

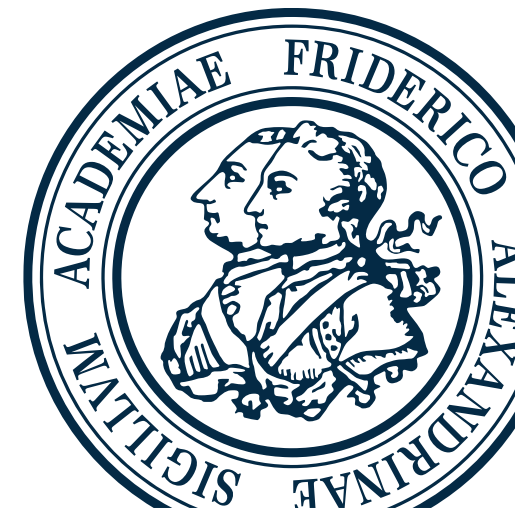
# The Status of Physical Activity and the Concept of Physical Activity-related Health Competence

**Johannes Carl**

Friedrich-Alexander University Erlangen-Nürnberg, Department of Sport Science and Sport, Chair „Physical Activity and Health“



**International Week**  
**Bielefeld University of Applied Sciences**  
Virtual Presentation with  
Subsequent Discussion  
2020-06-16



# Outline

1

## **Physical Activity**

Why and how much?  
Epidemiology

2

## **Competences for a healthy, physically active lifestyle**

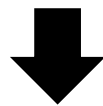
The PAHCO model  
Empirical Data

# Physical Activity – Why?



## Health benefits of physical activity: a systematic review of current systematic reviews

*Darren E.R. Warburton and Shannon S.D. Bredin*



## Exercise as a Polypill for Chronic Diseases

Helios Pareja-Galeano<sup>\*,1</sup>, Nur...

<sup>\*</sup>European University and Research Institute of

<sup>†</sup>Faculty of Health and Sport Science, University

<sup>1</sup>Corresponding author: e-mail address: helios.p...

## Physical Activity Benefits and Needs in Adults With Intellectual Disabilities: Systematic Review of the Literature

Pamela Bartlo and Penelope J. Klein  
D'Youville College

# Physical Activity: Recommendations

Adults should have

**moderate-intensity** aerobic physical activity for **at least 150 minutes/week**

OR

**vigorous-intensity** aerobic physical activity for **at least 75 minutes/week**

OR

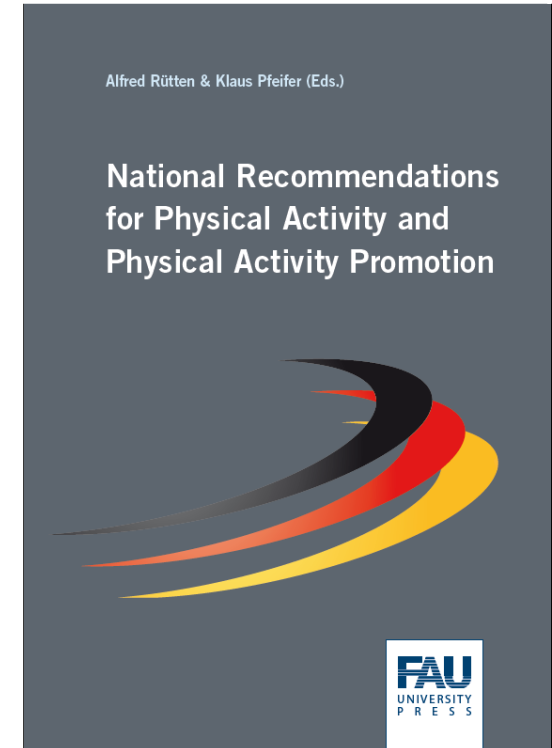
**a corresponding combination**

**AND**

**muscle-strengthening** physical activity at least **two times per week**

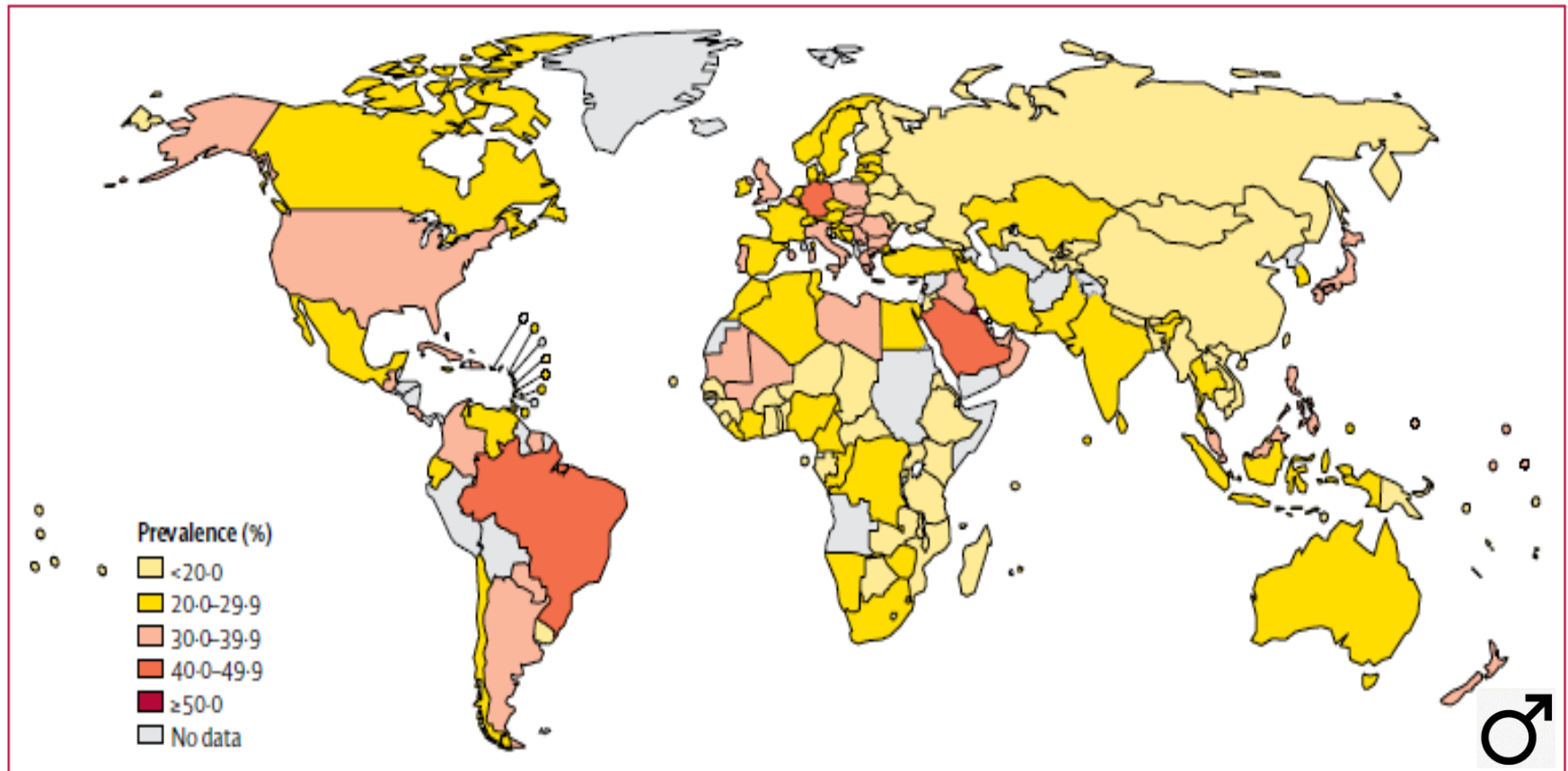
**AND**

avoiding long and uninterrupted **sitting times**



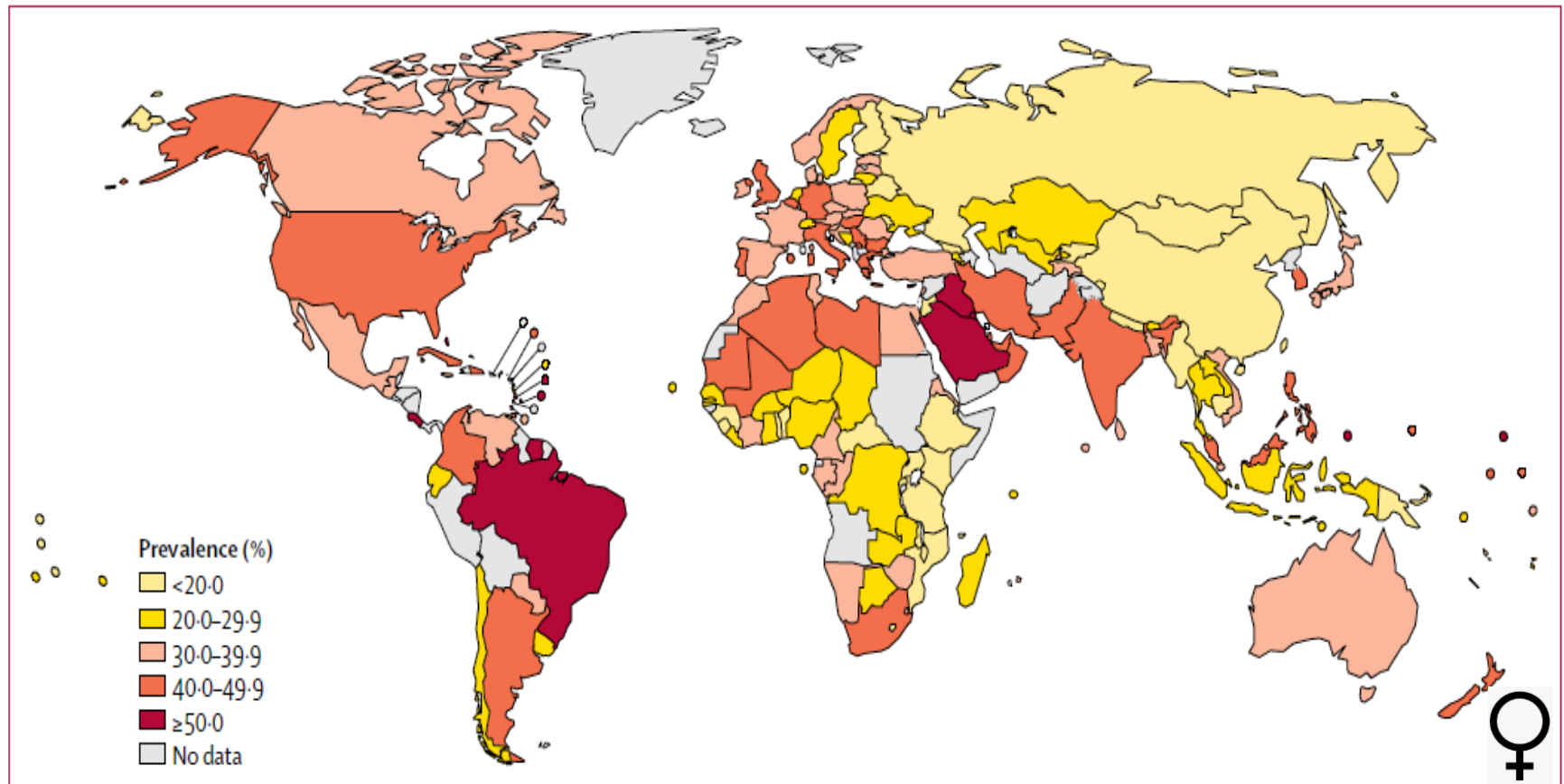
Rütten, A. & Pfeifer, K. (2017). *Nationale Empfehlungen für Bewegung und Bewegungsförderung*. Erlangen: FAU.  
Rütten, A. & Pfeifer, K. (2017). *National Recommendations for Physical Activity and Physical Activity Promotion*.  
Erlangen: FAU University Press.

# Physical Inactivity Globally



Guthold, R., Stevens, G. A., Riley, L. M., & Bull, F. C. (2018). Worldwide trends in insufficient physical activity from 2001 to 2016: a pooled analysis of 358 population-based surveys with 1.9 million participants. *Lancet Glob Health*, 6: e1077–86.

# Physical Inactivity Globally



Guthold, R., Stevens, G. A., Riley, L. M., & Bull, F. C. (2019). Global trends in insufficient physical activity among adolescents: a pooled analysis of 298 population-based surveys with 1.6 million participants. *The Lancet Child & Adolescent Health*, 1-13.

# The Role of Competences

GLOBAL ACTION PLAN ON PHYSICAL ACTIVITY 2018-2030

**MORE ACTIVE  
PEOPLE FOR  
A HEALTHIER  
WORLD**

World Health Organization (2018)

**competences and literacy for health**



Which competencies are required to lead a  
**healthy, physically active lifestyle?**

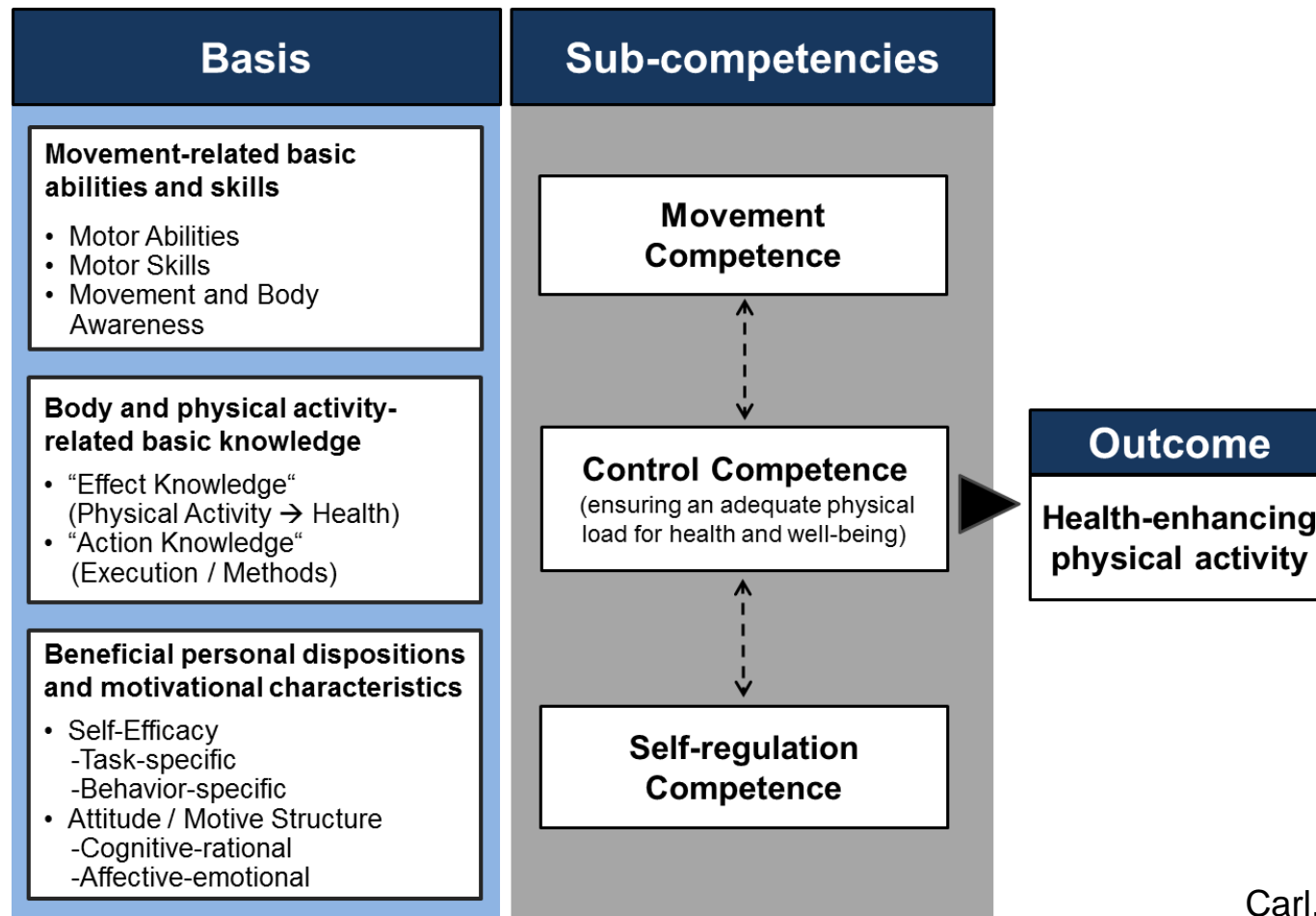


Schaeffer, Hurrelmann, Bauer & Kolpatzik (2018)

**„Strengthening health  
literacy in Germany“**



# Physical Activity-related Health Competence (PAHCO) Model



Sudeck & Pfeifer, 2016  
Carl, Sudeck & Pfeifer, 2020



# Physical Activity in Apprentices



$N = 83$  (Nursing Care and Automotive Mechatronics)

ActiGraph wGT3X-BT

Advice: 7 Days

→ Weartime-Validation  $N = 55$

## Results:

18.979 ± 3.780 Steps/Day

494,2 ± 174,2 Minutes MVPA/Week

Guidelines: 8.000/10.000 Steps/Day

Guidelines: 150 Minutes/Week

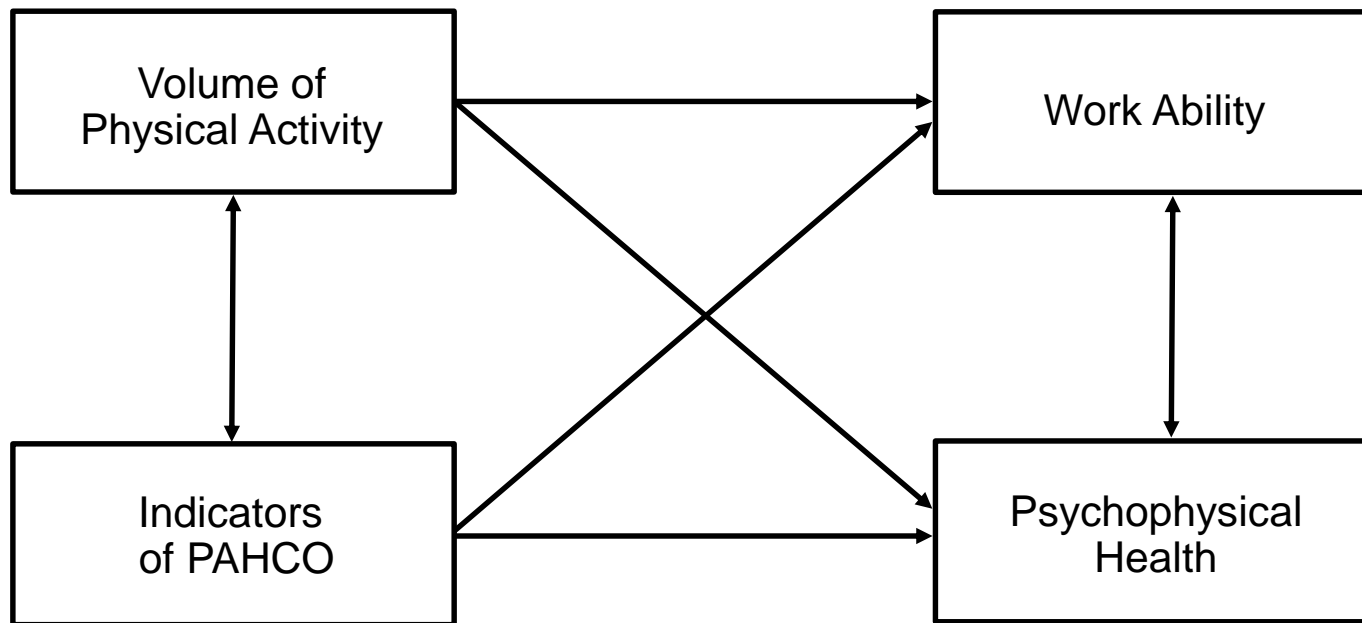
Carl, Grüne, Popp & Pfeifer (2020). Physical activity promotion for apprentices in nursing care and automotive mechatronics – Competence counts more than volume. *International Journal of Environmental Research and Public Health*, 17, 793.

# Role of PAHCO in Apprentices: Hypotheses

Questionnaire Survey at Six Vocational Education Centres in Bavaria (N = 745)

Automotive Mechatronics:  $n = 496$

Nursing Care:  $n = 249$



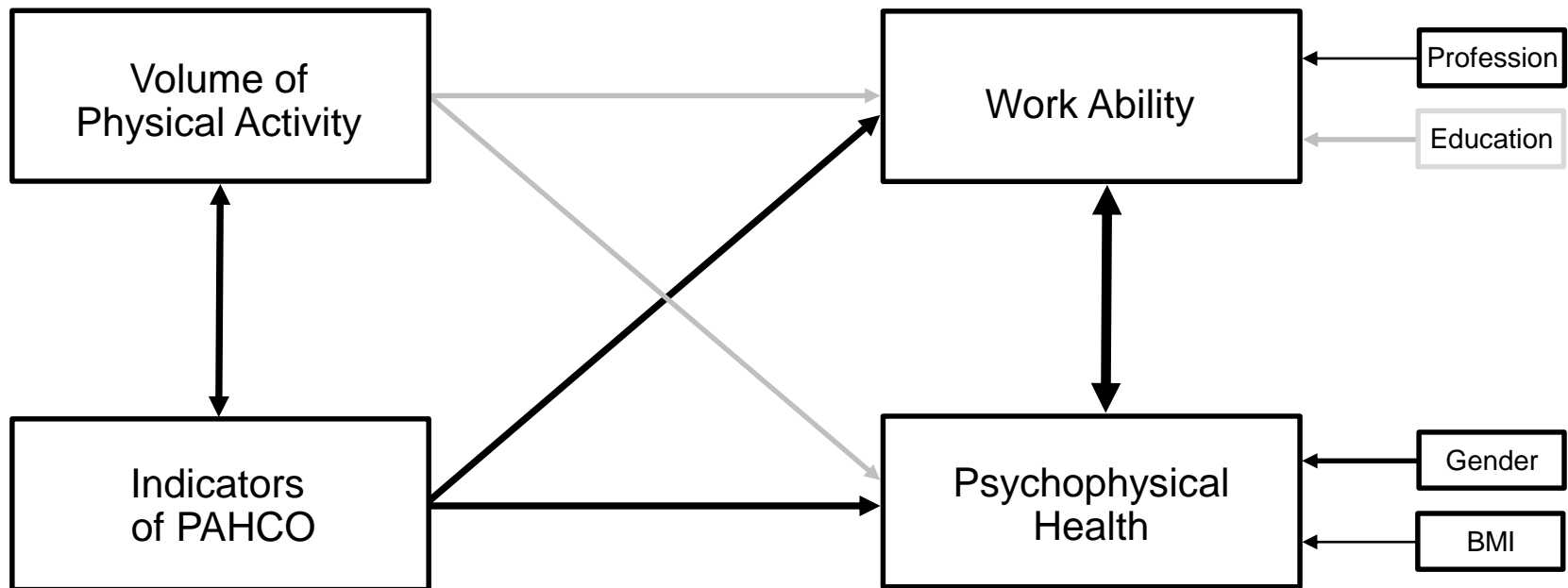
Carl, Grüne, Popp & Pfeifer (2020). Physical activity promotion for apprentices in nursing care and automotive mechatronics – Competence counts more than volume. *International Journal of Environmental Research and Public Health*, 17, 793.

# Role of PAHCO in Apprentices: Results

Questionnaire Survey at Six Vocational Education Centres in Bavaria (N = 745)

Automotive Mechatronics:  $n = 496$

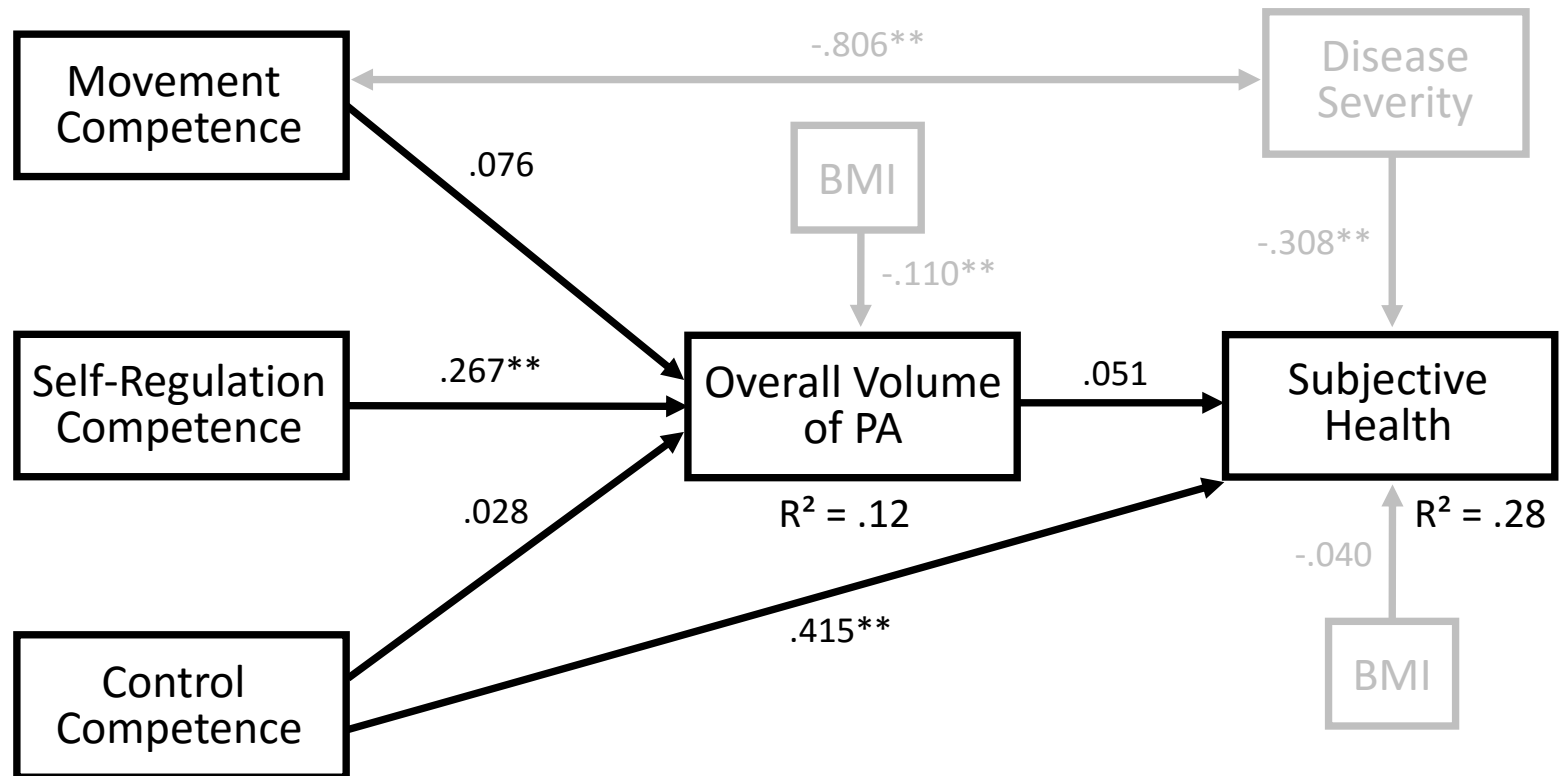
Nursing Care:  $n = 249$



Carl, Grüne, Popp & Pfeifer (2020). Physical activity promotion for apprentices in nursing care and automotive mechatronics – Competence counts more than volume. *International Journal of Environmental Research and Public Health*, 17, 793.

# PAHCO in Persons with Multiple Sclerosis

Questionnaire Survey across Germany (N = 475)



Carl, Hartung, Tallner & Pfeifer (under review). The relevance of competences for a healthy, physically active lifestyle in persons with multiple sclerosis (pwMS): A path analytical approach. *Annals of Behavioral Medicine*.

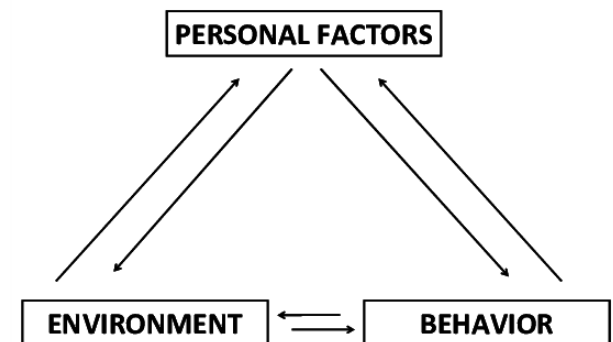
# Conclusion and Future Directions

Huge **variability** in terms of physical activity levels  
→ Detailed baseline assessments necessary!



„Do not forget the **structure!**“

Little is known about the **interplay** of  
**personal and structural** factors!





# Thank you very much!

## Johannes Carl

Friedrich-Alexander University Erlangen-Nürnberg

Department of Sport Science and Sport

Chair 'Physical Activity and Health' (Prof. Klaus Pfeifer)

[johannes.carl@fau.de](mailto:johannes.carl@fau.de)

2020-06-16

