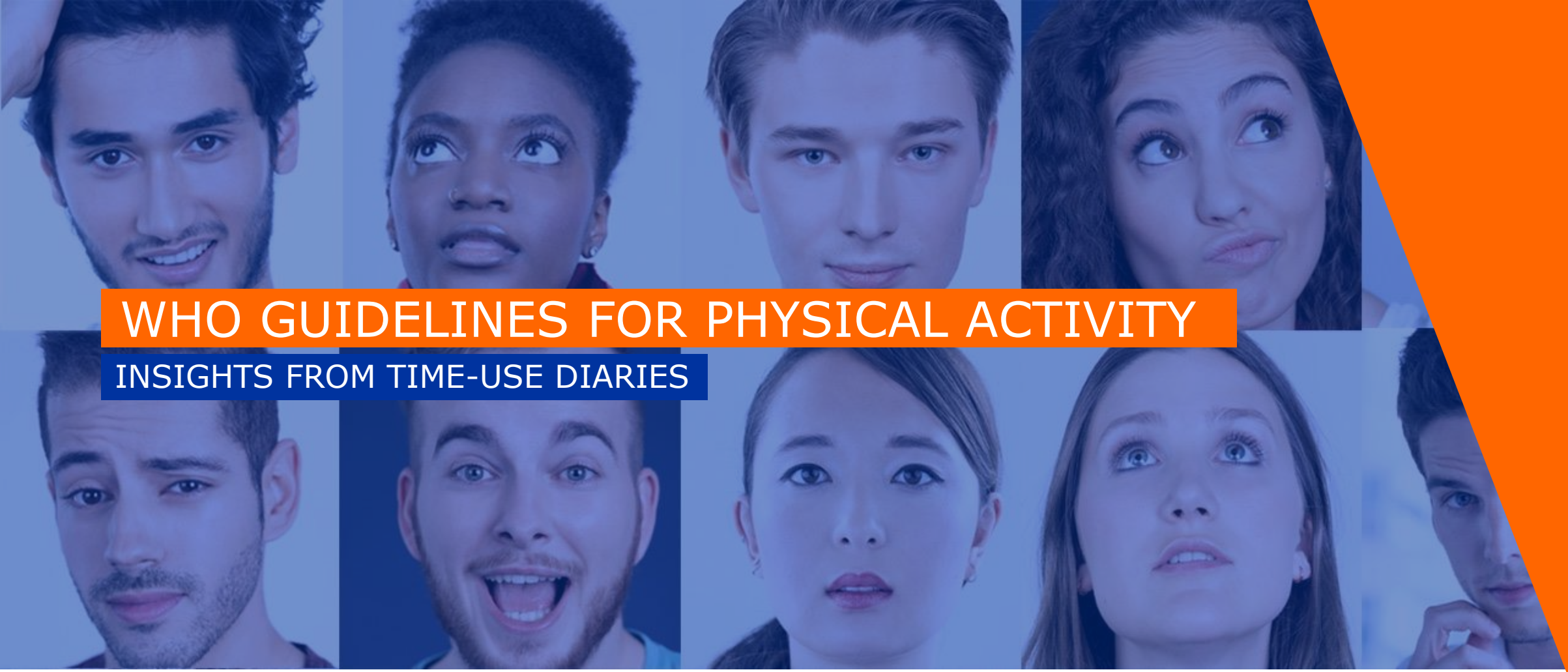

WHO GUIDELINES FOR PHYSICAL ACTIVITY

INSIGHTS FROM TIME-USE DIARIES

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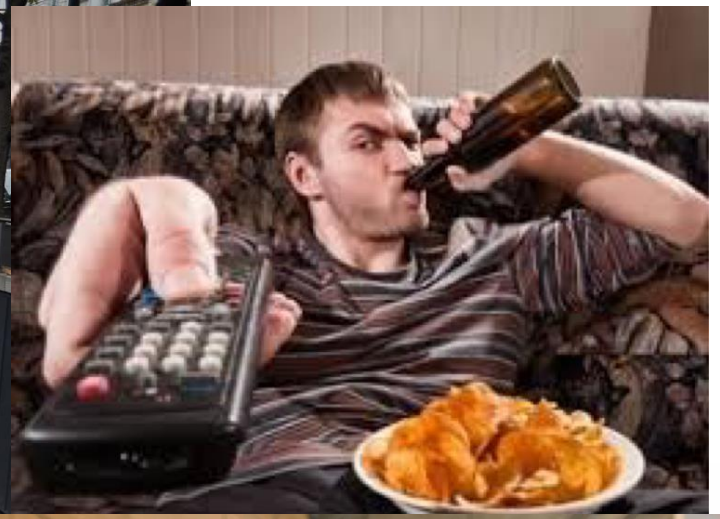
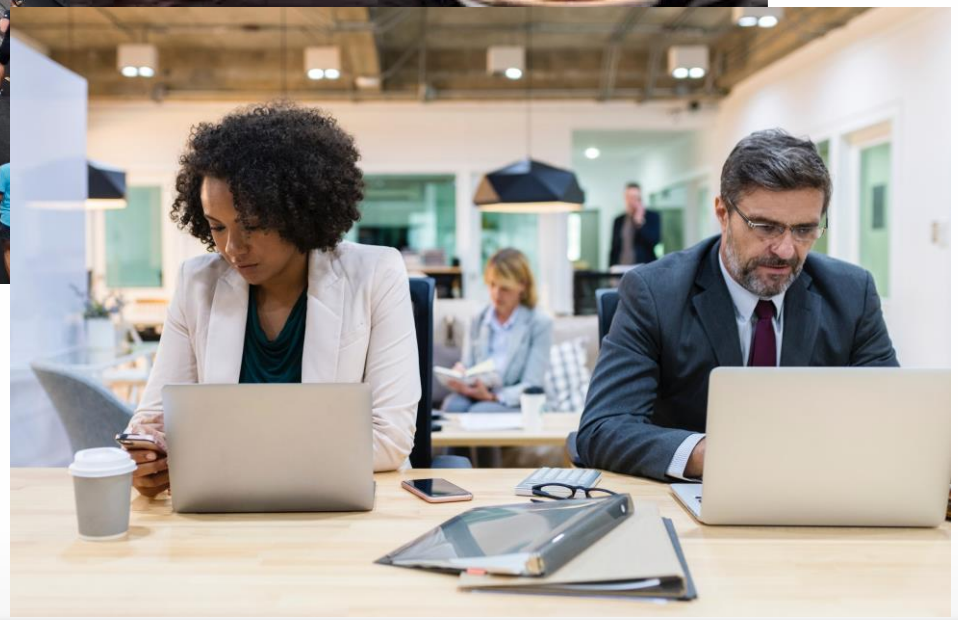
BACKGROUND





BACKGROUND

FWO GUIDELINES FOR PA

- *150 minutes MPA or 75 minutes VPA or equivalent*
  - Decreases risk of
    - Non-communicable diseases (NCD)
    - Depression
    - Breast and colon cancer
  - Improves
    - Weight reduction and maintenance
    - Cardiorespiratory health (coronary heart disease, cardiovascular disease, stroke and hypertension)
    - Metabolic health (diabetes and obesity)
    - Bone health (osteoporosis)

BACKGROUND

FWO GUIDELINES FOR PA

- *300 minutes MPA or 150 minutes VPA or equivalent*
  - Improved health benefits
    - Breast and colon cancer
    - Bone mass density
    - NCD in general

- *"No scientific evidence to identify additional health benefits for volumes greater than 300 minutes per week".*

RESEARCH QUESTION

- Using time-use data, to what extent are the WHO PA guidelines for the age group of 18-64 years old met in the Belgian region of Flanders?

BACKGROUND

"Does your work involve moderate-intensity activity that causes large increases in breathing or heart rate like [carrying or lifting heavy loads, digging or construction work] for at least 10 minutes continuously?"

"In a typical week, on how many days do you do moderate-intensity activities as part of your work?"

"How much time do you spend doing moderate-intensity activities at work on a typical day?"

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BACKGROUND

"On how many of the last 7 days did you walk quickly, do sports, or other physical activity for 30 min or longer"?

ADILSON ET AL. – ESS DATA

DATA & METHODOLOGY

TIME-USE DIARIES

- MOTUS 2013
- Age 18 - 65
- 7-day diary
- Ainsworth compendium of physical activities

DATA & METHODOLOGY

TIME-USE DIARIES & AINSWORTH COMPENDIUM

Main activity	Duration	MET	Weight	Kcal
Sleeping	08:00	1	79	663.6
Playing board games	00:30	1.5	79	62.21
Vacuum cleaning	00:30	3.3	79	136.9

- MET: 'resting metabolic rate': intensity activity compared to resting
- Kcal: (duration [minutes] * MET * 3,5 * weight [kg]) / 200

ANALYSIS

- Dependant variable
  - Compliance to WHO guidelines for 150 minute MPA or 75 VPA

- Independant variables
  - Gender (seperate analyses)
  - Age
  - Education
  - Occupation
  - Living with partner
  - Living with child < 7y

- Crosstabs
  - Gender and compliance to WHO guidelines

- Logistical regression
  - Gender and compliance to WHO guidelines

RESULTS

Table 1: Crosstable of gender and compliance with WHO PA guideline for health benefits (150 minutes moderate PA or 75 minutes vigorous PA)

	Men		Women		Total	
	Count	Percent	Count	Percent	Count	Percent
No compliance WHO PA guideline	214	16.7%	351	20.1%	565	17.4%
Compliance with WHO PA guideline	1069	83.3%	1394	79.9%	2463	82.6%
Total	1283	100.0%	1745	100.0%	3028	100.0%

Fisher's exact test of chi squared (2 sided) significance = .018

RESULTS

Table 2: Logistic regression on compliance to the WHO PA guideline for health benefits

	Men			Women	
	B	Sig		B	Sig
Age		.013			.016
18 - 24 yrs (ref)					
25 - 34 yrs	1.260	.003		.144	.653
35 - 44 yrs	1.056	.012		.705	.031
45 - 54 yrs	.969	.020		.392	.223
55 - 64 yrs	.512	.244		.807	.037
Education		.969			.973
Higher education (ref)					
Secondary education	-.074	.823		.084	.084
Primary or less	-.033	.919		.057	.057

RESULTS

Table 2: Logistic regression on compliance to the WHO PA guideline for health benefits					
	Men			Women	
	B	Sig		B	Sig
Occupation		.011			0.167
White-collar (ref)					
Unemployed	.510	.304		.639	.078
Blue-collar	.867	.006		.508	.163
Self-employed	.563	.034		-.079	.670
Living with partner	.644	.007		.537	.003
Living with child <7 yrs	-.394	.133		-.692	.001
Constant	.106	.831		.667	.157
Nagelkerke r^2	0.063			.054	

RESULTS

Table 3: Crosstable of gender and compliance with WHO PA guideline for *additional* health benefits (300minutes moderate PA or 150minutes vigorous PA)

	Men		Women		Total	
	Count	Percent	Count	Percent	Count	Percent
No compliance WHO PA guideline	364	28.4%	714	40.9%	1078	35.6%
Compliance with WHO PA guideline	919	71.6%	1031	59.1%	1950	64.4%
Total	1283	100.0%	1745	100.0%	3028	100.0%

Fisher's exact test of chi squared (2 sided) significance = <.001

RESULTS

Table 4: Logistic regression on compliance to the WHO PA guideline for *additional* health benefits

	Men			Women	
	B	Sig		B	Sig
Age		.299			<0.001
18 - 24 yrs (ref)					
25 - 34 yrs	.483	.199		.667	0.023
35 - 44 yrs	.267	.483		.993	0.001
45 - 54 yrs	.576	.130		1.232	<0.001
55 - 64 yrs	.242	.547		1.304	<0.001
Education		.310			.680
Higher education (ref)					
Secondary education	-.274	.322		.251	.405
Primary or less	-.411	.133		.259	.387

RESULTS

Table 4: Logistic regression on compliance to the WHO PA guideline for *additional* health benefits

	Men			Women	
	B	Sig		B	Sig
Occupation					
White-collar (ref)					
Unemployed	.242	.550		1.270	<0.001
Blue-collar	.653	.008		.743	0.007
Self-employed	.242	.222		.155	0.304
Living with partner	.556	.005		.224	0.137
Living with child <7 yrs	.053	.802		-.496	0.004
Constant	.217	.624		-1.076	0.007
Nagelkerke r^2	.063			.081	

DISCUSSION & CONCLUSION

- Men are more likely to meet WHO PA guidelines
- Having a partner increases odds to meet PA guidelines
  - First guideline for both men and women
  - Second guideline only for men
- Young child
  - Lower odds to meet first PA guideline for both men and women
  - For second PA guideline, no effect on men, but women lower odds to comply
- White collar jobs
  - Lower odds of complying to the WHO guidelines.
  - Effect not consistent throughout the models

DISCUSSION & CONCLUSION

- Different outcome than results based on GPAQ questionnaire based on HIS survey

Prevalence (%) of Compliance with WHO PA guideline for health benefits - time use vs GPAQ (150 minutes moderate PA or 75 minutes vigorous PA)			
	Time-use		GPAQ[1]
Men	83.3%		48%
Women	79.9%		24%
Total	82%		36%

DISCUSSION & CONCLUSION

"Does your work involve moderate-intensity activity that causes large increases in breathing or heart rate like [carrying or lifting heavy loads, digging or construction work] for at least 10 minutes continuously?"

"In a typical week, on how many days do you do moderate-intensity activities as part of your work?"

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"How much time do you spend doing moderate-intensity activities at work on a typical day?"

DISCUSSION & CONCLUSION

- Raises questions on validity of GPAQ
- Unable to prove one over the other measure to be correct
- Include GPAQ in next Belgian/Flemish time-use survey to make a methodological comparison between the measurements
- Methodologically it would be very interesting to have a time-use study where respondents fill in GPAQ questionnaire, time-use survey and are measured with an accelerometer