

# PATTERNS OF REGULAR ENERGY DRINK CONSUMPTION DIFFER BY GENDER AMONG BELGIAN ADOLESCENTS

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## BACKGROUND

- Over the past decade, energy drinks (ED) have become increasingly popular among adolescents. Due to their high content in caffeine, sugar and other energy-promoting components, frequent ED consumption may have adverse health effects, like cardiovascular symptoms, sleep impairment, and nervousness (1).
- Previous studies have shown that ED consumption was more frequent among males (2). Based on the hypothesis that boys and girls show different patterns of consumption, our analysis examined **sociodemographic and lifestyle determinants of regular ED consumption stratified by gender among Belgian adolescents in 2018.**

## METHODS

### SAMPLE

- Based on a two-stage stratified random sampling plan, 10,289 French-speaking Belgian 11-20 year-old adolescents in secondary schools filled in standardised questionnaires within the 2018 cross-sectional "Health Behaviour in School-aged Children" (HBSC) survey.



### MAIN VARIABLES

- Regular ED consumption:** several times a week vs. once a week or less.
- Sociodemographic characteristics:** gender, age, family affluence scale (3), family structure, and migration status.
- Lifestyle characteristics:** daily soft drink consumption, physical activity, weekday screen time, and bedtime.

### STATISTICAL ANALYSIS

- Multiple logistic regression models stratified by gender and taking survey design characteristics (i.e. sampling weights, cluster sampling, and stratification) into account.

## RESULTS

### SOCIODEMOGRAPHIC CORRELATES

Regular ED consumption was more frequent among boys than girls (Table 1). In both genders, it was associated with age, family affluence scale, family structure, and migration status (Table 1).

	BOYS (n=4010)		GIRLS (n=4339)	
	% Regular ED consumers	p	% Regular ED consumers	p
<b>Total</b>	14.3		7.8	
<b>Age</b>		<0.001		<0.001
11-13 y	10.1		5.7	
14-17 y	14.3		7.5	
18-20 y	19.4		11.4	
<b>Family affluence scale</b>		0.02		<0.001
High	11.2		3.6	
Medium	14.5		7.7	
Low	17.5		12.7	
<b>Family structure</b>		<0.001		<0.01
2-parent	12.4		6.6	
Blended	19.2		9.9	
Lone-parent	16.2		9.4	
<b>Migration status</b>		0.02		<0.001
Natives	12.9		6.0	
1 <sup>st</sup> generation immigrants	18.6		10.6	
2 <sup>nd</sup> generation immigrants	15.4		10.0	

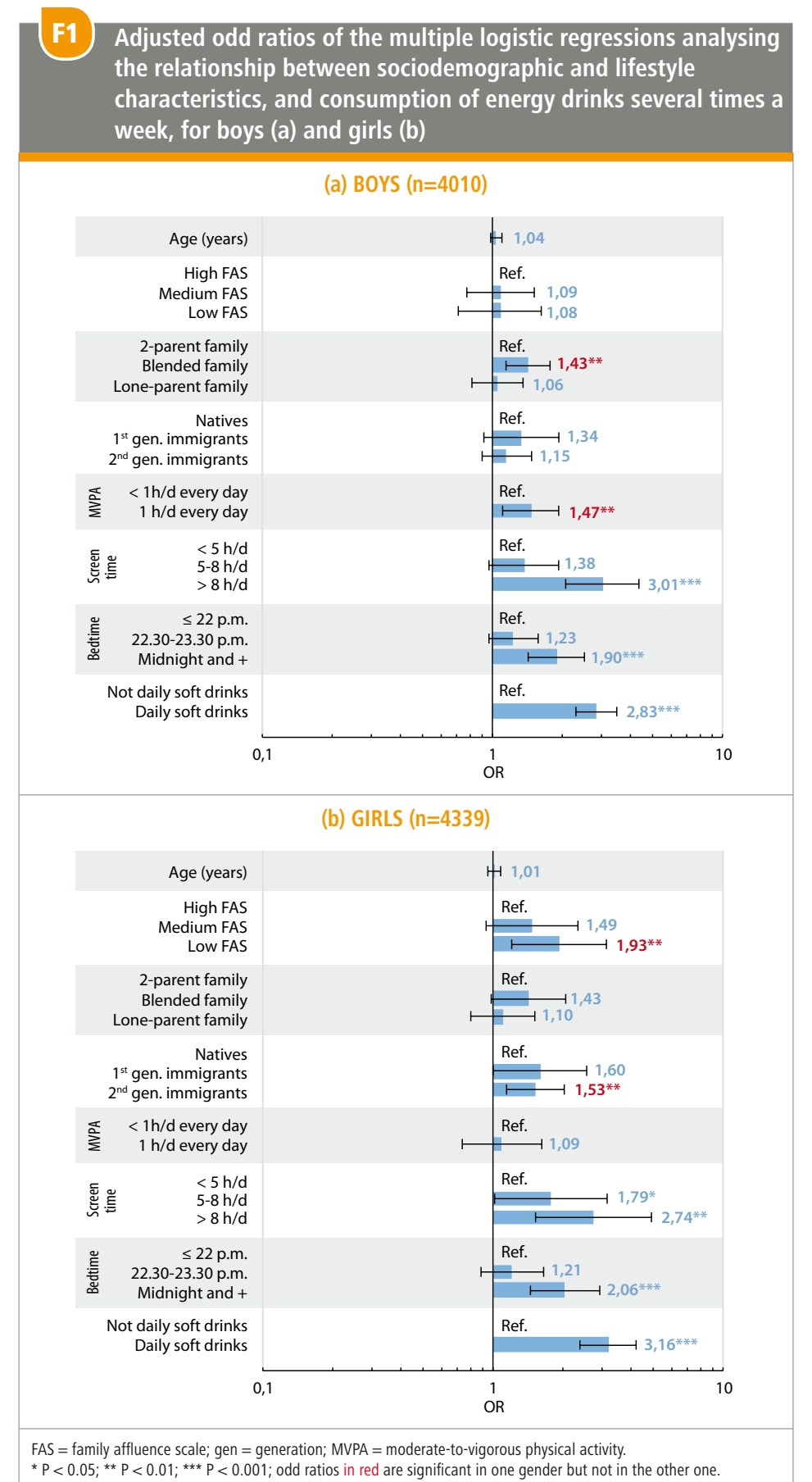
### LIFESTYLE CORRELATES

Regular ED consumption was associated with daily soft drink consumption, higher weekday screen time and later bedtime in both genders (Table 2). In boys only, the percentage of regular ED consumers was higher among adolescents reporting having practiced one hour per day of physical activity every day in the last week than among those reporting lower levels of physical activity (Table 2).

	BOYS (n=4010)		GIRLS (n=4339)	
	% Regular ED consumers	p	% Regular ED consumers	p
<b>Soft drink consumption</b>		<0.001		<0.001
Daily	25.6		16.6	
Less than daily	8.7		4.3	
<b>Physical activity</b>		<0.01		0.53
1 h/day every day	18.3		8.6	
< 1 h/day every day	13.6		7.7	
<b>Weekday screen time</b>		<0.001		<0.001
< 5 h/day	5.6		2.6	
5-8 h/day	9.4		6.1	
> 8 h/day	22.6		12.4	
<b>Bedtime</b>		<0.001		<0.001
≤ 22h	8.9		5.1	
22h30-23h30	14.0		7.8	
Midnight and later	25.2		17.9	

### MULTIPLE LOGISTIC REGRESSION MODELS

- In both genders,** regular ED consumption was not associated with age, but with high screen time, late bedtime, and daily soft drink consumption (Figure 1a and 1b).
- In boys only,** adolescents from blended families (vs. 2-parent families) and those having practiced one hour per day of physical activity every day in the last week (vs. lower levels of physical activity) were more likely to consume ED several times a week (Figure 1a).
- In girls only,** adolescents from low FAS families (vs. high FAS) and 2<sup>nd</sup> generation immigrants (vs. natives) were more likely to consume ED several times a week (Figure 1b).



## CONCLUSION

- Regular ED consumption was more frequent among boys than girls.
- Regular ED consumption showed gender-specific patterns, i.e. it was associated with family structure and physical activity in boys only, and with FAS and migration status in girls only.
- Our findings provide evidence about patterns of regular ED consumption among adolescents and are useful to target the development of prevention strategies according to the gender, sociodemographic and lifestyle characteristics.
- Further studies should confirm the reliability of those cross-sectional results in other adolescent populations and contexts.

## REFERENCES

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