

# Adolescents and Internet: A Gender Perspective

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## Motivation and main results

WE study Internet use among adolescents in the Canton of Vaud, Switzerland. Our analysis seeks to understand who goes online and the impact of Internet on adolescents' lives, contrasting effects for boys and girls. **We ask three important questions:**

1. Who uses the Internet?
2. How does Internet addiction affect school-leisure balance?
3. Does Internet impact health?

Each of these questions is tackled using a different methodology. Our goal here is to show how various approaches can complement each other and help researchers in their quest for answers. **Our main findings are:**

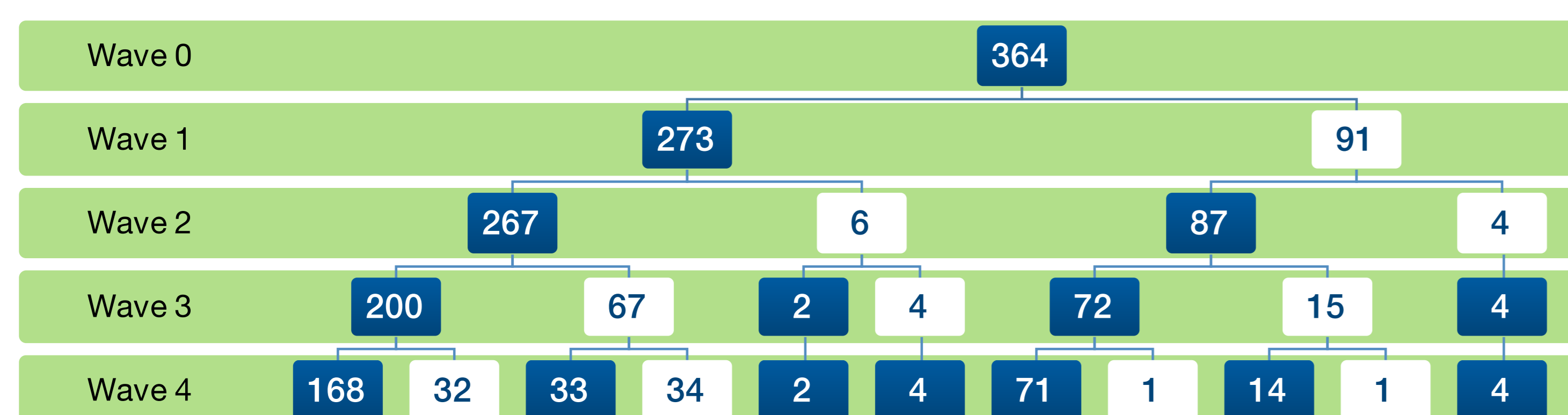
1. Gender, age, living place, socio-economic status, and school track are major determinants of Internet use and addiction.
2. Girls are better able to manage their Internet use and addiction in order to keep a certain balance between sport and school.
3. Girls suffer more from increasing Internet use and addiction

## Data preparation

The dataset is a subset of a longitudinal study of adolescents, observed five times at six month intervals from spring 2012 (wave 0) to spring 2014 (wave 4). The reader is invited to consult LaCOSA II website for a description of the variables, and Surís et al. (2012) for an analysis of the full dataset. We use sampling weights in all our analyses.

Figure 1 tracks missing values in the sample. Blue rectangles indicate the number of individuals who filled up the study, while white ones indicate the number of individuals for whom we are missing information for one or more variables.

Figure 1: Tracking missing observations



Additional summary statistics suggests that a complete-case analysis is not possible as missing values are not missing completely at random but are correlated with some observable characteristics. To keep as much information as possible, we assume that values are missing at random and proceed with multiple imputations with chained equations, following the same procedure as Berchtold and Surís (2012).

## Related literature

1. Berchtold, A., and J.-C. Surís (2012). Multiple imputation in a longitudinal context: A simulation study using the TREE data. *Cahiers Recherche et Méthodes*, Numéro 1, Janvier 2012.
2. Calonico, S., M. D. Cattaneo, and R. Titiunik (2014b). Robust Data-Driven Inference in the Regression-Discontinuity Design. *Stata Journal* 14(4): 909-946, 4th Quarter 2014.
3. Imbens, G. W., and K. Kalyanaraman (2012). Optimal Bandwidth Choice for the Regression Discontinuity Estimator. *Review of Economic Studies*, 79(3): 933-959.
4. Surís, J.-C., C. Akre, A. Berchtold, A. Fleury-Schubert, P.-A. Michaud, G. Zimmermann (2012). *Ado@Internet.ch: Usage d'internet chez les adolescents vaudois*. Lausanne: Institut universitaire de médecine sociale et préventive, 2012. (Raisons de santé, 208).

## 1. Who uses the Internet?

Regression analysis (OLS): Determinants of Internet addiction (IAT) and Internet use.

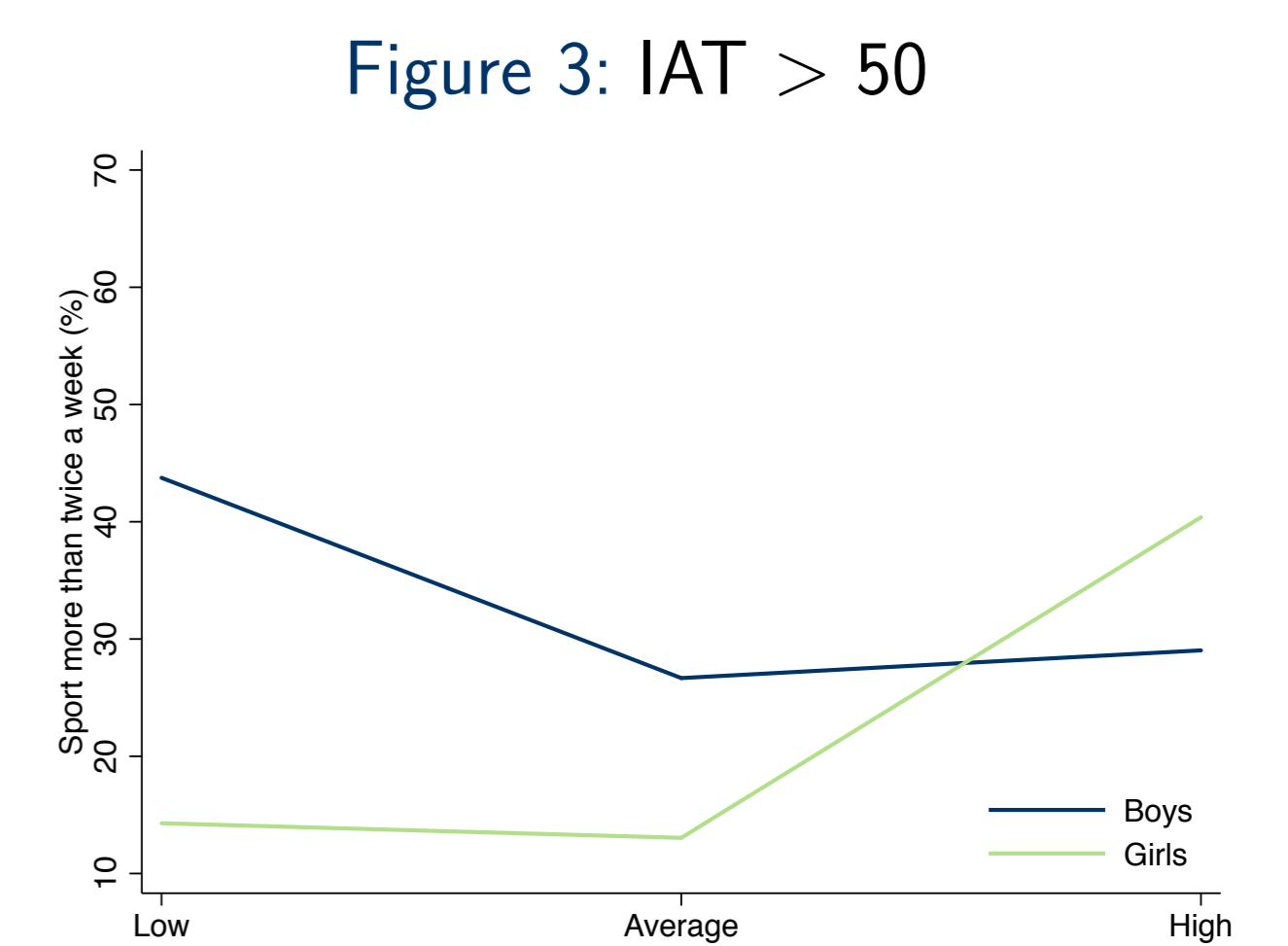
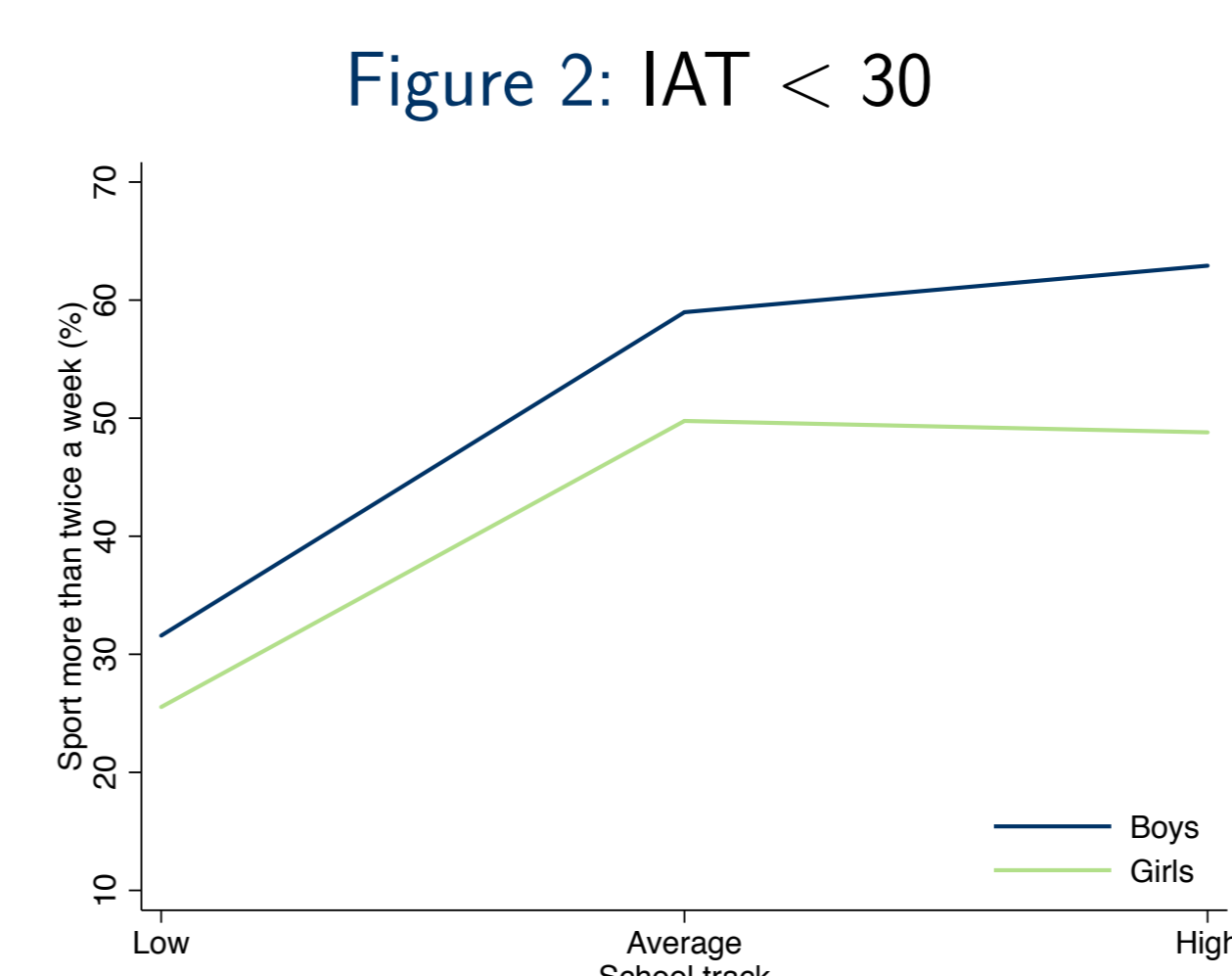
Table 1: IAT and Internet use

	IAT		Internet > 2h/day	
Girl	-1.58	(1.78)	-0.10**	(0.04)
Age	-2.62***	(0.61)	0.04*	(0.02)
Married parents	1.85	(1.93)	0.04	(0.04)
Lives in city	2.91	(1.81)	0.15***	(0.04)
Low socio-economic status	7.55**	(3.33)	0.05	(0.10)
High socio-economic status	0.38	(2.21)	0.09**	(0.04)
Low school track	8.42***	(2.70)	0.24***	(0.06)
High school track	0.69	(1.59)	-0.04	(0.04)
Adjusted R <sup>2</sup>	0.086		0.126	
Individuals	364		364	

Standard errors clustered at an individual level in parentheses.  
\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01.

## 2. Addiction and sport/school balance

Correlation analysis: Breakdown of sport/school balance by addiction level and gender.

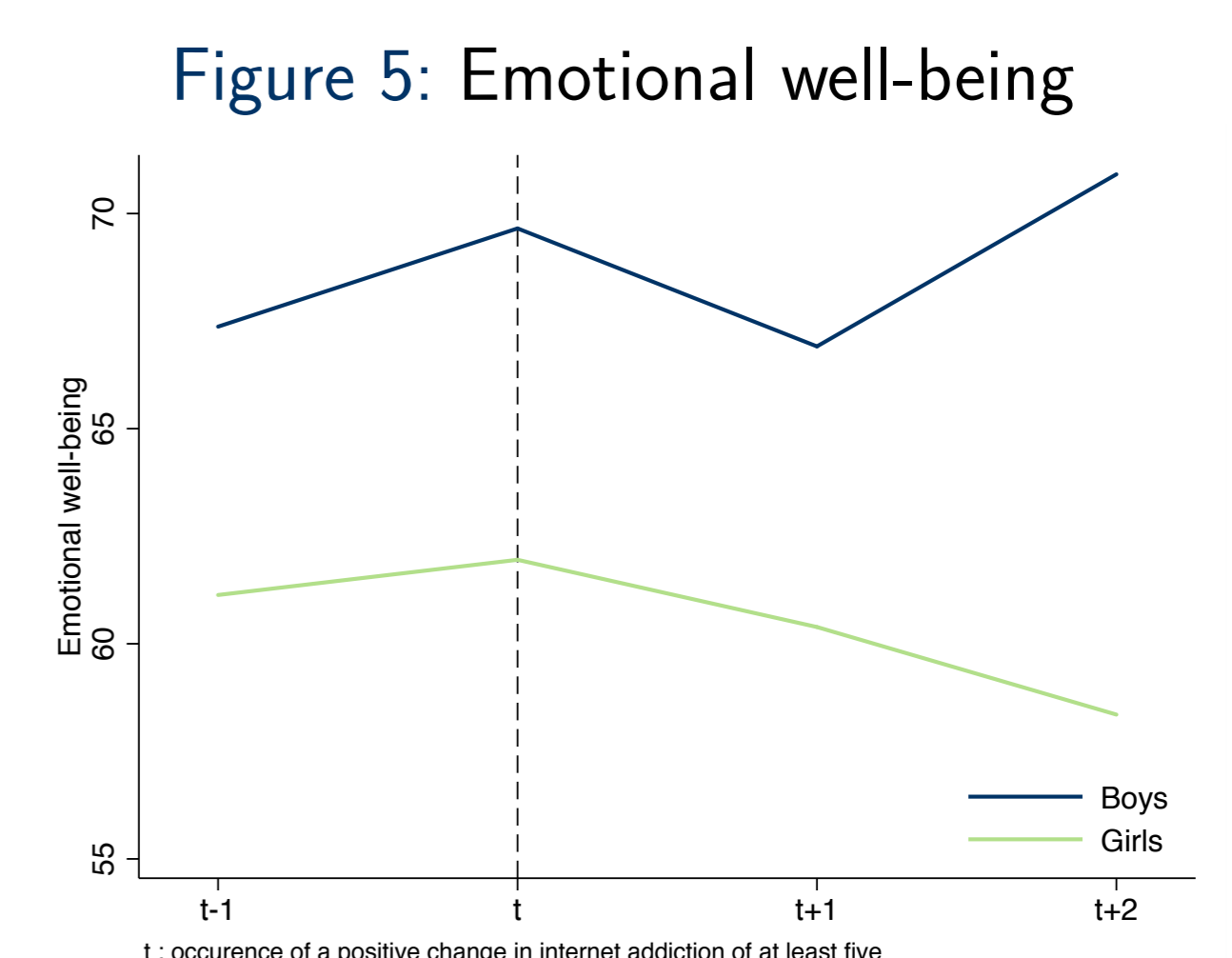
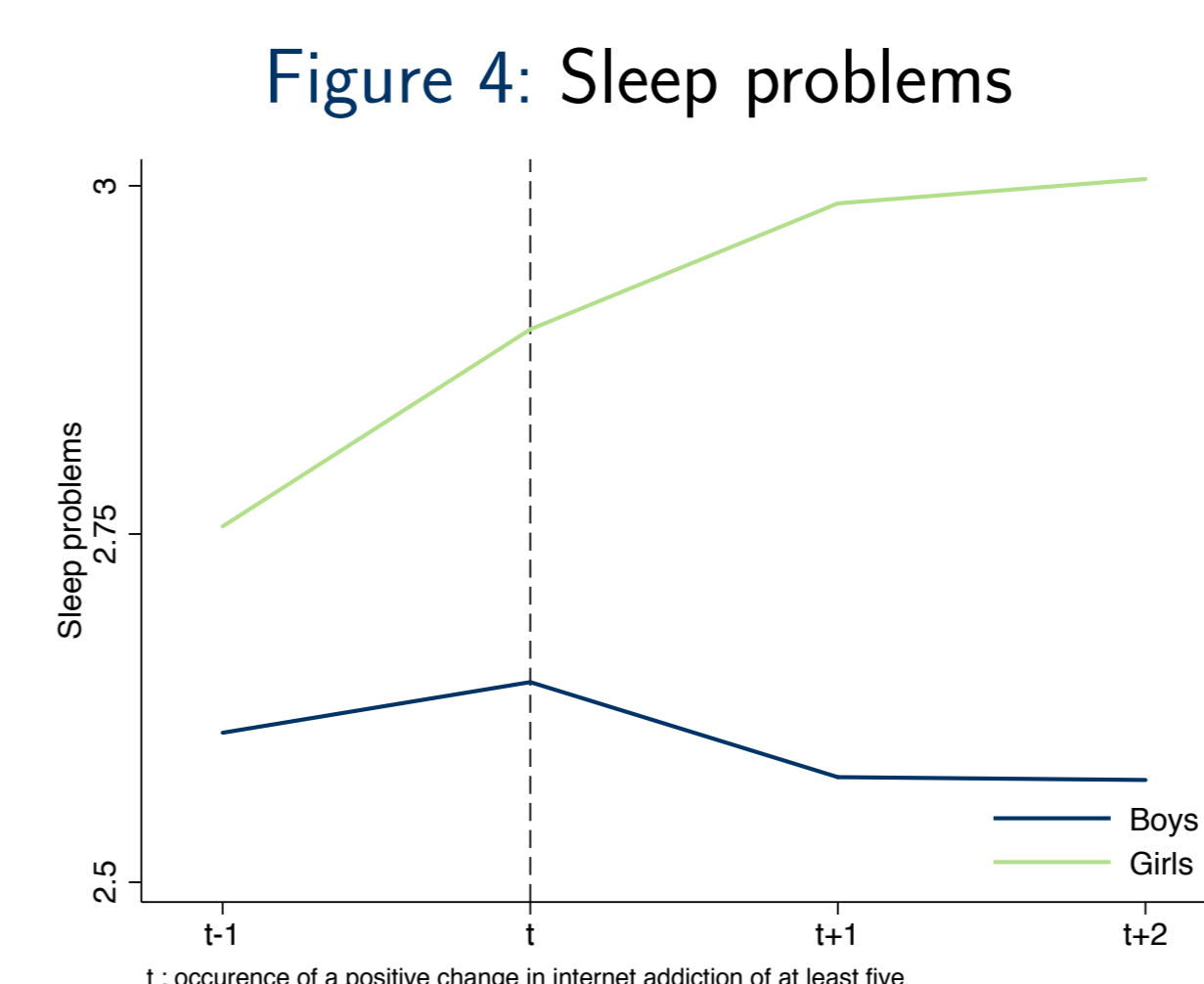


- Sport and education are complements.
- This relation holds for boys and girls.

- They become substitutes for boys.
- Girls keep a good sport/school balance.

## 3. Internet and health

Event Study: Impact of a positive change in Internet dependence on well-being.



- Boys are not affected.
- Girls have more sleep problems.

- Boys don't seem to be affected.
- Girls are slightly less happy.

Regression Discontinuity Design: We compare individuals just below (28-37) to those just above (38-47) the IAT threshold to capture the effect of an *as if* exogenous increase in Internet use.

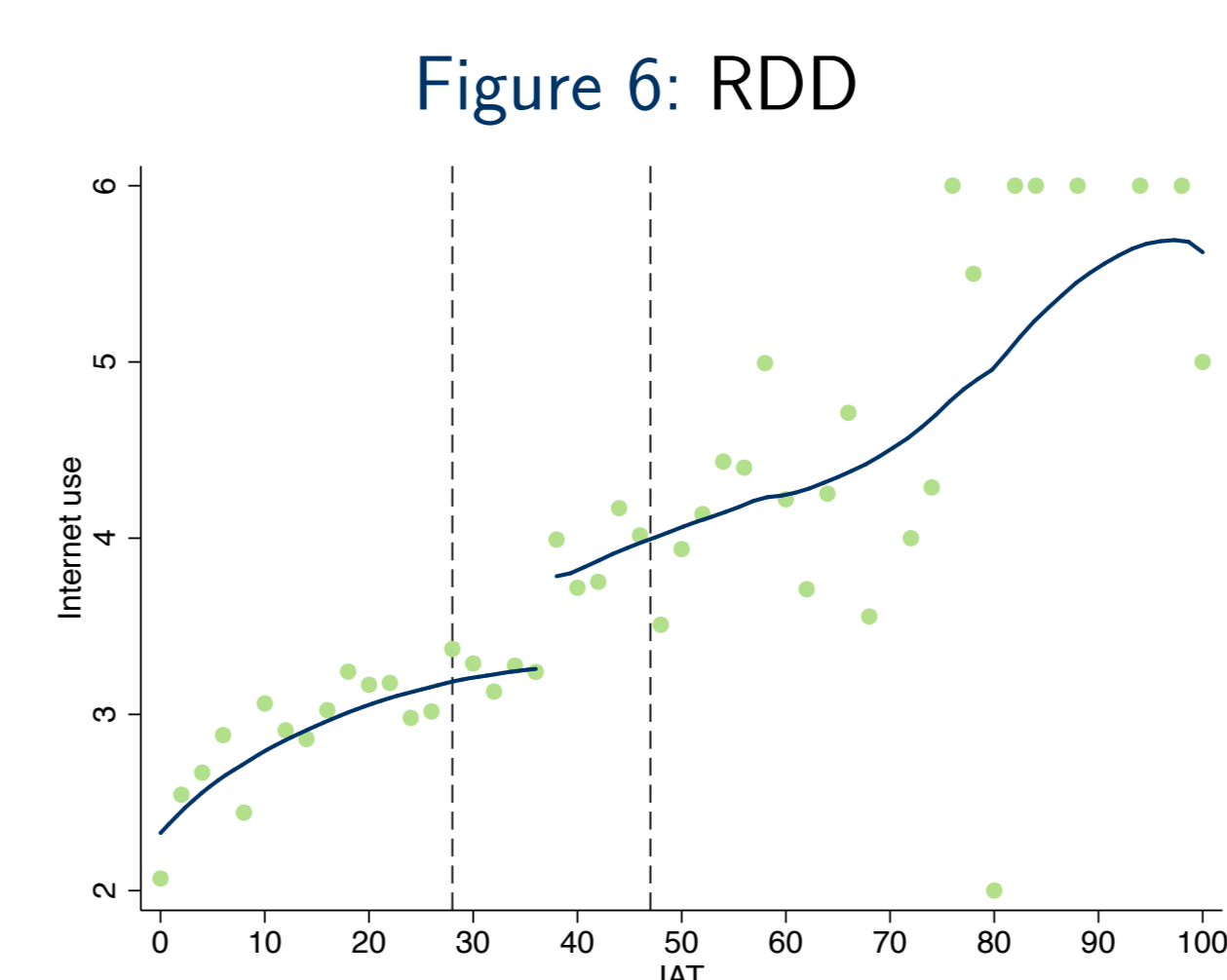


Table 2: RDD

	Sleep problems		Low well-being	
	Boys	Girls	Boys	Girls
37 < IAT < 48	-0.06	0.17***	0.13*	0.01
	(0.11)	(0.06)	(0.07)	(0.06)
R <sup>2</sup>	0.020	0.066	0.234	0.075
Individuals	68	148	70	149

Standard errors clustered at an individual level in parentheses.  
\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01.

- Girls have more sleep problems.
- Boys are more moody.