

Physical activity programmes and interventions I: Children & Adolescents - Women - Elderly

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Group work

- What information from these target groups are useful for your project?

Physical activity interventions research

- (1) specific populations:
 - Among different age groups
 - Underserved populations
- (2) across different delivery modalities:
 - Worksite interventions
 - Mediated interventions
 - Environmental interventions
 - Multiple behavior change interventions that include physical activity.





CHILDREN & ADOLESCENTS

Barriers

- **Preferences and priorities, e.g.:**
 - a preference for doing other things
 - a lack of spare time
 - *they feel uncomfortable*
 - *poor body image*
 - *too much work – can't be bothered*
- **Family life and parental support, e.g.:**
 - parents' lack of current participation in, or enthusiasm for, sports and exercise
 - *Influence of peers*
 - *Other family, work and study commitments*
- **restricted access to opportunities for participation in sport or exercise, e.g.:**
 - cost, particularly for children from families with a low income
 - distance, particular for children from rural areas
 - lack of means for safe travel
 - lack of facilities
- **participating in unstructured forms of physical activity e.g.:**
 - busy traffic
 - threat of crime
 - threat of intimidation by older children
 - neglect of local play areas



Facilitators

- **aspects of physical activity that children value, e.g.:**
 - a choice of sporting and exercise opportunities
 - physical activity as a means to having fun and spending time with friends
 - for those children already engaged in high levels of sport:
 - a sense of belonging to a team
 - enjoyment of competitiveness
 - feelings of achievement
- **family life and parental support , e.g.:**
 - a supportive, encouraging and inspiring family
 - provision of practical support by parents
 - the opportunity to do things with other family members
- **greater access to opportunities for participating in physical activity, e.g.:**
 - owning a car
 - having a garden



Environmental

- better provision of youth clubs
- cleaning up park spaces and play areas
- providing better cycle paths
- schools to provide more extra-curricular opportunities
- making school facilities more accessible outside of school
- lessons



School-based / after-school / active school travel / family- and community-based / media advertisements and community programs

- Reviews have shown:
 - inconsistent and at best modest **short-term increases** in physical activity during the school day among children and adolescents.
 - physical activity increases have **not generalized to outside the school setting**, and maintenance of physical activity increases has either been poor or not assessed
 - School-based programs that have included **policy and environmental approaches have been more effective** than curriculum-only approaches
 - **Family- and community-based programs** have greater potential than programs operating in schools only, because of the multilevel approach
 - **Paid media advertisements and community events** increased PA in those exposed to the campaign, which indicates a positive nationwide effect
 - **After-school or active school travel programs** have suffered from high dropout rates

Effectiveness of interventions to promote physical activity in children and adolescents: systematic review of controlled trials, (van Sluijs, McMinn & Griffin, 2007)

Table 4 | Summary of levels of evidence for effect of interventions to promote physical activity in children and in adolescents, stratified by setting, characteristics of intervention, and target group

Variables	Children (33 studies)		Adolescents (24 studies)	
	No of studies	Level of evidence	No of studies	Level of evidence
Intervention type:				
Educational	19	No	17	No
Environmental or policy	4	Limited	1	Inconclusive
Multicomponent	10	Inconclusive	6	Strong
Setting:				
School	13	Inconclusive	14	Inconclusive
School plus community or family	14	Inconclusive	6	Strong
Family	4	No	1	Inconclusive
Community	2	No	1	Inconclusive
Primary care	0	No	2	Inconclusive
Target group:				
One sex only	5	No	9	Inconclusive
Ethnic minority populations	10	No	0	No
Low SES populations	3	Limited	2	Inconclusive

Categories are exclusive for setting and intervention type but not for target group. SES=socioeconomic status.

Effective interventions include:

- Modified physical education (PE) programs:
 - Increase in the **length** of the physical education class
 - **Alternative activities** to increase students' interest in being physically active during physical education class, and/or
 - **Increase in the amount of moderate to vigorous physical activity** children and youth engage in during each physical education class.



(Kahn, et al., 2002;
Dobbins, et al., 2001)

Effective interventions include:

- **Additional classroom physical activity breaks led by classroom teachers** as a complement to the physical education class.
- **Self-management programs:**
 - Goal-setting, self-monitoring and problem-solving
 - Pedometers
- **Health-related programs:**
 - Classroom curricula focusing on healthy nutrition, physical activity, tobacco-avoidance

(Kahn, et al., 2002;

Flynn, et al., 2006;

Brunton, Harden, Rees, Kavanagh, & Oakley, 2003;

Dobbins, DeCorby, Robeson, Husson, & Tirilis, 2009)



Effective interventions include:

- Changes to school meals:
 - Lower-fat/saturated fat/sodium menu options
 - Increased fruit and/or vegetable menu options
 - Cafeteria staff training
- Family involvement programs

(Dobbins, DeCorby, Robeson, Husson, & Tirilis, 2009;
Flynn, et al., 2006)



Effective interventions include:

- There is evidence that physical education specialists and classroom **teachers who receive special training** to teach physical education classes get the largest gains in physical activity among grade 4 and 5 students, when compared with non-specialist teachers (Kahn, et al., 2002; Thomas, et al., 2004).
- There is some evidence that **multi-focus interventions** (physical activity and nutrition) are **effective** in increasing physical activity and specific food intake (Kahn, et al., 2002; Thomas, et al., 2004; Brunton, Harden, Rees, Kavanagh, & Oakley, 2003).

<http://www.citiesforsports.eu/>

Cities for Sports

EN DE

You need exercise!

Promoting children's physical activity

A network project funded
by the European Commission



Network

Project

Best-Practice

Map

Conference

Guidelines



The network Cities for Sports

connects European cities and local organisations in terms of promoting everyday exercise in children's life.

Partner cities for "You need exercise!" are Athens, Copenhagen, Innsbruck, Rotterdam and [Stuttgart](#).

News

22.02.11

[EU SPORT FORUM 2011 BUDAPEST](#)



The results and Guidelines of the EU project 'You need exercise!' were presented in the frame of the EU Sports Forum in Budapest, 21 February - 22 February 2011. [» more](#)

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WOMEN



Barriers

- Lack of time,
- Being too tired,
- parenthood,
- role overload,
- being too lazy or unmotivated,
- not being the sporty type,
- being too fat to exercise,
- being too shy or embarrassed to exercise.



Barriers & Facilitators

Table 1 Perceived facilitators and barriers to physical activity in overweight women

Active participants (<i>n</i> = 17)				Inactive participants (<i>n</i> = 13)			
Perceived facilitator	%	Perceived barrier	%	Perceived facilitator	%	Perceived barrier	%
Weight loss	71	Weather	35	Fitness	92	Time	54
Social	65	Time	35	Weight loss	77	Too lazy	46
Fitness	59	Illness	24	Health	46	Health	39
Health	53	Injury	24	Feel good	31	Family	31
Enjoyment	35	No barriers	18	Handle work better	15	Illness	18
Feel good	24	Family	18	Fresh air	8	Injury	15
Look good	12	Travel time	12	More confidence	8	Weather	15
Fresh air	6	Tiredness	12	Social	8	Location	15
Satisfaction	6	Too lazy	12	Clothes fit better	8	Cost	15
		Overweight	6			No buddy	8
		TV	6			Unconfident	8
		Dislike activity	6			Tiredness	4

(Jewson, Spittle, & Casey, 2008)

Both Barriers & facilitators

- **Negotiation of the Medicalized Self**
 - Weight
 - Passivity
 - Menopause
- **Negotiation of the Socially Imposed Self**
 - Family and mothering,
 - Work and women's responsibilities,
 - Socioeconomic / class norms.
- **Negotiation of the Possible Self** (internal sense of herself as an individual who can or should engage in physical activity)
 - Absurdity (I really do not want to look silly and strange.“),
 - Social support,
 - Maintaining the status quo ,
 - Value and commitment to exercise.

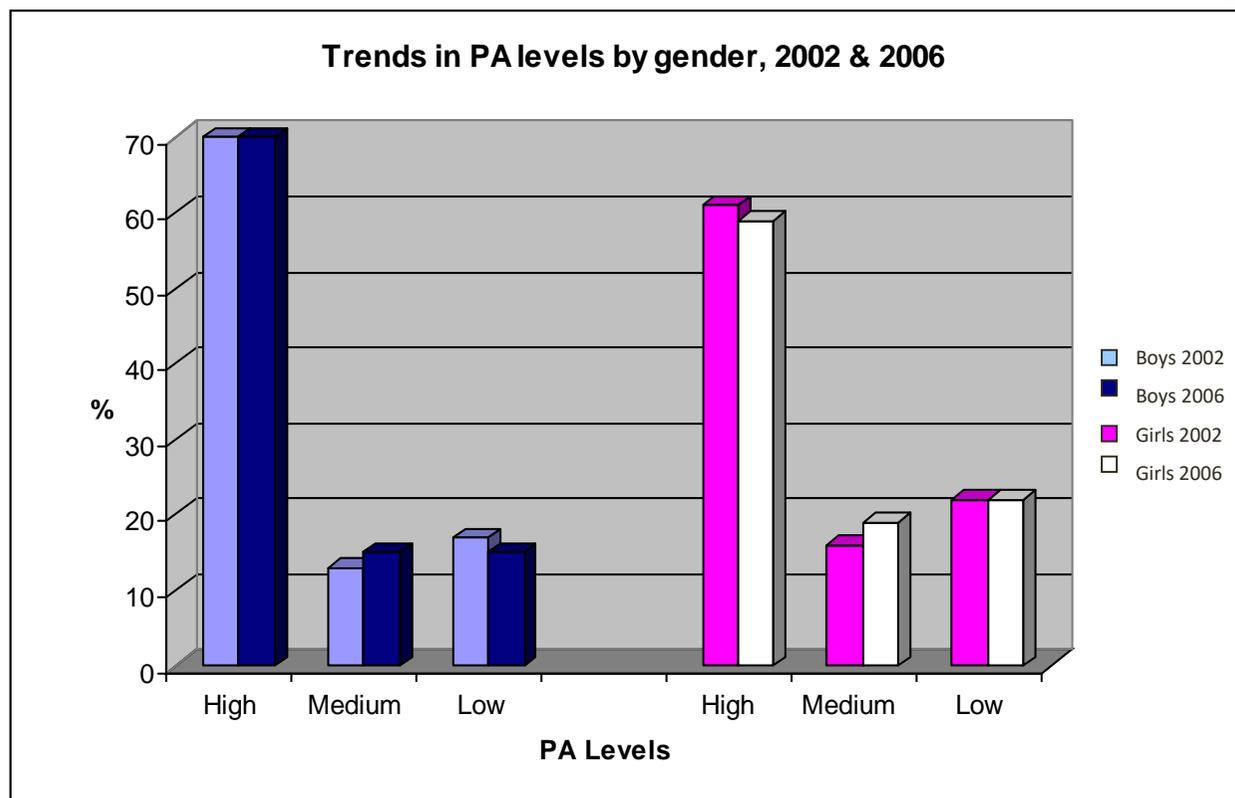
(Hendry, Solmon, Choate, Autrey, & Landry, 2010)

UK girls: 2-15yrs

- In 2006 70% of boys & 59% of girls achieved the current PA recommendations (1hr a day)
- For girls, high levels of PA declined from age 8 onwards, while boys levels remained similar across the age groups



PA levels by gender and intensity



The Health Survey for England 2002. The Department of Health, 2003.

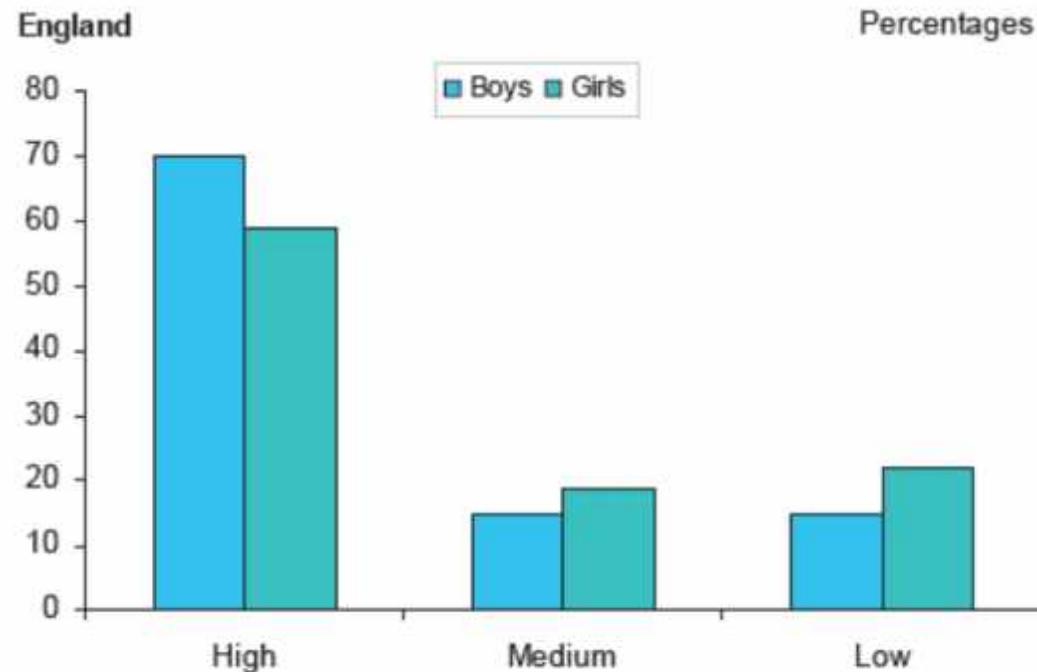
Available at:

http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsStatistics/DH_4078027

Health Survey for England 2006. The Information Centre, 2008.

Available at: www.ic.nhs.uk/pubs/hse06cvdandriskfactors

Children's PA levels by gender



Source: Health Survey for England 2006. The Information Centre

Office of National Statistics (2008) Statistics on Obesity, Physical Activity & Diet: England. January, 2008. The Information Centre, Lifestyle Statistics. Available at:

<http://www.ic.nhs.uk/webfiles/publications/opan08/OPAD%20Jan%202008%20final.pdf>

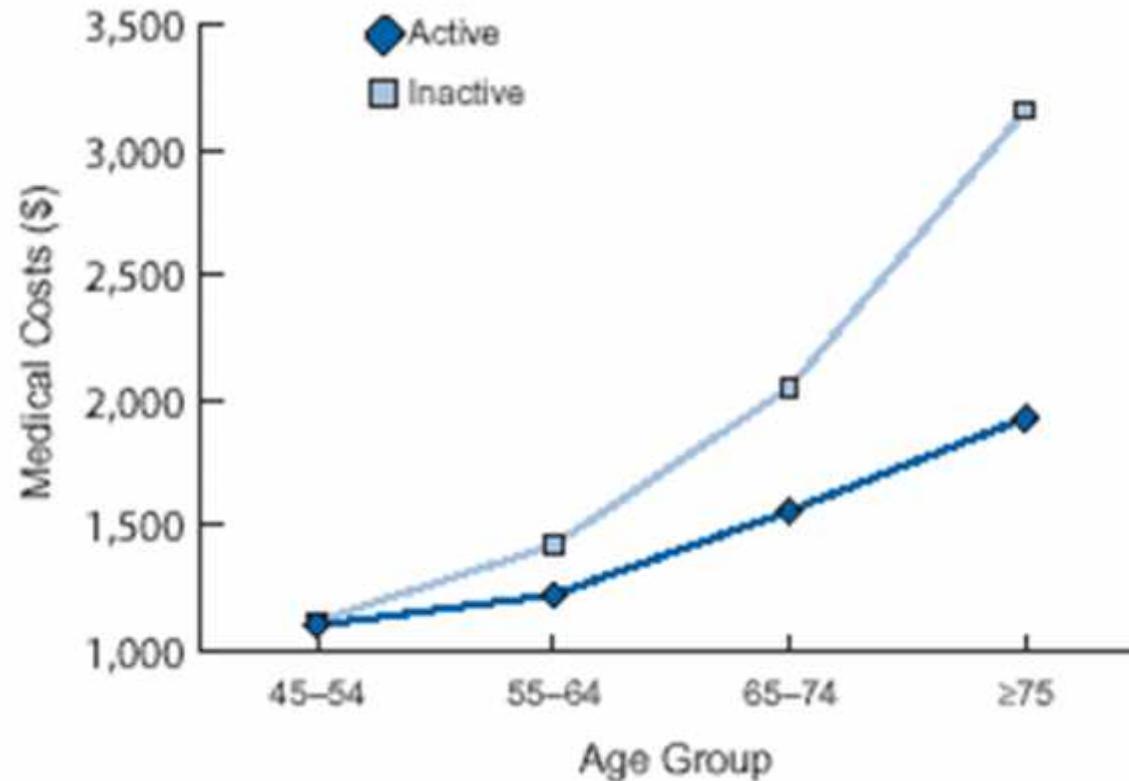
USA: girls

- Girls are less active than boys,
- Older children and adolescents are less active than younger children and adolescents,
- Among girls, blacks are less active than whites
- Girls are significantly less likely than boys to participate regularly in vigorous physical activity and on sports teams
- Girls join organized sports programs at later ages than boys and drop out at younger ages
- Girls who participate in sports are more likely to achieve academic success and graduate high school.
- Female student athletes graduate college at higher rates
- Higher self-esteem and less depression

Effective strategies for girls

- **Strategies** to increase the amount of physical activity for boys and girls will **need to be different**, because girls tend to prefer different types of physical activity and pursue it for different reasons than do boys
- Since girls are more likely to have lower self-esteem related to their physical capabilities, programs that serve girls should:
 - **provide instruction and experiences that increase their confidence,**
 - **offer ample opportunities for participation, and**
 - **establish social environments that support involvement in a range of physical activities**

Annual Medical Costs of Active and Inactive Women (Aged 45 or Older) Without Physical Limitations



Source: Centers for Disease Control and Prevention. *Promoting Active Lifestyles Among Older Adults*. National Center for Chronic Disease Prevention and Health Promotion. Nutrition and Physical Activity. http://www.cdc.gov/nccdphp/dnpa/physical/recommendations/older_adults.htm

Exercise during pregnancy

- **Minimise** minor **discomforts** associated with pregnancy
- Improve self-esteem and self-image
- Speed post-partum recovery (Hatch et al,1993; Wolfe et al, 1994; Dunkley; 2000; Zeanah & Schlosser, 1993; Horns et al, 1996)
- Women who exercise regularly are more likely to have shorter labours
- Less intervention and **recover more quickly after birth** (Clapp,2000)
- Low impact, Pilate-based exercises and relaxation techniques are safe



ELDERLY



<http://www.youtube.com/watch?v=3KZeO5oc428>

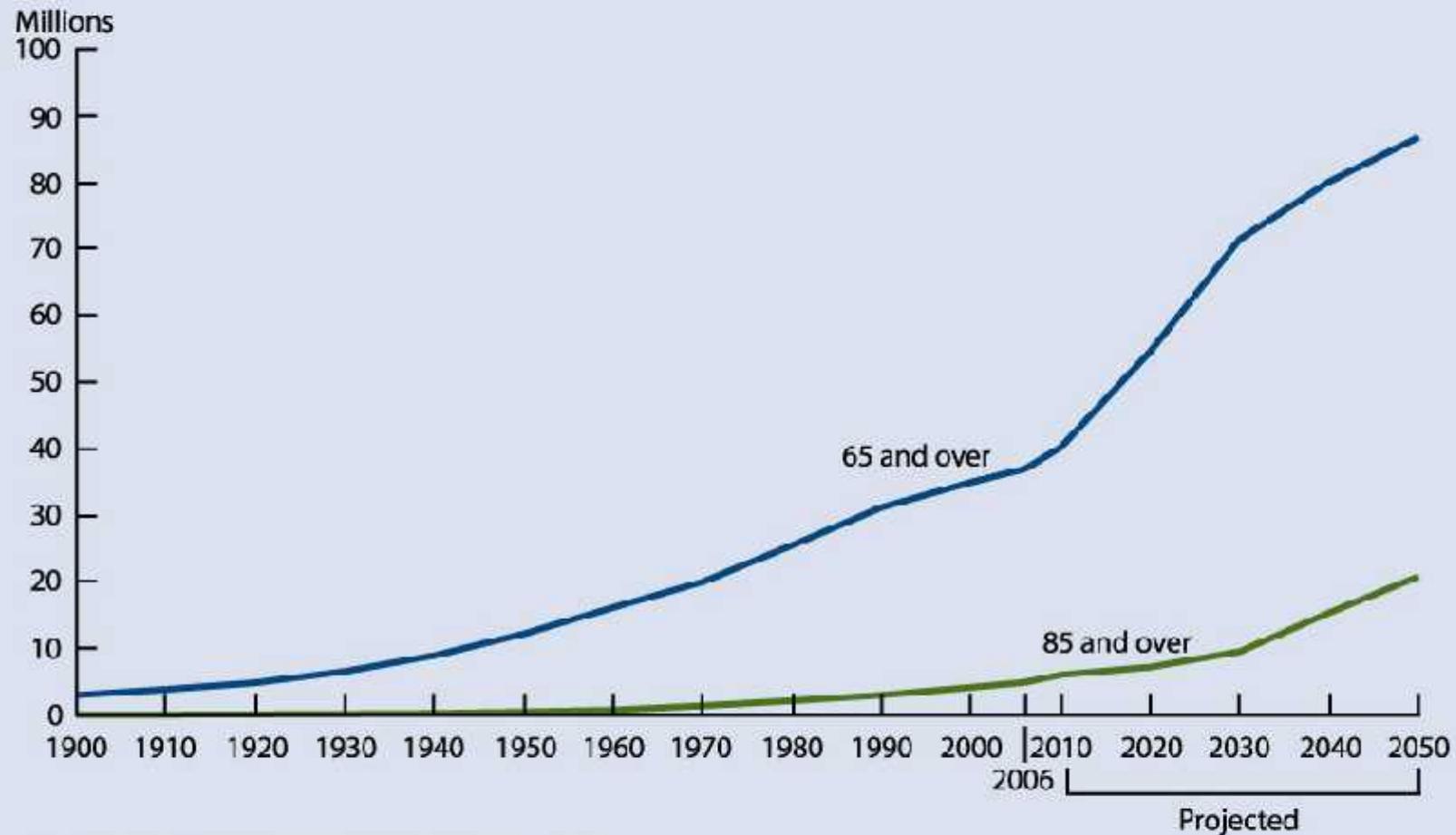
Characteristics

- THE AGE OF 65 IS USUALLY DENOTED AS THE BEGINNING OF “OLD AGE”
- LIFESTYLE AND HEALTH DO NOT DIFFER GREATLY FROM AGE 50 - 65
- UPON REACHING 70 THE ONSET OF DEGENERATIVE DISEASES BEGIN
 - ORGAN SYSTEMS
 - BONE DEGENERATION
 - ARTHRITIS
- AS A RESULT THE NEED FOR HEALTH CARE INCREASES



Number of Older Americans (Older Americans 2008: Indicators of Well-being)

Number of people age 65 and over, by age group, selected years 1900–2006 and projected 2010–2050



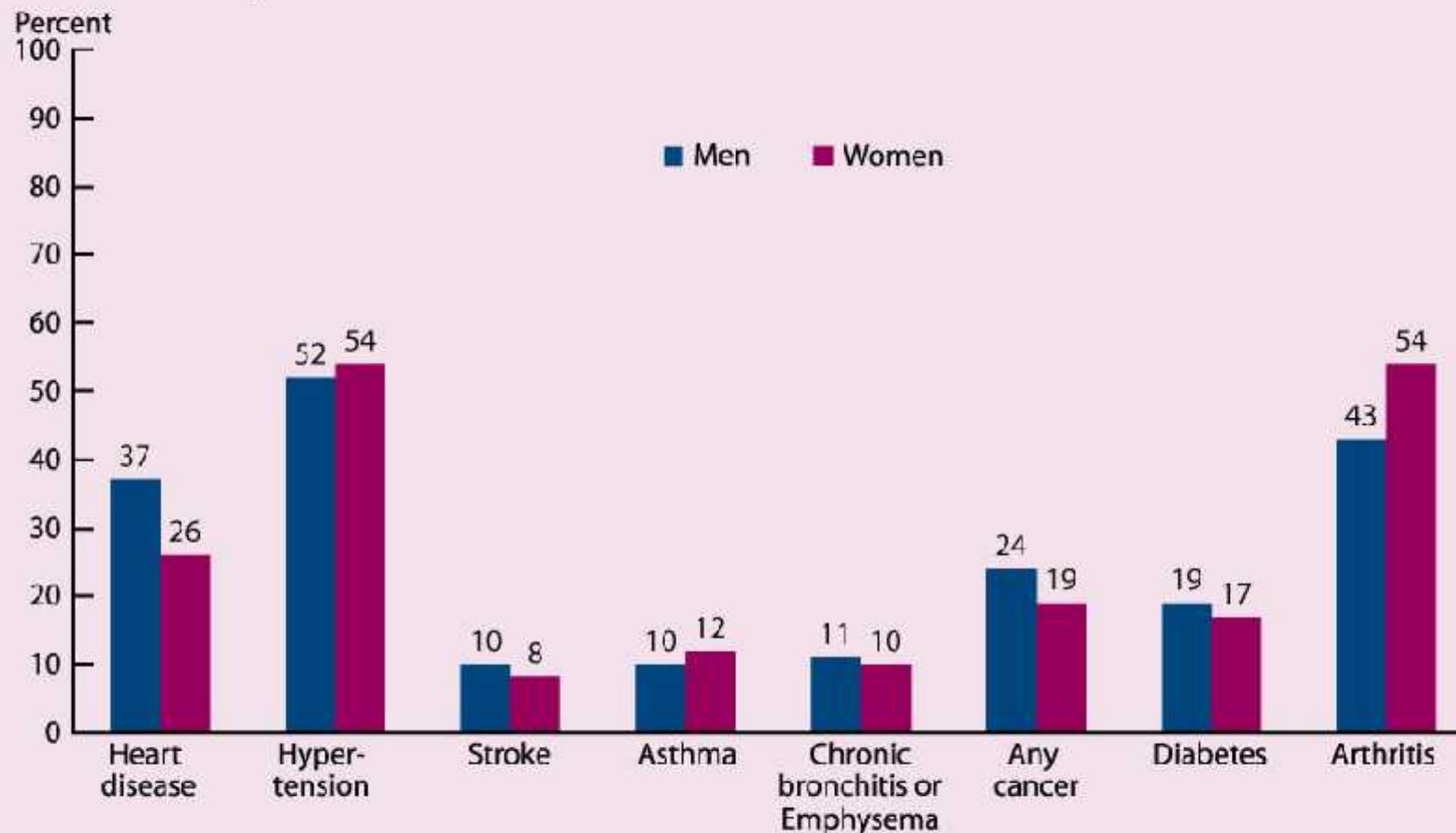
Note: Data for 2010–2050 are projections of the population.

Reference population: These data refer to the resident population.

Source: U.S. Census Bureau, Decennial Census, Population Estimates and Projections.

Chronic Health Conditions (Older Americans 2008: Indicators of Well-being)

Percentage of people age 65 and over who reported having selected chronic conditions, by sex, 2005–2006



Note: Data are based on a 2-year average from 2005–2006.

Reference population: These data refer to the civilian noninstitutionalized population.

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey

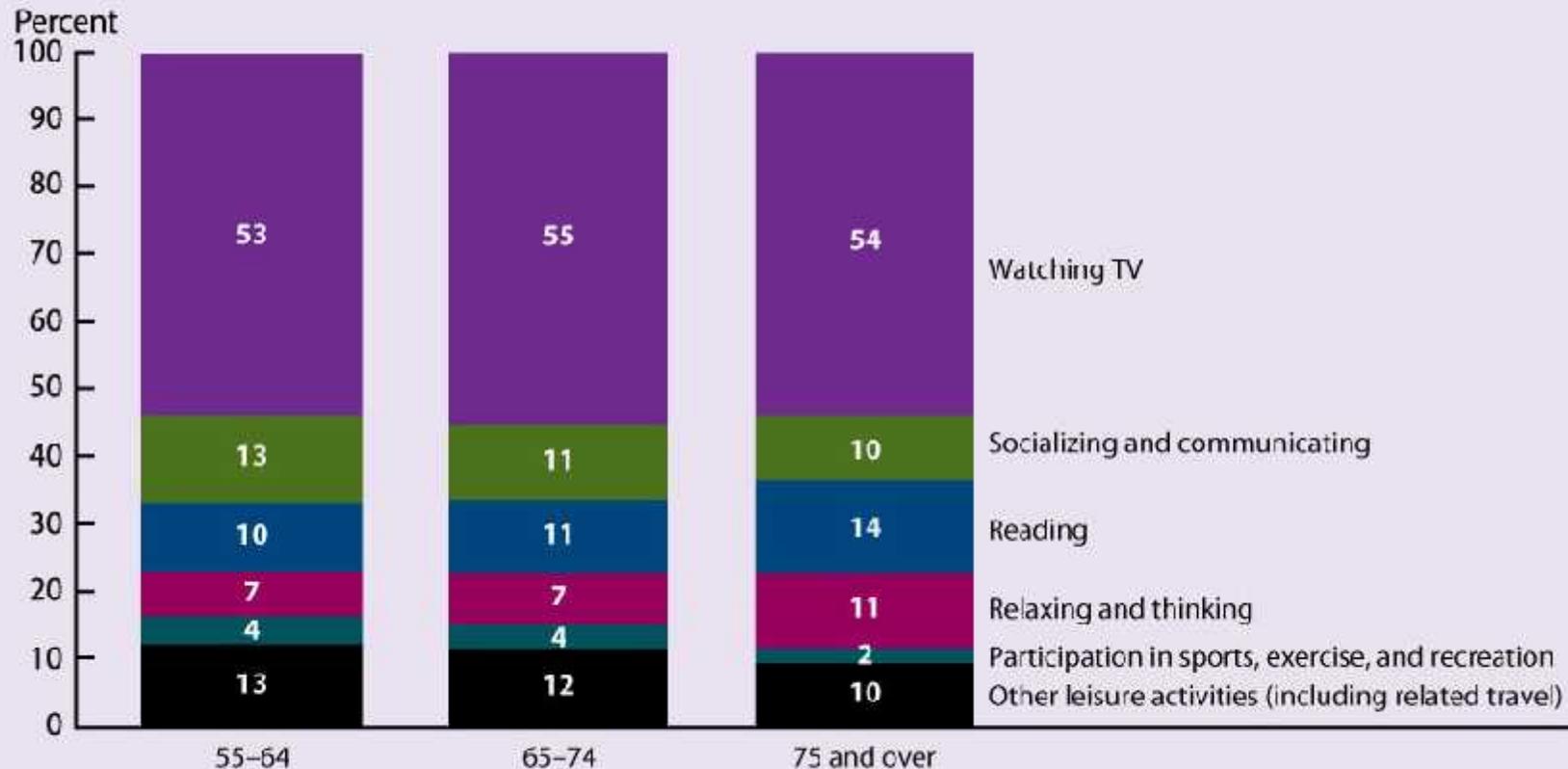
EMERGING PROFILE OF AGING INDIVIDUALS

- **More people aging** in place at home and community
- Healthier but **living with chronic illness** and functional difficulties
- Increasing **race/ethnic diversity**
- Increasing **heterogeneity**:
 - Age
 - Education
 - Interests
 - Cognitive and physical capacities
- Participation in leisure activities remains relatively flat across age groups and over time with **sedentary activity** favored over more active



Use of Time

Percentage of total leisure time that people age 55 and over spent doing selected leisure activities on an average day, by age group, 2006



Reference population: These data refer to the civilian noninstitutionalized population.

Source: Bureau of Labor Statistics, American Time Use Survey.

Benefits of PA:

What the Research Shows

- **Cognitive Benefits:**
 - Cognitive activities associated with lower risk of developing Mild Cognitive Impairment
 - Leisure activities associated with lower risk of dementia and reduced global cognitive decline
- **Affective Benefits:**
 - Low leisure activity participation is associated with depression
 - Activity central to reducing depression:
 - Primary approach in cognitive behavioral interventions
 - Relationship of functional decline and depression mediated by activity engagement
- **Brain Health / Heart Health / Reduction in Risk of Diabetes, Falls etc**
 - Physical activity shown to have health multiple benefits
 - Balance/muscle strengthening – critical to fall risk reduction programs
 - Regular walking found to increase reserve, improve overall well-being

Other Proven Benefits of Activity Engagement

- Improves ability to process and integrate sensory information
- Anticipate and react quickly and efficiently to changes in task demands
- Enhances attention
- Social connectedness
 - Reduces social isolation
- Concept of “flow” – leads to happiness and well-being
- Enables individual to reach personal goals



Facilitators

- Western Australians aged 60 years and over were more likely than other age groups to state that their **main reason for being active was to reduce the risk of disease.**
- What motivates seniors to exercise?
 - Having fun and companionship
 - Having enhanced control over one's life
 - Achieving lifelong activity levels;
 - Improving health and well-being;
 - Increasing self-esteem; and
 - Having access to tailored programs.



Barriers

- **Poor health** was the most frequently reported reason for not being more active for seniors (60 years and over)
- Limited or inappropriate **sporting opportunities** including **instructors capable** of identifying the physiological needs of seniors
- **Stereotypical** images of ageing
- Lack of **confidence**
- Lack of **time**
- Transport and **access** to programs
- **Cost**



Motivators and barriers to participation

MOTIVATORS TO PARTICIPATION	BARRIERS TO PARTICIPATION
Improved physical health	Physical health problems
Improved mental health	Age
Social aspect	Not having company
Aesthetic appeal of the environment	Aesthetic appeal of the environment
Pets	Pets
Transport	Youth
Enjoyment	Language
Aides/supports	(Perceived) lack of capacity
Habitual	Inclement weather
Responsibility to look after oneself	Time/too busy
Sense of achievement	Youth
	Safety
	Access to services and facilities

Research findings

- Interventions among older adults, including face-to-face and telephone interventions and individual and group interventions, have been effective in increasing physical activity behavior, at least in the short term.
- These interventions typically have multiple components and involve some combination of educational, behavioral, and cognitive-behavioral strategies.
- Cognitive-behavioral interventions such as self-monitoring and goal setting have been effective in several studies.
- A comparison between home- versus center-based PA programs center-based programs appeared to be superior in the short term for producing fitness outcomes, although adherence to physical activity programs was superior in home-based programs.
- Thus, physical activity promotion among older adults has shown some short-term efficacy when programs have gone beyond educational approaches.

Future Research for seniors

- Comparison of senior center participants to non senior center users
 - What is the reach of senior centers?
 - Marketing and activity planning implications
- On-going evaluation of risk profiles of senior center members
- Systematic assessment of program outcomes for quality control and identification of program benefits
- Development and testing of effectiveness of innovative programming

HOME

PROJECT

PARTNERS

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S²-PORT (SENIOR SPORT)



S²-PORT will develop a holistic methodology that can easily be adapted and implemented by different public authorities, and increase the level of awareness. It will support networking and

Tools

- ▶ Best Practises for Seniors
- ▶ News
- ▶ Press Folder

<http://www.seniorsport.eu/>

Key References

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***RESEARCH RECOMMENDATIONS AND
FUTURE DIRECTIONS FOR ALL AGE
GROUPS***

Recommendations and Future Directions

- Research has typically focused within different ages or developmental periods, which results in the loss of potential opportunities to capitalize on natural interactions and synergies that occur across generations.
- R. 1. **Target the family** in promoting regular physical activity
 - Previous results from family-based interventions have been mixed.
 - We should find ways to get all family members (including fathers) to participate regularly, as well as to expand the site of such interventions beyond institutional settings (eg, schools) to the home environment, where a large portion of daily family interactions occur.

Recommendations and Future Directions

R. 2. **Target specific intergenerational dyads**, such as mother-daughter, father-son pairs.

- Such approaches capitalize on the similar motives and challenges faced by same-genders across generations related to physical activity and other lifestyle behaviors.
- Other innovative approaches to family-based interventions need to be evaluated.
- A wide range of other opportunities exist for intergenerational physical activity interventions that await systematic investigation.
- Multigenerational neighborhoods (“neighborhood watches”)

R.3. **Target community settings** where multiple generations gather on a regular basis, such as places of worship, has promise for reaching a wide range of population groups. (Noora’s work can be expanded)

Group work

- What information from these target groups are useful for your project?

Thank you