

Foteini Tsotra <sup>1</sup>, Konstantina Briola <sup>1</sup>, Alkinoos Emmanouil-Kalos <sup>1</sup>, Symeon Sidiropoulos <sup>2</sup>, Athanassios Vozikis <sup>1</sup>

<sup>1</sup>Laboratory of Health Economics & Management, Economics Dept., University of Piraeus, Piraeus, Greece, <sup>2</sup>Department of Public and One Health, University of Thessaly, Karditsa, Greece.

Background

Online food delivery services have grown rapidly worldwide, especially among young adults.<sup>1,2</sup> Their increased availability may influence dietary behaviors, health outcomes, and spending patterns.<sup>1,2</sup> Previous studies suggested links between sedentary lifestyles, smoking, obesity, and poor mental health with unhealthy eating behaviors.<sup>3</sup> However, evidence on how these factors relate to food delivery habits remains limited, particularly in university student populations.

Objective

To examine the relationship between health-related behaviors, such as body mass index (BMI), smoking, physical activity, and mental health, with the number of weekly food delivery orders and the amount spent weekly.

Methods

A cross-sectional survey was conducted among students at the University of Piraeus in Greece. The following data were collected: **BMI, smoking status, physical activity, mental health status (anxiety or depression severity), and the weekly number of online food delivery orders along with the amount spent (in euros).** BMI was examined as both a continuous and categorical variable (i.e., pre-defined BMI categories). Due to non-normal distribution (**Shapiro-Wilk test p<0.001**), **non-parametric methods were applied.** Specifically, the relationship between the continuous and categorical variables was evaluated using **Kruskal-Wallis tests.** Bonferroni-adjusted pairwise **Wilcoxon rank sum tests** were conducted for statistically significant results. **Spearman’s correlation** coefficients were calculated to assess the association between continuous variables.

Results

The cohort included 2,600 individuals (Table 1).

Table 1: Participant’s characteristics.

Gender	
Males (%)	51%
Females (%)	49%
Age	
Mean	20.54
Median	20.00
BMI	
Mean	22.88
Smoking status	
Smoker	29%
Ex smoker	9%
Non smoker	62%
Physical activity	
1-2 times per week	35%
3-4 times per week	29%
≥5 times per week	13%
Not at all	24%
Anxiety - Depression	
Moderate	53%
Sever	8%
Not at all	39%

Weekly orders did not statistically differ by BMI (**p = 0.051**), but spending increased with BMI (**p = 0.025**), rising from €22.7 in normal weight to €53.3 in obesity class III (**p = 0.052**, **p = 0.013**). Students who were more physically active ordered and spent less (**p < 0.001**): those with no activity made 2.9 orders/week (€27.9), while those active ≥5 times/week made 2.2 orders (€20.7; Figure 1).

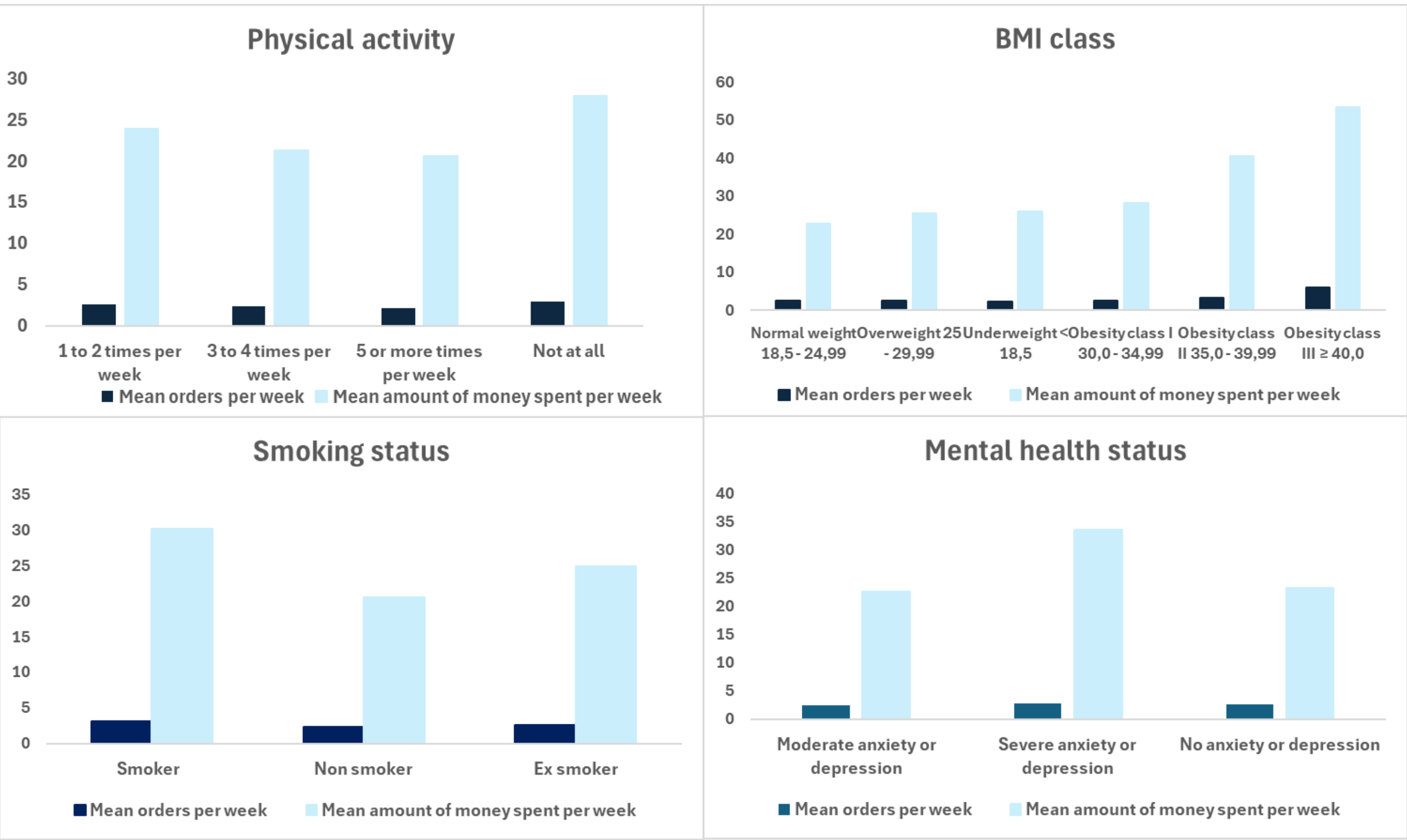
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Contact information: Foteini Tsotra, Laboratory of Health Economics & Management, University of Piraeus, 80 Karaoli & Dimitriou Str., 185 34, Piraeus, Greece; e-mail: f.tsotra@gmail.com

Smokers placed more orders and spent more (**p < 0.001**) — 3.1 orders (€30.1) versus 2.3 orders (€20.6) in non-smokers. Mental health was not linked to order frequency (**p = 0.357**) but higher spending was seen in students with severe anxiety/depression (€33.7; p = 0.019; Figure 1).

Figure 1: Mean orders, and amount spent per week



Conclusion

Our study emphasize that specific lifestyle indicators may play a pivotal role in consumption patterns. These findings could inform future policies and programs aimed at promoting healthy eating habits, especially among young adults.

References

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