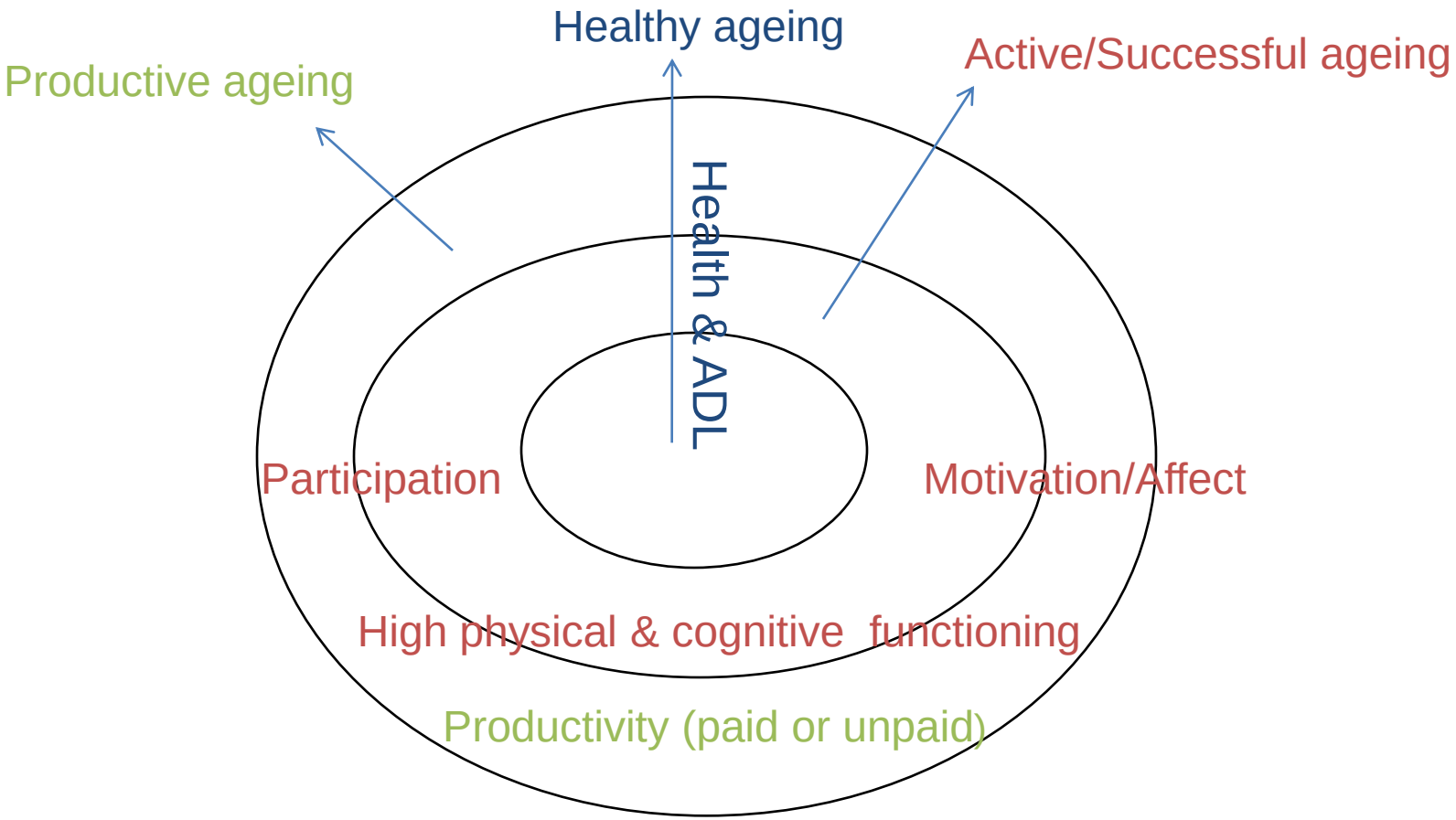
"Let define the concept used" (Voltaire)

- **Health**: Absence (low probability?)of illness + ADL I& II
- **Successfull:** Low probability of illness+ **high physical and cognitive functioning + high social engagement (participation)**
- **Active:** Health, ADL+ **High cognitive performance + High motivation + High social participation**.
- **Productive:** Health, ADL+ High cognitive performance + High motivation + High social participation + **High productivity (paid or unpaid?)**

Are active/healthy/successful/productive ageing equivalent (synonymous) or are they different concepts?



Nomological network



r.fballesteros@uam.es

Objective versus subjective indicators (Pruchno et al. 2011, two factor models: subjective and objective)

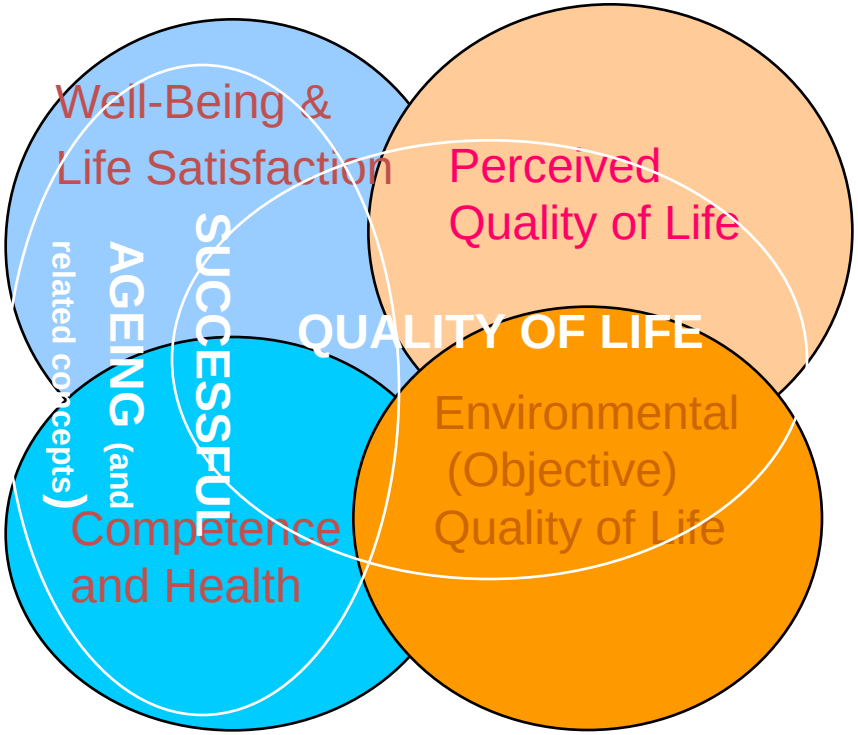
Factor Structure of Objective and Subjective Measures, ELEA (F.Ballesteros, 2011)

OUTCOME DOMAINS	SUBJ. or OBJ. MEASURES
HEALTH	-Number of illness -eported (O) -Number of medicine taken (O) -Health Self-evaluation (S)
PHYSICAL AND PHYSIOLOGICAL FUNCTIONING	-Grip Strength (O) -Tapping test (O) -Body Mass (O) -Balance static & dynamic (O) -Fitness self-evaluation (endurance. strength. speed. balance. etc.) (S)
COGNITIVE FUNCTIONING	-Digit backward (O) -Digit Symbol (O) -Cognitive plasticity (O) -MMSE (O)
EMOTIONAL MOTIVATIONAL FUNCTIONING	-Life satisfaction (S) -Emotional balance (S) -Self-efficacy for aging (S)
ACTIVITY	-Productivity (hrs. per year) (O) -Leisure (hrs. per year) (O)

	1 HEALTH	2 COGNITION	3 ACTIVITY	4 AFFECT	PHYSICAL FITNESS
Medicine taken (O)	-.796				
Illness diagnosed (O)	-.760				
Subjective health (S)	.657				
Fitness appraisal (strenght. flexibility. etc.) (S)	.627				
Dígito símbolo (O)		.791			
MMSE Total score (O)		.782			
Digit backward (O)		.730			
Cognitive plasticity (O)		.403			
Productive activities (O)			.706		
Leisure activities (O)			.701		
Emotional balance (S)				.766	
Life satisfaction (S)				.732	
Self-efficacy for aging (S)				.612	
Dynamic balance (O)					-.734
Body mass index (O)					.650
Static balance (O)					-.434
Eighenvalues	3.428	1.757	1.216	1.123	1.073
Variance %	21.427	10.98	7.599	7.021	6.708
CUM. VARIANCE %	1.427	32.4091	40.008	47.029	53.733

Is Active Ageing= to Quality of Life or Life satisfaction?

Theoretical relationships between quality of life, well-being and life-satisfaction and successful aging (adapted from Lawton, 1983 and modified from Fernández-Ballesteros, Kruse, Zamarrón & Caprara, 2007)



Active ageing must be defined differently within the very old?

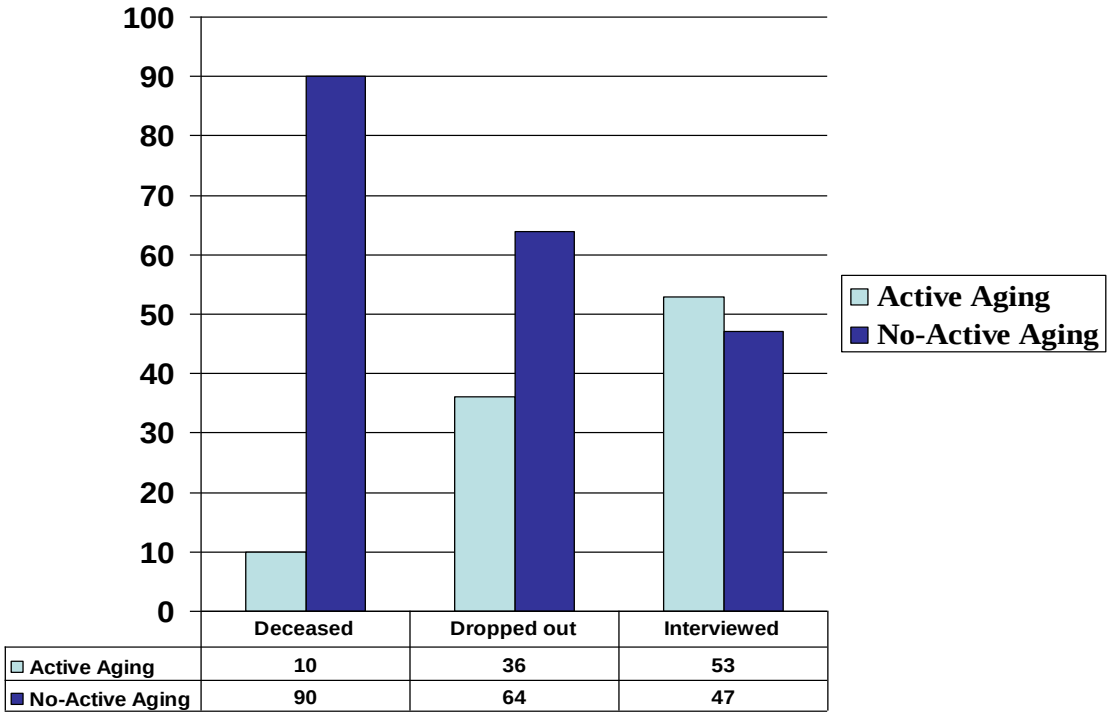
"90+", Longitudinal Study of Active very old

- N= 188 participants (67 men, 121 women; mean age 92.9 years, SD: 2.5; age range: 90–102).
- Criteria for inclusion were being older than 90 and being independent (Barthel Index, IQOCE).
- Follow-up 8-16 months after the base-line
- Protocol for Assessing Active Ageing (based on EXCELSA protocol)
- Active ageing definition:
  - two or less number of illnesses,
  - 24 or high MMSE score,
  - very or rather satisfied,
  - good or rather good subjective health,
  - Basic ADL conserved

Follow-up: Participation/ Non-participation	Frecuency	Percentage
Interviewed	104	55.0
Deceased	20	11.0
Non participation:	64	34.0
Refuse	21	11.2
Reporting illness or cognitive impairment	22	11.8
Moved away	5	2.6
Unable to locate	16	8.4
Total	188	100,0

Fdez.-Ballesteros, Zamarrón, Díez, Molina & Schettini, 2011)

Percentage of deceased, dropped out, and interviewed at the follow-up in the 90+ Project who were classified as "Active aging" and "No-Active aging" at the base line



	Deceased	Dropped out	Interviewed
Active Aging	10	36	53
No-Active Aging	90	64	47

Fdez.-Ballesteros, Zamarrón, Díez, Molina & Schettini, 2011)

"90+" Longitudinal Study of active very old predictors in the base line (N= 188 older 90)

VARIABLE	GROUP	N	Mean	SD	F	Sig.
Mental Status	Decease	19	22.47	4.800	8.309	.000
	Participant	104	25.60	3.013		(1-2; 1-3)
	Non-participant	64	24.50	2.981		
Physical activity	Decease	20	1.95	1.191	9.903	.000
	Participant	104	3.03	1.250		(1-2;1-3;2-3)
	Non-participant	63	2.37	1.182		
Leisure activities	Decease	16	1.3021	.45833	7.272	.001
	Participant	80	1.7573	.56054		(1-2;2-3)
	Non-Participant	52	1.4663	.54465		
Fitness	Decease	19	2.8421	.75301	4.657	.011
	Participant	102	3.2980	.67001		(1-2)
	Non-Participant	62	3.0806	.64829		
Perceived control	Decease	19	4.37	1.92	4.430	.013 (1-2)
	Participant	103	3.05	1.83		
	Non-Participant	62	3.29	2.62		
Openness	Decease	14	34.0714	7.30084	4.221	.017
	Participant	64	36.2344	6.47766		(2-3)
	Non-Participant	49	32.8163	5.61127		

Fdez.-Ballesteros, Zamarrón, Díez, Molina & Schettini, 2011)

Multilevel components: Self-stereotypes and Cultural stereotypes

(Levy et al., 2003)

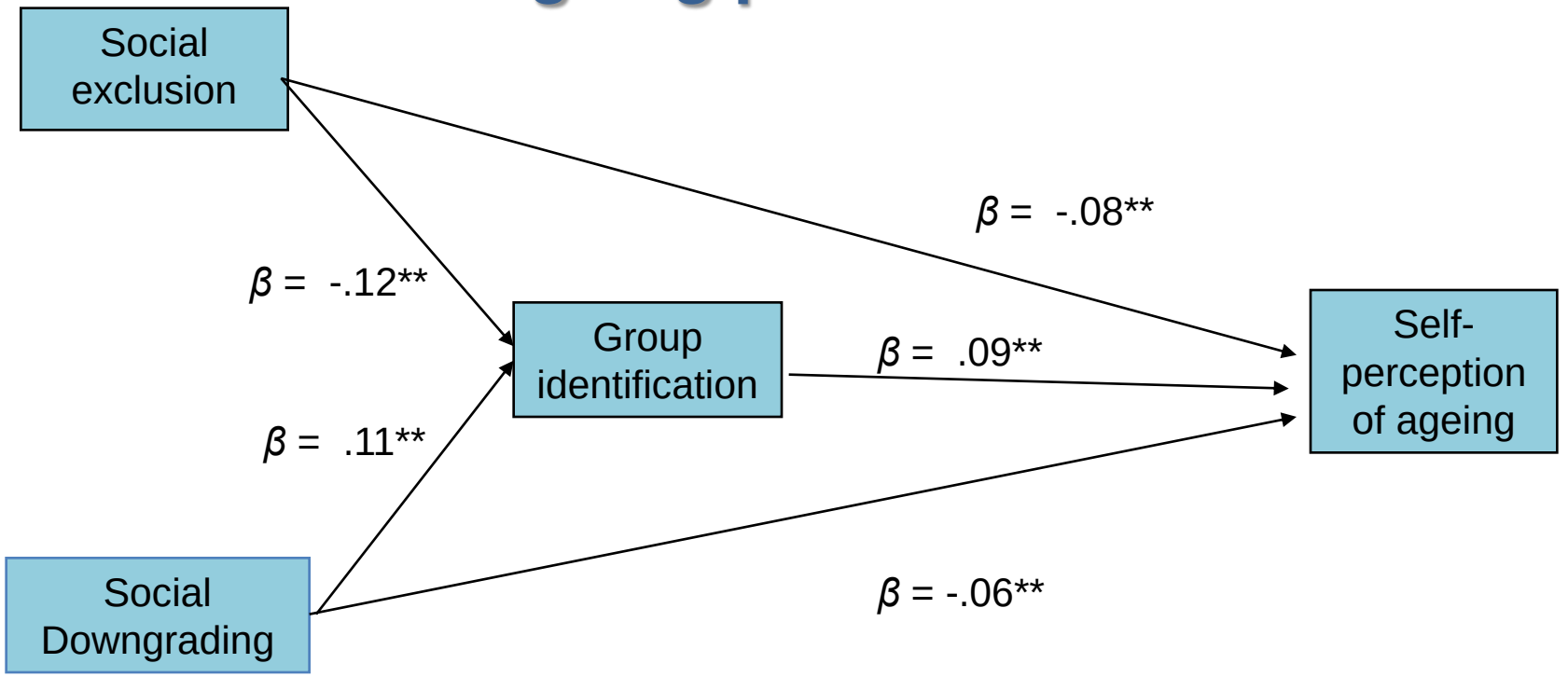
Hypotheses by B. Levy

- Self-stereotypes, or self-perception on ageing, is a predictor of longevity and a component of active and healthy ageing
- Across life span, "Self-stereotypes" are internalized from cultural stereotypes
- Group identification is a mediator of this lifelong relationship

CASONEAC (EU/México)

- N=3,365 older than 60 (D=602; ES=1,218 Mex=1,564)
- Objective: Self-perception on ageing evaluation
- Variables:
  - Sociodemographics
  - Self-perception of ageing
  - Age exclusion
  - Burden on Society
  - Group identification

Path Analysis. Self-perception of ageing predictors



R^2 = .12, F = 151.69, p < .0001

Univ. of Heidelberg, Autonomous Univ. of Madrid, Guadalajara Univ: CASOENAC Group (EU-Mex)

Bustillos y Fdez.-Ballesteros (in press)

r.fballesteros@uam.es

Indicators of
Active ageing at Population level

Outcomes

- Healthy life expectancy
- Disability free life expectancy
- Cognitive measures?
- Well-being/Satisfaction /happiness
- Self-perception of ageing?
- Unpaid productivity measures
- Social participation measures

Determinants

- Cohort level of education
- Lifelong learning availability
- Labor market flexibility
- Pension system ("Security" in WHO terms)
- Cohort active ageing promotion/ prevention Programs
- Ageing stereotypes

Summary of active aging outcomes and process determinants posited at individual level.

SOURCE	OUTCOME CONDITIONS	PREDICTOR/ DETERMINANTS
BIO-MEDICAL	✓ Longevity ✓ Biological Health indicators, ✓ Cardiovascular and pulmonary functioning ✓ Mental health measures ✓ Functional abilities ADL measures ✓ Physical strength ✓ Vital capacity (e.g. peak flow) ✓ Absence of disability (self-reported or medical exams)	✓ Pre-natal biological events ✓ Age ✓ Gender ✓ Genetic conditions ✓ Long life ancestors ✓ Maximizing health across life span
PSYCHOLOGICAL	✓ Subjective health (self-appraisal health) ✓ Level of activity ✓ Competence (motor and cognitive), ✓ Mental and physical positive functioning ✓ Life and social engagement, ✓ Purpose in life, ✓ Personal growth, ✓ Psychological well-being & satisfaction ✓ Perceived Quality of Life, ✓ Family relationships, ✓ Affective States, emotional balance ✓ Maintenance of valued activities and relationships ✓ Self-perception (self-stereotypes) of ageing	✓ Selective Optimization with Compensation ✓ Development and maintenance of primary control ✓ Socio-emotional selectivity ✓ Adaptive process developing capacities for solving difficulties and minimize the effects of deficits. ✓ Coping strategies across life cycle ✓ Behavioural life styles ✓ Mature defence mechanism, ✓ Adaptation capabilities, ✓ Personality: Extraversion, Stability and Openness, Optimism
SOCIAL	✓ Productivity in family setting ✓ Social productivity ✓ Collective efficacy, ✓ Environmental mastery ✓ Participation (paid, unpaid) ✓ Leisure activities	✓ Social network and social support ✓ Long life determinants: .Environmental .Socio-economic factors .Lifelong Education .Health and social services ✓ Opportunities for health, participation and security ✓ Social stereotypes

CONCLUSIONS

- Active ageing is a multidimensional concept.
- Active ageing is one of the target in a semantic network which my be disentangle (healthy, successful, productive, ...).
- Outcomes and predictors (at several levels) must my clarified and distinguished.
- Scientist and policy makers must arrive to an operational definition of active ageing and related terms distinguishing with other related concepts .
- Multidimensional/multilevel/multimethod analysis must be taken into consideration