



SEDENTARITY AT WORK IN UNIVERSITY EMPLOYEES: AN ANALYSIS BY ACCELEROMETRY

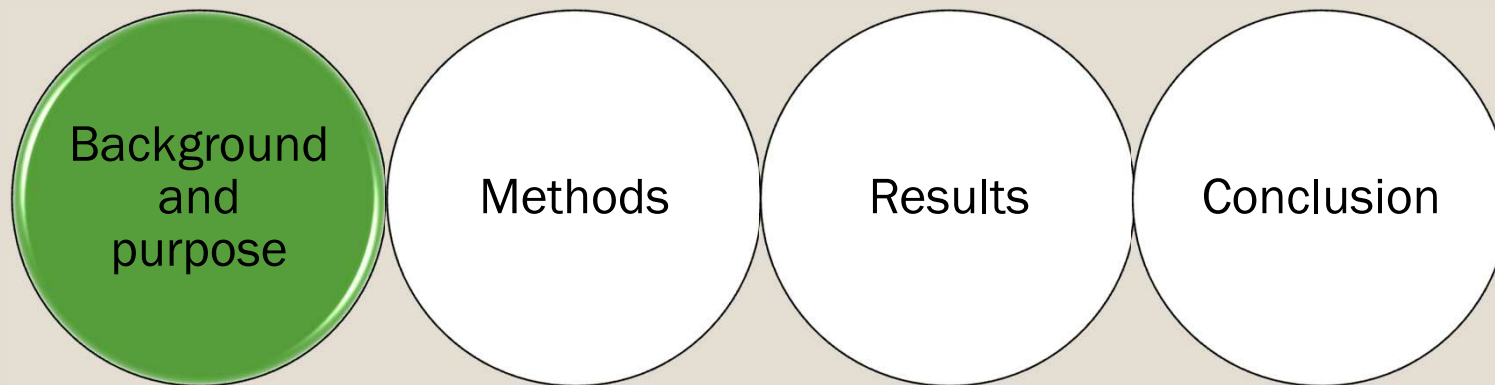
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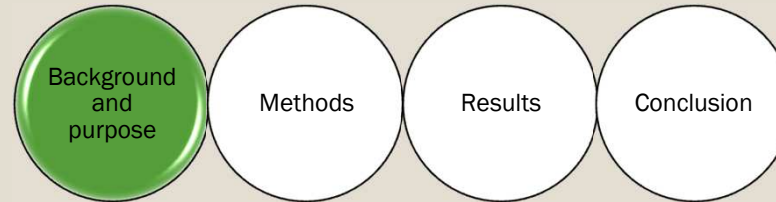


Program

- Background and purpose
- Methods
- Results
- Discussion
- Conclusion and implications



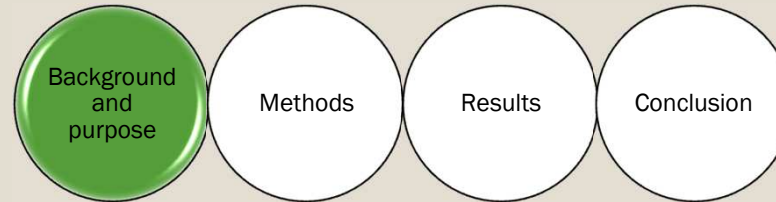




Definitions

<u>Sedentarity</u>	><	<u>Inactivity</u>
-Low energy expenditure (<1,5 METs)		Person who does not reach the recommended level of physical activity
-Period in sitting including sleep		
(Tremblay et al., 2008)		(2010)
Deleterious health consequences of prolonged sitting time, which may be independent of the protective effect of regular moderate-intensity physical activity (Owen et al., 2010; Hamilton et al., 2007)		

We need a consensus



Recommendations

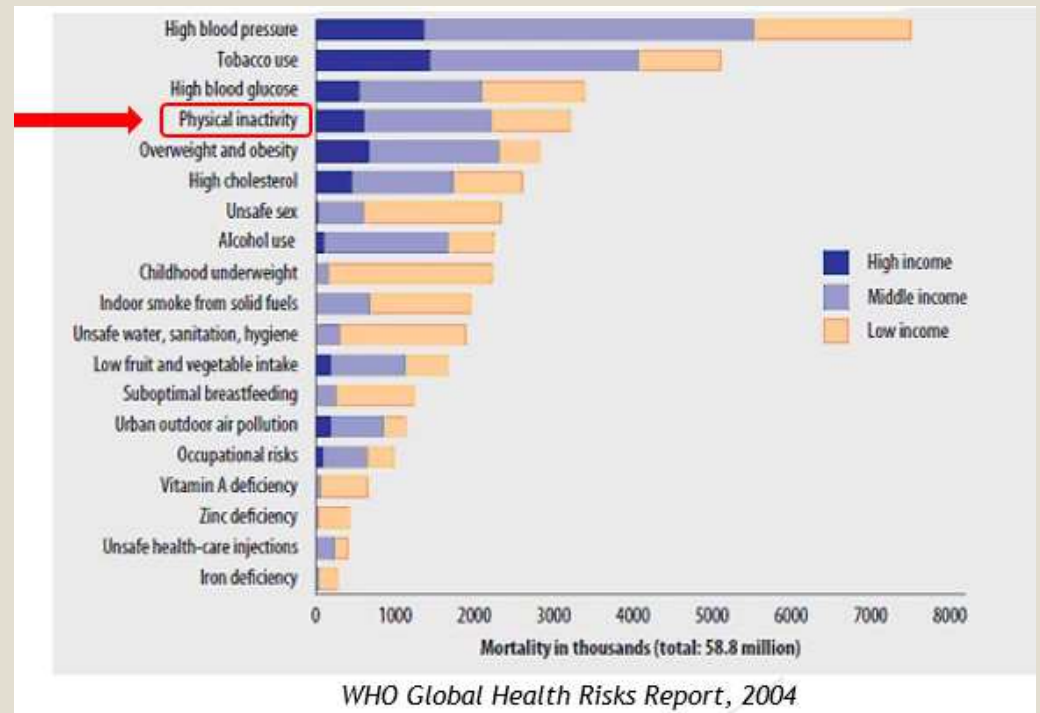
- Minimize the time spend sitting or lying
- Interrupt each 120-minutes period with joint mobilization

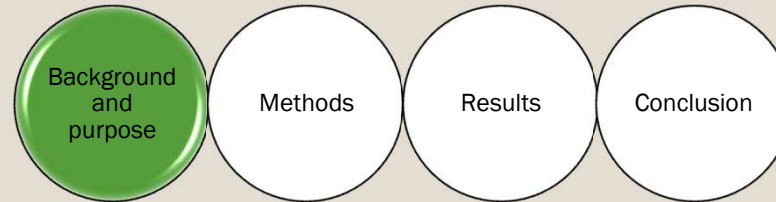
(WHO, 2010)

Not clear

Sedentarity/inactivity

- Fourth risk of death (WHO, 2004)
- First preventable mortality cause (Wen et al., 2011)
- 23% of adults do not practice enough PA (WHO, 2017)
- University employees spend 69% of their time being sedentary (Fontaine et al., 2014)

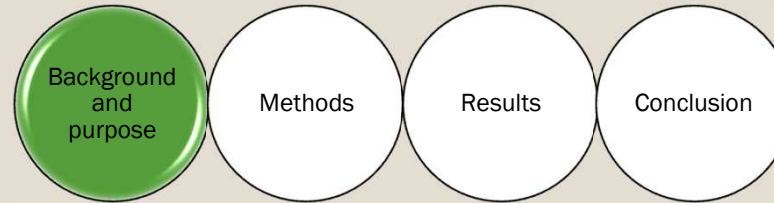




Benefits of physical activity at work

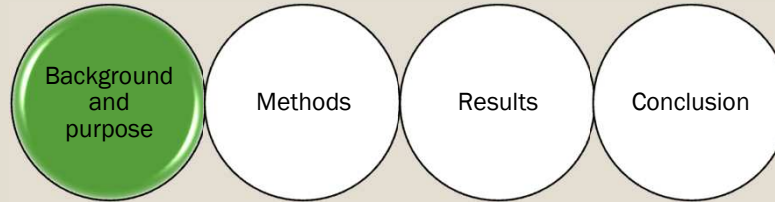
For the employees	For the firm	For the society
<ul style="list-style-type: none">-Improvement health and fitness-Weight control-Improvement of well-being@work-Reduction of health costs-...	<p>Improvement of the :</p> <ul style="list-style-type: none">-relation@work-notorety-sens of belonging-productivity	<ul style="list-style-type: none">-Decrease in social security costs

Benefits go to each part



In Belgium

- Adults spend 6hours and 39minutes seated per day
- 22,2% spend more than 8h/day in a sitting position without counting the time spent in transport.
- Tend to increase when the degree level is higher (Bel et al., 2016)
- 4.938.814 employees / 11.431.406 (Statistics Belgium, 2018)



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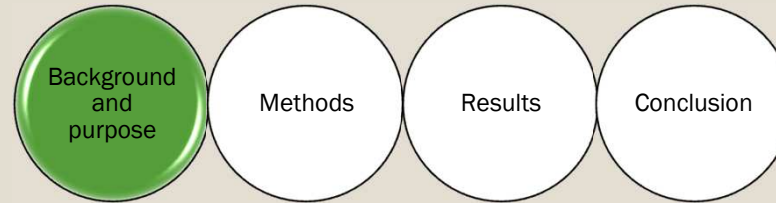


Radius,

phys



Big action opportunity



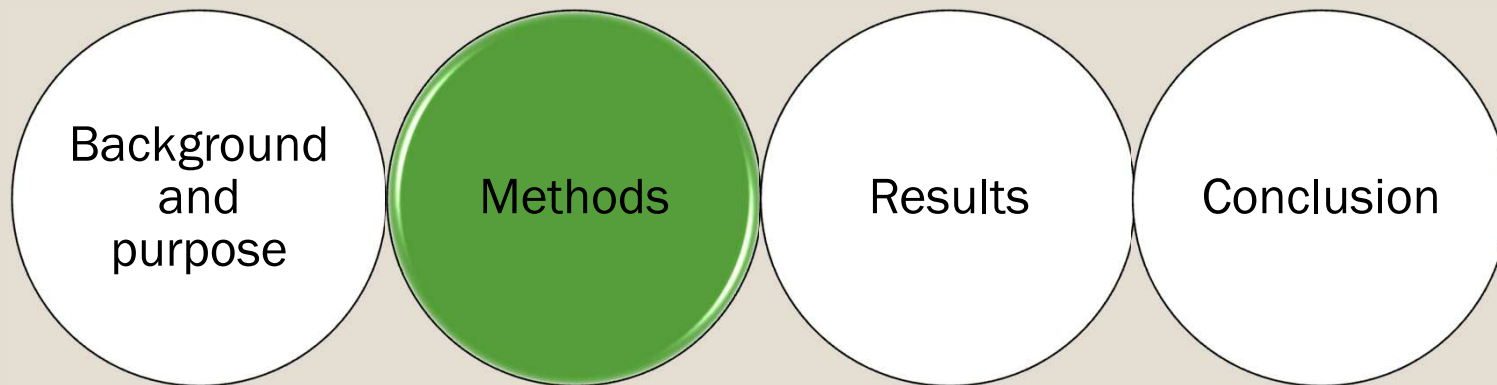
Purpose

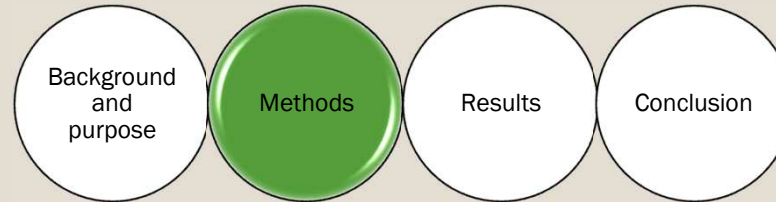
- Supplement previous data using accelerometry



- Prepare recommendations for the authorities of the institution



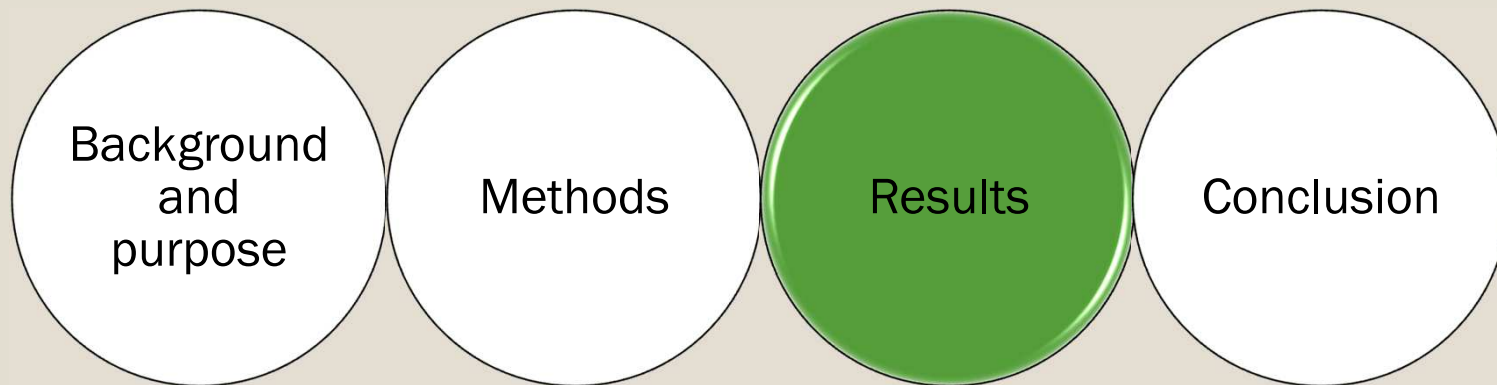




Collecting tools

- Accelerometers Actigraph GT3X+
- 47 subjects working at the ULiège
- Stratified sampling (gender, age and location of the workplace)
- Only 13 refusal (auto-selection bias)
- Worn on the right hip for 7 days, day and night (Mingueles et al., 2017)
- Troiano et al. (2007)'s epochs and cut-points





Sample's characteristics

- 1 excluded subject

Downtown						Campus (Sart-Tilman)					
♀			♂			♀			♂		
20-39	40-59	60+	20-39	40-59	60+	20-39	40-59	60+	20-39	40-59	60+
4	4	4	4	4	4	4	4	4	4	4	4
24						24					
Total = 48											

Sedentarity behaviour

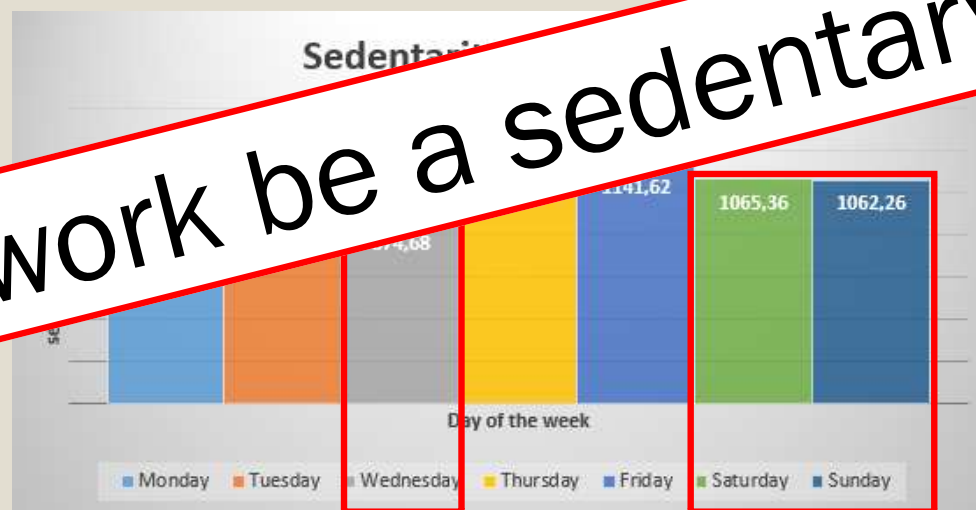
- 7911 minutes/week (± 558)
 → 1130 minutes/day or 18hour and 50minutes per day (sleep included)

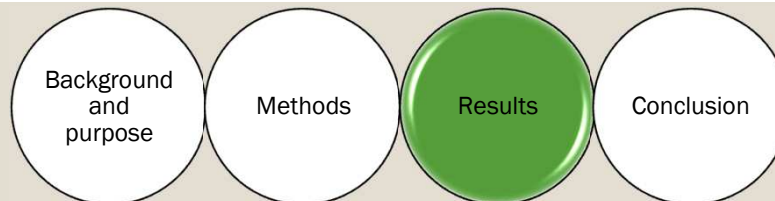
	Gender		Workplace		Age		
	Women	Men	Downtown	Sart-Tilman	A = <39	B = 40-59	C = >60
Sedentarity behaviour (min/week)	7767'	8044'	7935'	7885'	7659'	7998'	8059'
	p= 0,14		p= 0,76		A/B : p= 0,07 A/C : p= 0,05 B/C : p= 0,076		

Sedentarity behaviour

- 7911 minutes/week (± 558)
 → 1130 minutes/day or 18hour and 50minutes per day

Could work be a sedentary factor?





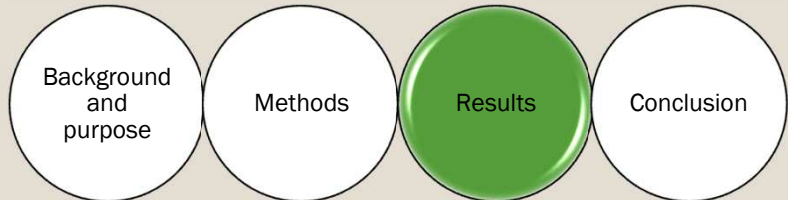
Activity/Inactivity

- Steps/day
 - 8069 ± 6463 steps/day
 - only a significant difference between -39 and +60

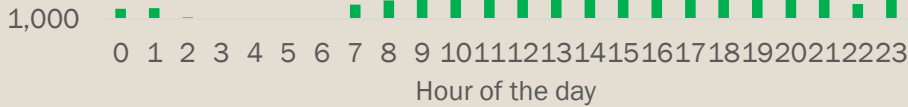
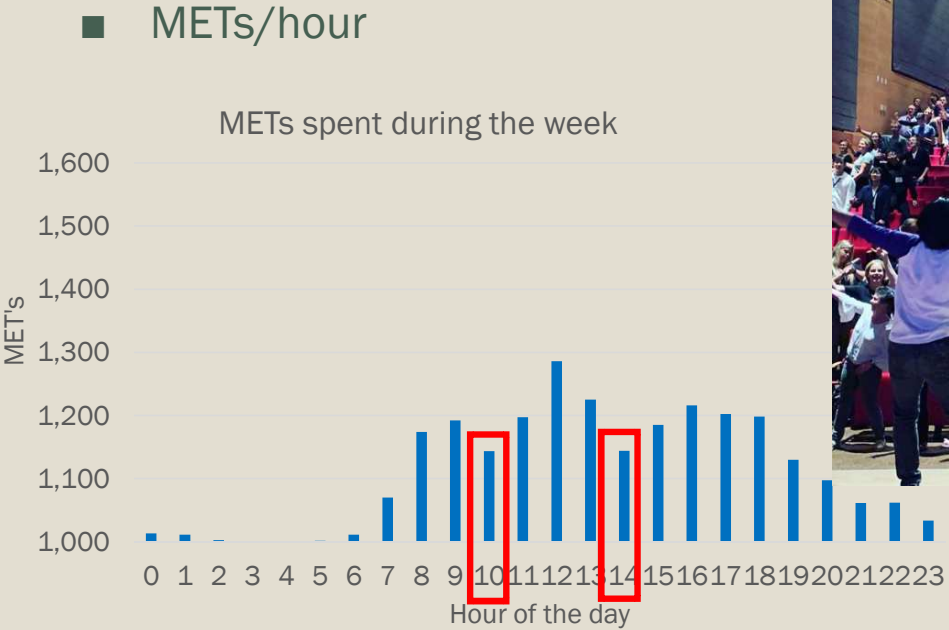
Classification system of tuderlock and basset (2004)

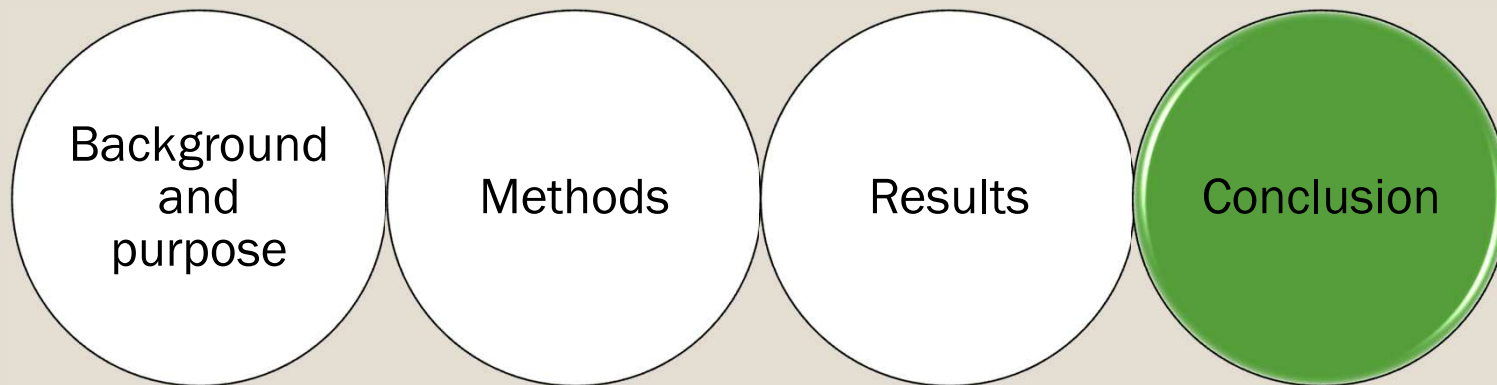
	Sedentary (<5000 steps/day)	Low active (5000 à 7499 steps/day)	Somewhat active (7500 à 9999 steps/day)	Active (≥ 10000 steps/day)	Highly active (≥ 12500 steps/day)
Subjects	8	14	14	7	4

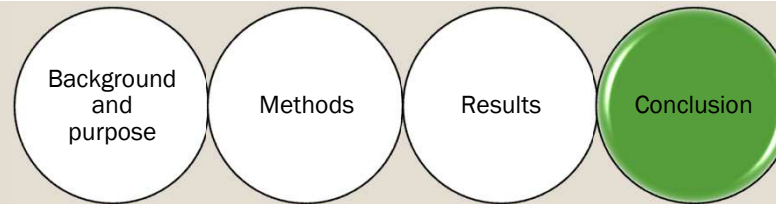
Days with at least 10,000 steps	0	1	2	3	4	5	6	7
Number of subjects	18	11	5	5	3	3	1	1



Activity/Inactivity







- Need for a standardization of the concepts "sedentarity" and "lack of PA"
- Sedentarity@workplace at ULiège seems to be a major problem
- No significant difference depending on the workplace
- Sedentarity is not and can not be compensated by a sufficient PA
- The data confirm the high sedentary rate previously identified by the questionnaires
- Implications: It is important to set up projects to increase physical activity but especially to reduce the sedentary situations of the employees of ULiège



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