



**17<sup>TH</sup> WORLD CONGRESS  
ON PUBLIC HEALTH**  
2023 May 3-6 ROME ITALY



**56° CONGRESSO  
NAZIONALE SITI**  
2-5 Maggio 2023 ROMA

# A WORLD IN TURMOIL:

## Opportunities to Focus on the Public's Health.



**WFPHA**  
World Federation of Public Health Associations

## Development and validation of a dietary diversity score for French older adults

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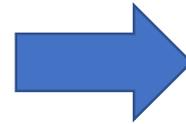
# STATEMENT SLIDE

I have no conflicts of interest to disclose

## Introduction

Lack of a robust dietary diversity score

- reflecting both adequation and moderation (“healthy dietary diversity”)
- easy to implement in health promoting nutrition interventions (e.g. based on occurrences rather than quantities)
- adapted to French older adults



## OBJECTIVE

Development and validation of the “ORCHID” score

- An occurrence-based healthy dietary diversity score
- using data from a sample of older adults enrolled in the latest representative French dietary survey



## Methods

### French Individual and National Food Consumption study 2014-2015 (INCA3)

696 older adults 60 years and +

Recording of consumption occurrences

#### Positive rating for healthy food groups

##### Three 24 hours recalls

- Fruits
- Vegetables
- Poultry
- Milk and Fresh Dairy products
- Cheese
- Refined starches

##### Weekly food propensity questionnaire

- Eggs
- Legumes
- Nuts
- Fatty fish
- Lean fish
- Wholemeal products
- Oils

#### Threshold rating for unhealthy food groups

##### Three 24 hours recalls

- Butter, margarine and cream
- Meat excluding poultry
- Ham
- Deli meat
- Salted Aperitif products,
- Sweetened products,
- Sweetened drinks

## Methods (2)

### Content validity assumptions for the ORCHID score:

Consumption occurrence of healthy food groups positively correlated with the ORCHID score

- Association with the food score components

### *Spearman correlations*

### Construct validity assumptions for the ORCHID score:

Correlations between the ORCHID score and diet indicators

- No association with total energy intake
- Negative association with solid energy density (SED)
- Positive association with PANDiet

### *Pearson correlations*

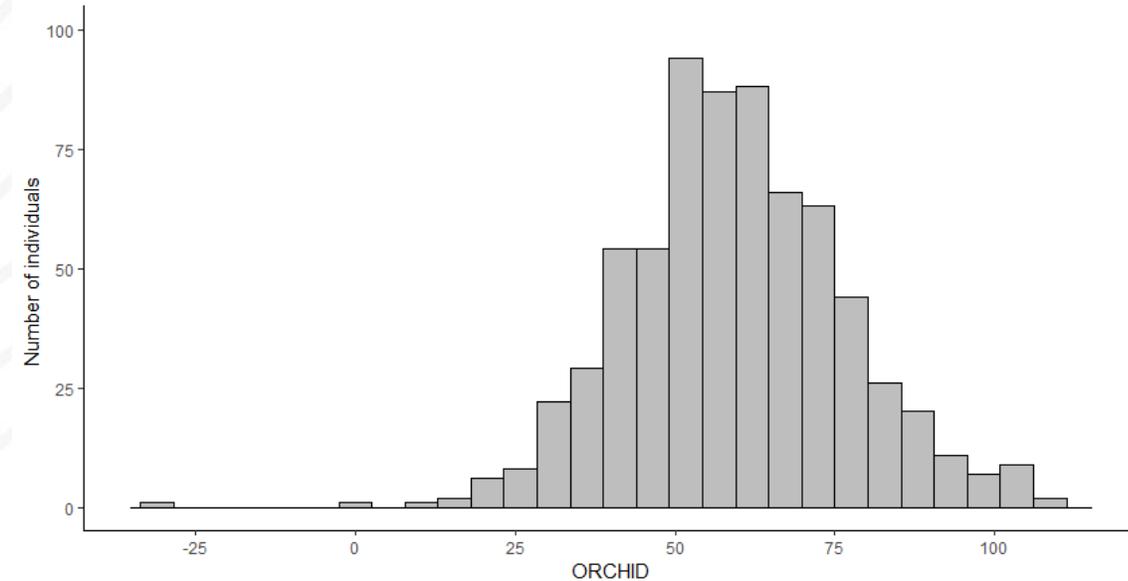
Sociodemographic characteristics correlation with the ORCHID

- not association with smoking status
- positively correlated with education
- positively correlated with level of physical activity

### *Chi2 tests*

## Résults (1)

ORCHID score distribution (n=696)



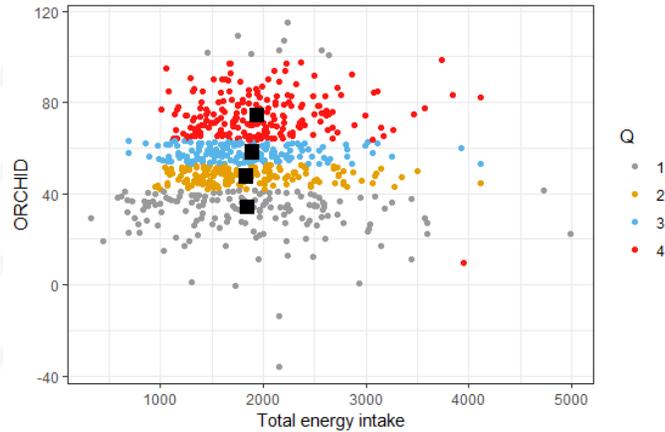
- normal distribution
- range -35;115
- mean = 53.

ORCHID component	Correlation of	
	Spearman	Spearman $\rho$ -value
Fruits	0.51	< 0.001
Vegetables	0.54	< 0.001
Wholemeal Products	0.50	< 0.001

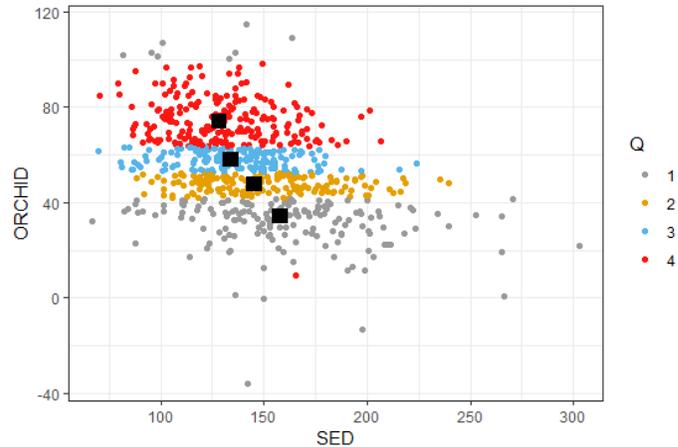
ORCHID component most correlated to the ORCHID among older adults(n=696)

## Results (2)

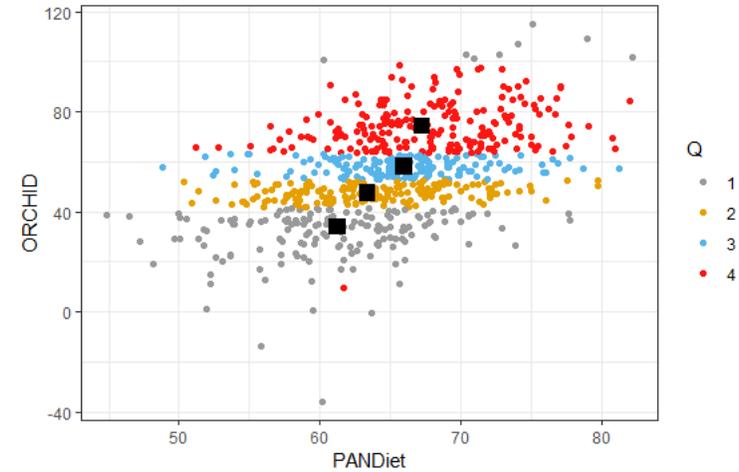
Correlation between individual energy intakes (kcal/d) and ORCHID score values, by quartile of score



Correlation between the individual solid energy density values (SED) (kcal/100g) and ORCHID score values, by quartile of score



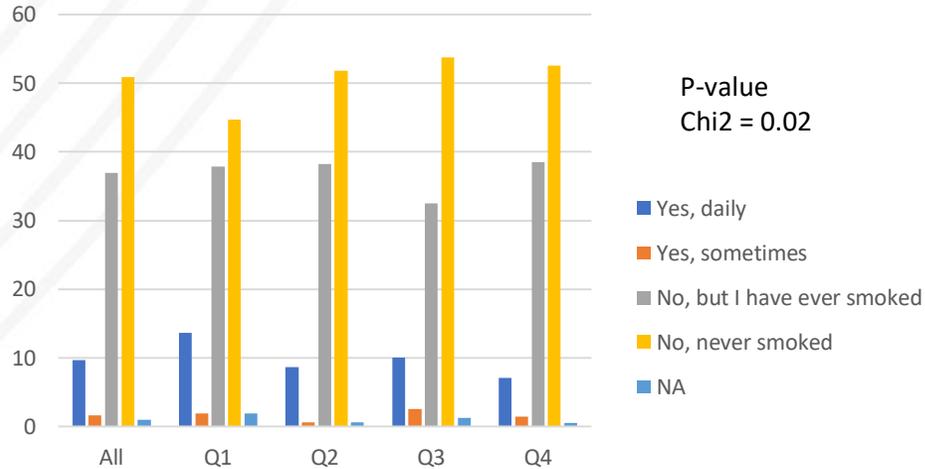
Correlation between individual PANDiet values and ORCHID score values, by quartile of score



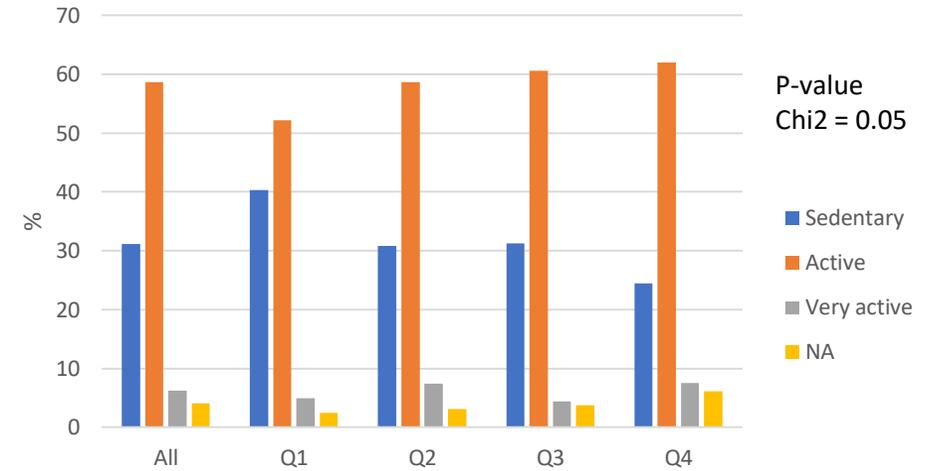
- ✓ ORCHID not significantly associated with energy intakes ( $r= 0.02, p =0.6$ )
- ✓ ORCHID inversely associated with SED ( $r= -0.37, p<0.0001$ )
- ✓ ORCHID significantly and positively associated with PANDiet ( $r= 0.43, p< 0.0001$ )

### Results (3)

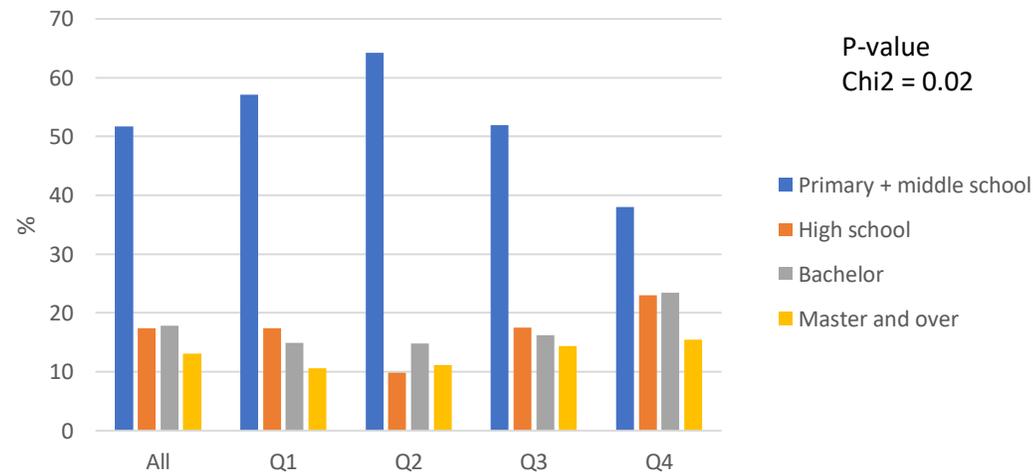
Smoking among ORCHID quartiles



Physical activity among ORCHID quartiles



Level of study among ORCHID quartiles



## Conclusion

- ORCHID is a validated score for assessing healthy dietary diversity among French older populations.
- It will be useful to assess the impact of health promoting nutrition interventions
- It could be adapted to other populations.



## Bibliography

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