

Prevention and Public Health Services Directorate
Prevention of Non-Communicable Diseases Division
Scientific Bases Section

The effect of social media use on adolescents' subjective well-being: Longitudinal evidence from Switzerland

Sebastian Mader^{1,2},
Damiano Costantini¹,
Annette Fahr¹ &
Marina Delgrande Jordan³

¹ FOPH, Bern, Switzerland

² University of Bern, Bern, Switzerland

³ Addiction Switzerland, Lausanne, Switzerland

SSPH+ Annual Meeting 2025

University of Applied Sciences Bern (BFH)

04. June 2025





Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
Swiss Confederation

Federal Department of Home Affairs
Federal Office of Public Health FOPH

Prevention and Public Health Services Directorate
Prevention of Non-Communicable Diseases Division
Scientific Bases Section



Overview

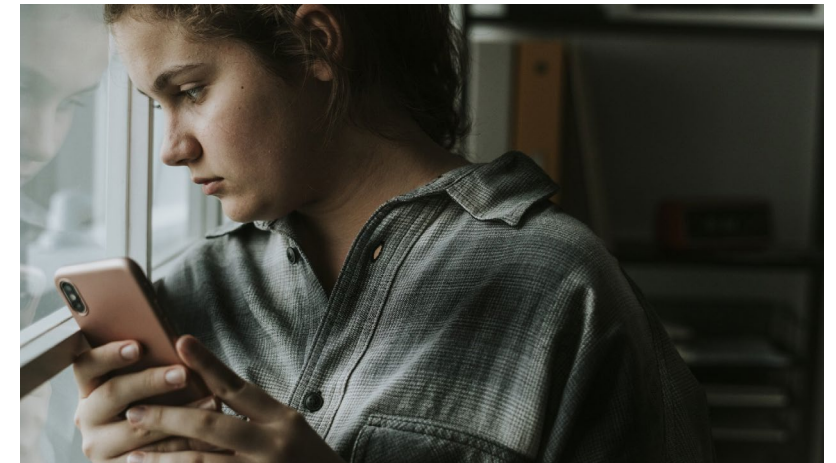
- 1. Background and relevance**
- 2. Data and methods**
- 3. Results**
- 4. Discussion and conclusion**





1. Background and relevance

- A **lively discussion** on the **causes of the recent decline** in the **mental health** and **subjective well-being (SWB)** of adolescents **has emerged** in many countries like Switzerland.
- **Tackling mental ill-health and fostering SWB at young age is of particular interest for public health and social welfare.**
- **Childhood and adolescence** represent a **“unique window [of] opportunity for intervention”** (Marquez et al. 2024: 65) to enhance well-being, health and welfare.
- Thus, it is **important to identify the most important contributing factors of adolescents’ well-being.**





1. Background and relevance

- **Many factors are important for adolescents' SWB, e.g.:**

Material deprivation



Social relationships



Bullying



Overparenting



Performance-related stressors



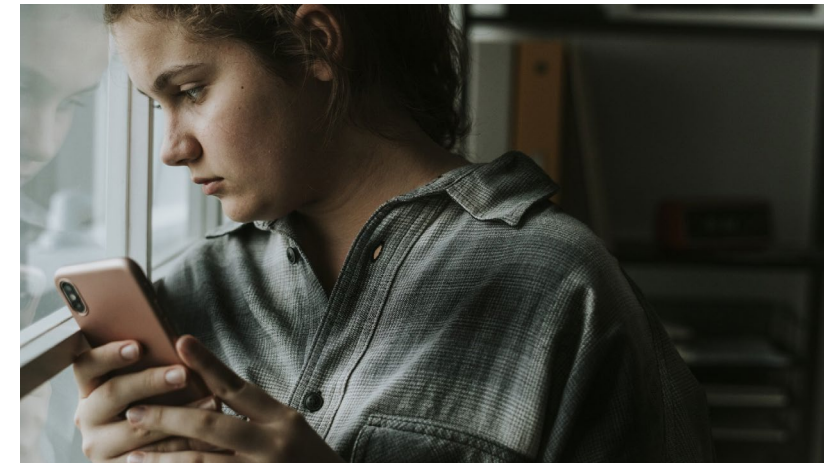
- health,
- genetic factors,
- physical activity,
- neighborhood characteristics,
- safety,
- children's rights,
- spending on families and education

(e.g., Azzopardi et al. 2019, Bradshaw 2015, Casas et al. 2018, Marquez et al. 2024, OECD 2021, Seki et al. 2023, Vigdal & Bronnick 2022)



1. Background and relevance

- **Social media have shaped communication and social interactions substantially.**
- **Social media use (SMU) and mental ill-health in adolescents coincide**, which has been **echoed by political calls to regulate social media** (e.g., Orben & Blakemore 2023; Haidt 2024).
- In recent years, a **considerable body of literature** has emerged addressing the analysis of the **link between social media use and adolescents' well-being**.
- However, the (cross-sectional, longitudinal, and experimental) **evidence is inconclusive and ambiguous** with effects depending on social context and methodological aspects (e.g., Fumagalli et al. 2024, Kross et al. 2021, Valkenburg et al. 2022).





1. Background and relevance

- The analysis of **UK panel/cohort data** from 2011 to 2018 by **Orben et al. (2022)** demonstrates that the effect of social media use frequency on life satisfaction is moderated by age and sex, giving rise to **‘developmental windows of sensitivity to social media’**:
 - **puberty** and the
 - **transition from education to employment.**
- The initial findings of Orben et al. (2022) call for replication (Orben & Blakmore 2023) and extension (moderation by SES).

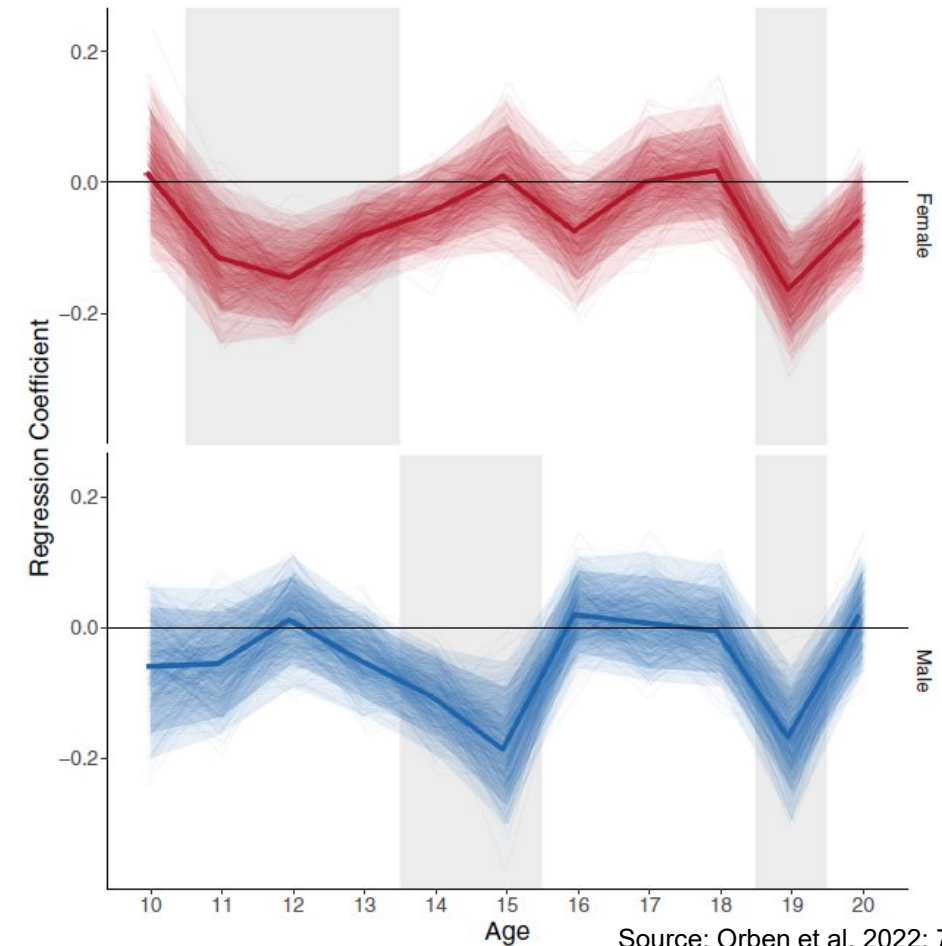


Fig. 4 How social media use predicts life satisfaction in longitudinal data (ages 10-21). Results from the cross-lagged path connecting estimated social media use to life satisfaction ratings one year later, estimated through a Random Intercept Cross-Lagged Panel Model of 17,409 participants (52,556 measurement occasions) aged 10-21. Results show how much an individual's deviation from their expected social media use at a certain age predicted a deviation from their expected life satisfaction ratings one year later (unstandardized estimates). Graph is split by sex (female = top/red, male = bottom/blue) and the grey boxes indicate those ages where the path became statistically significant ($p < 0.05$, two-sided test). The thin lines represent the coefficients extracted from 500 bootstrapped versions of the model to visualize uncertainty, dark shaded ribbons represent bootstrapped 95% CIs, light shaded ribbons represent bootstrapped 99% CIs. The other cross-lagged path linking life satisfaction ratings to estimated social media use was constrained not to vary across age/sex and is not shown here. All tests are two-sided. Source data for this figure are provided as a Source Data file.



2. Data and methods

study	country	study design	years	national representativity	survey mode	age	N	n
HBSC	CH	trend design (repeated cross-sections)	2002, 2006, 2010, 2014, 2018, 2022	yes	PAPI	11-15 years	59'662	9'944 (mean)
TREE	CH	cohort/panel data design	2016-2019, 2021, 2022	yes	CATI, CASI, PAPI	15-22 years	19'809	4'232

Note: HBSC = Health Behaviour in School-aged Children (HBSC) Switzerland (Addiction Switzerland, 2024). TREE = Transitions from Education to Employment (TREE, 2023a, b). N = number of observations. n = number of individuals. PAPI = Paper-and-Pencil Interviewing. CATI = Computer-assisted Telephone Interviewing. CASI = Computer-assisted Self-interviewing. FE = Fixed effects. FEIS = FE with individual slopes.

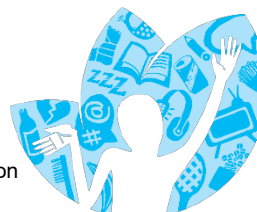
study	outcome	treatment	analytical strategy
	Subjective well-being (SWB)	Social media use (SMU)	
HBSC	Cantril Ladder of life satisfaction (11-point scale; Cantril 1965)	Social Media Disorder Scale (9-item scale of problematic SMU (PSMU); Van den Eijnden et al. 2016; dummy, 1 if ≥6 items 'yes')	Description of development, multiple OLS-regression
TREE	General life satisfaction (11-point scale)	SMU frequency (>2h/d)	FE, FEIS panel regression



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
Swiss Confederation

Federal Department of Home Affairs
Federal Office of Public Health FOPH

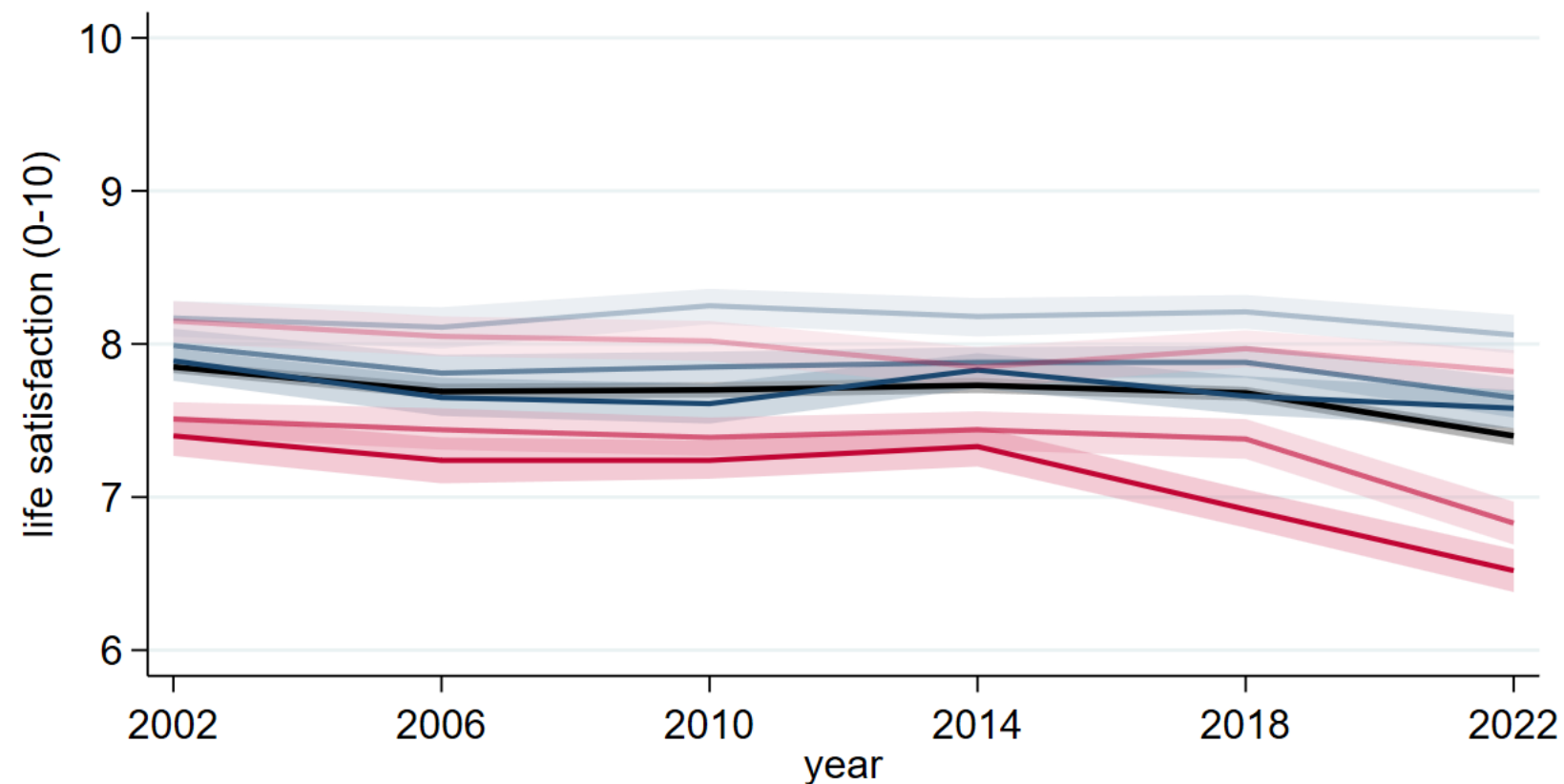
Prevention and Public Health Services Directorate
Prevention of Non-Communicable Diseases Division
Scientific Bases Section



hbsc
HEALTH BEHAVIOUR IN
SCHOOL-AGED CHILDREN
SCHWEIZ / SUISSE / SVIZZERA /
SVIZRA / SWITZERLAND



3. Results: HBSC: Description:

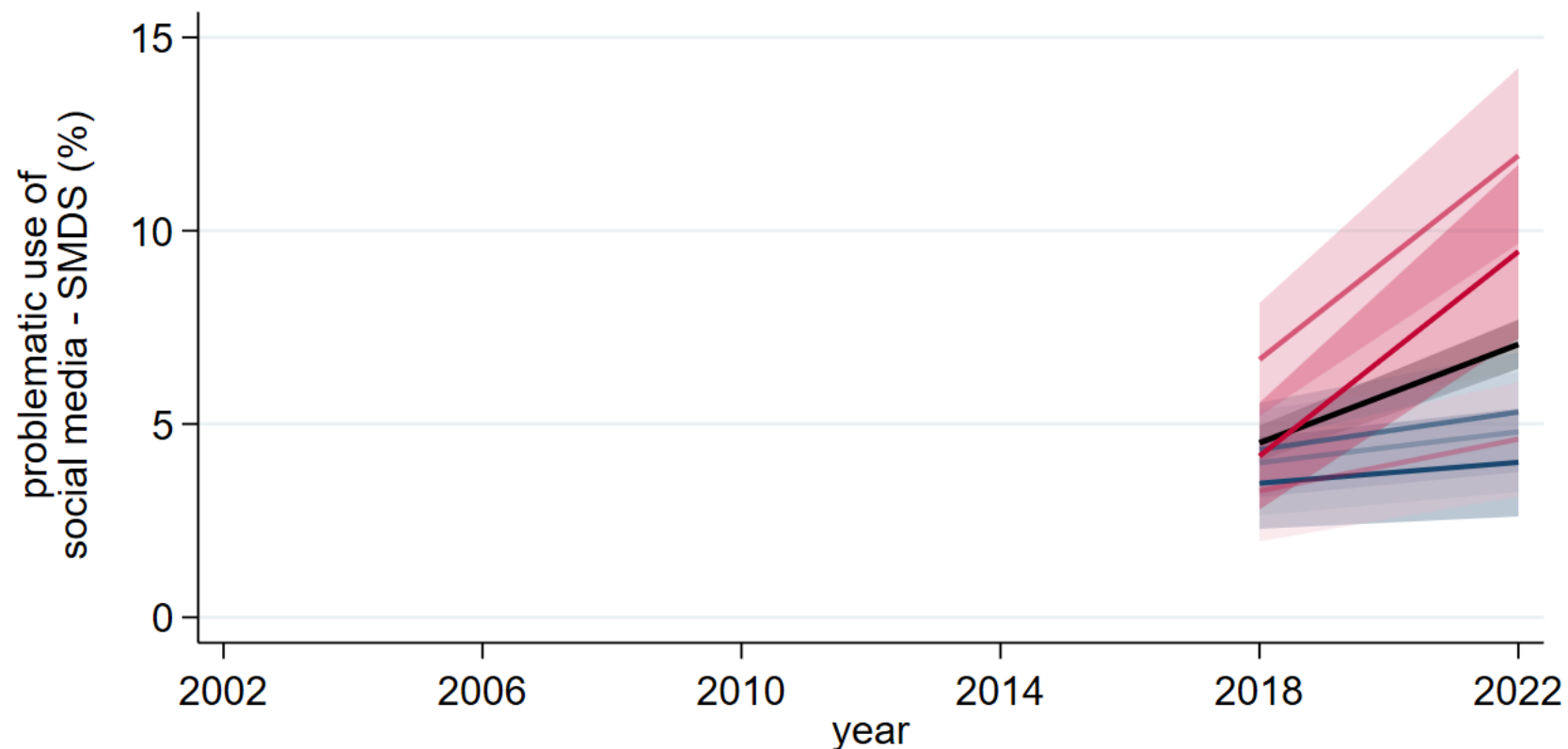


Note: Means and 95% confidence intervals (areas) are adjusted for the clustered sample design and weighted for non-response. Data source: Health Behaviour in School-aged Children (HBSC) Switzerland. N(life satisfaction)=58'256. N(SMDS)=18'017.

- overall mean
- males: 11 years
- males: 13 years
- males: 15 years
- females: 11 years
- females: 13 years
- females: 15 years

3. Results:

HBSC: Description:



Note: Means and 95% confidence intervals (areas) are adjusted for the clustered sample design and weighted for non-response. Data source: Health Behaviour in School-aged Children (HBSC) Switzerland. N(life satisfaction)=58'256. N(SMDS)=18'017.

— overall mean

— males: 11 years

— males: 13 years

— males: 15 years

— females: 11 years

— females: 13 years

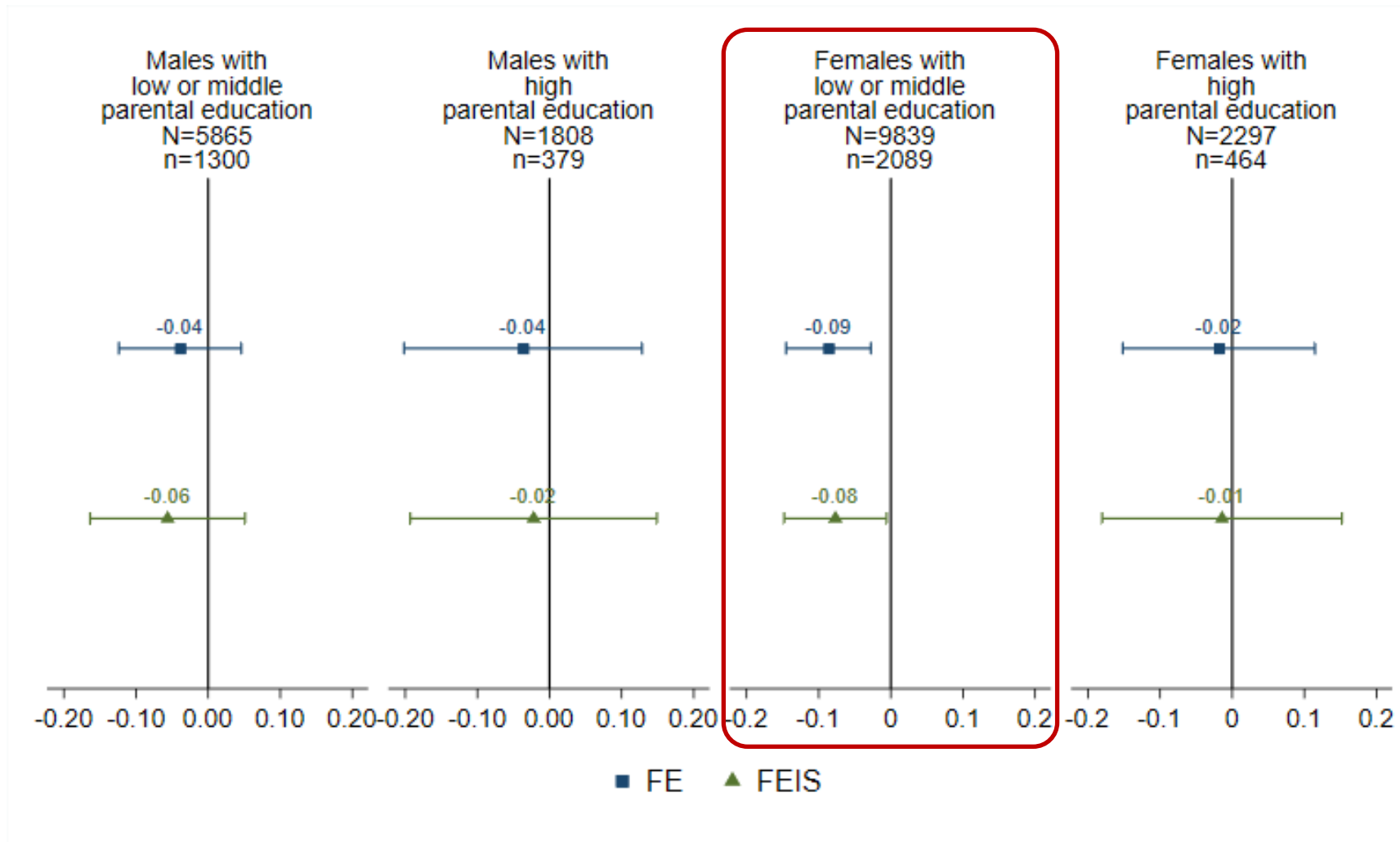
— females: 15 years



3. Results: TREE: Causal inference:

Note: Unstandardized coefficients of Fixed Effects (FE) and Fixed Effects with Individual Slopes (FEIS) Panel Regressions including 95 % confidence intervals based on individually clustered standard errors. The FE models control for other media use (television, gaming, information), residence in an agglomeration with more than 100k inhabitants, dummies for each age (15-22), dummies for the survey years (2016-2019, 2021, 2022), and dummies for the month of the interview. The models only include cases with three or more observations. Low or middle parental education stands for maximum primary or secondary education of the parents (averaged), high parental education denotes tertiary education of the parents (averaged). Data source: Transitions from

10 Education to Employment (TREE, cohort 2).





3. Results:

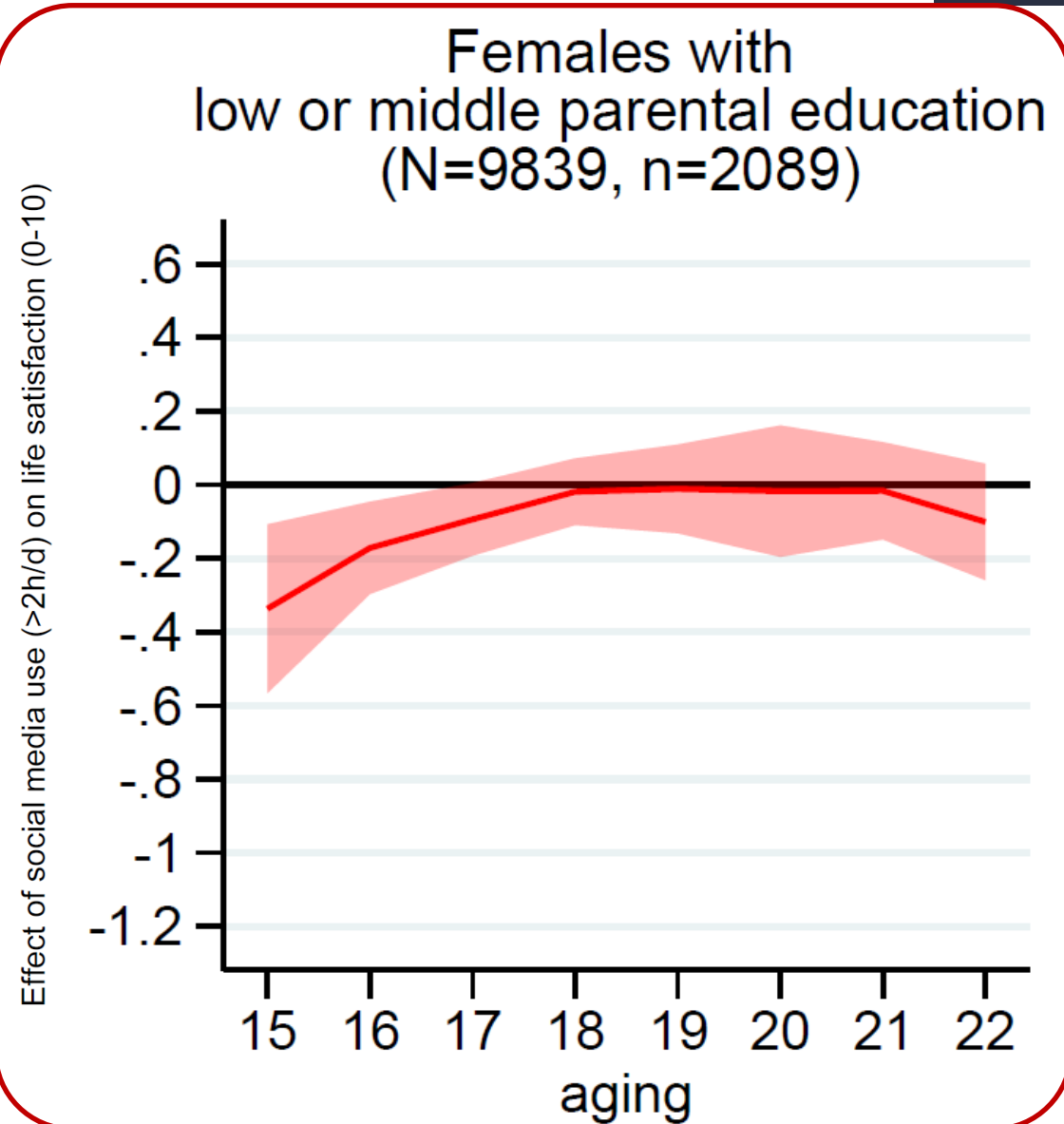
TREE:

Causal

inference:

Moderation by age:

Note: Unstandardized average marginal effects (lines) from Fixed Effects (FE) Panel Regression including 95% confidence intervals (areas) based on individually clustered standard errors. The FE models control for other media use (television, gaming, information), residence in an agglomeration with more than 100k inhabitants, dummies for age, dummies for the survey years, and dummies for the months of the interview. The models only include cases with three or more observations. Data source: Transitions from Education to Employment (TREE, cohort 2).



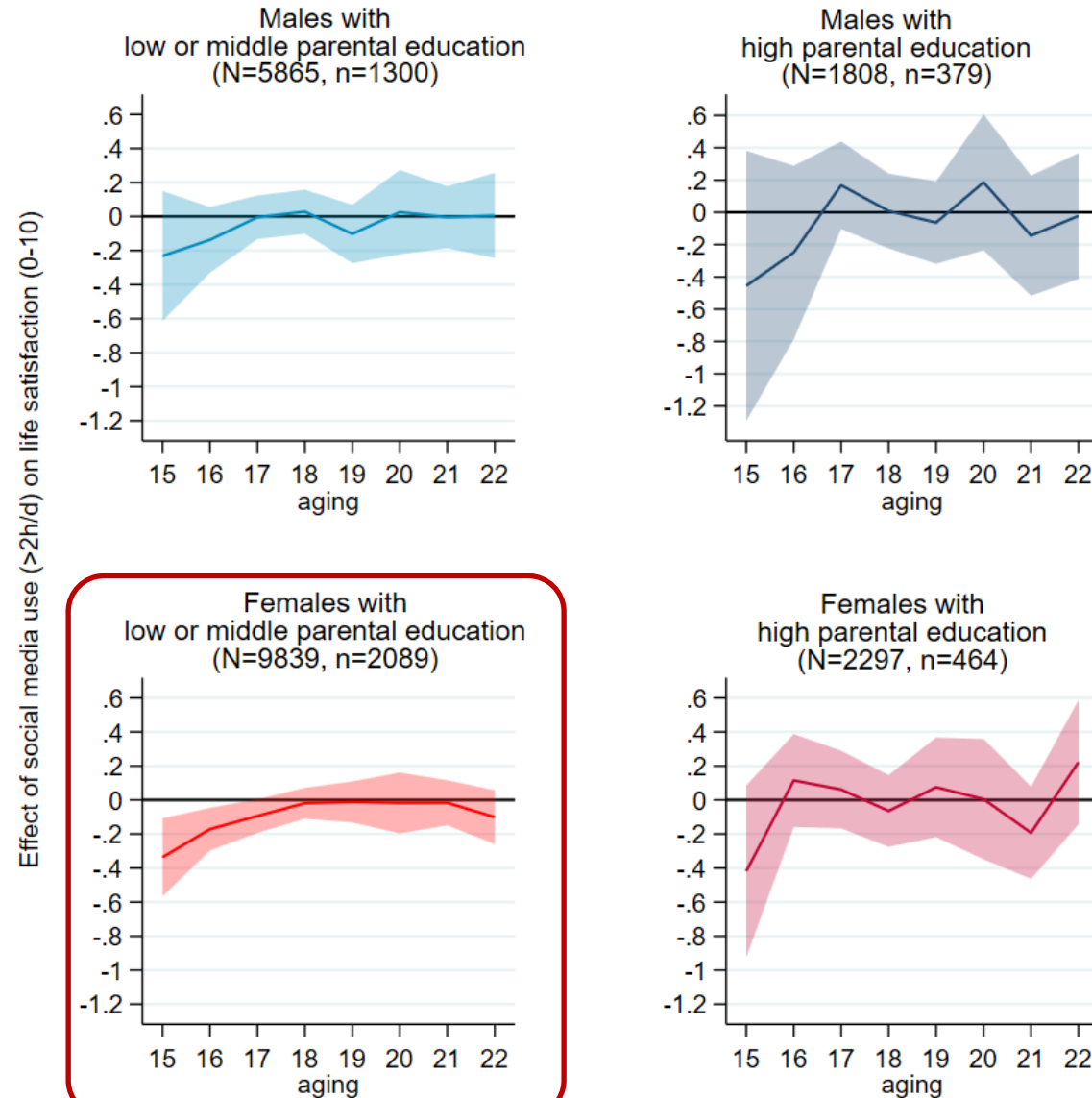


TREE



3. Results: TREE: Causal inference: Moderation by age:

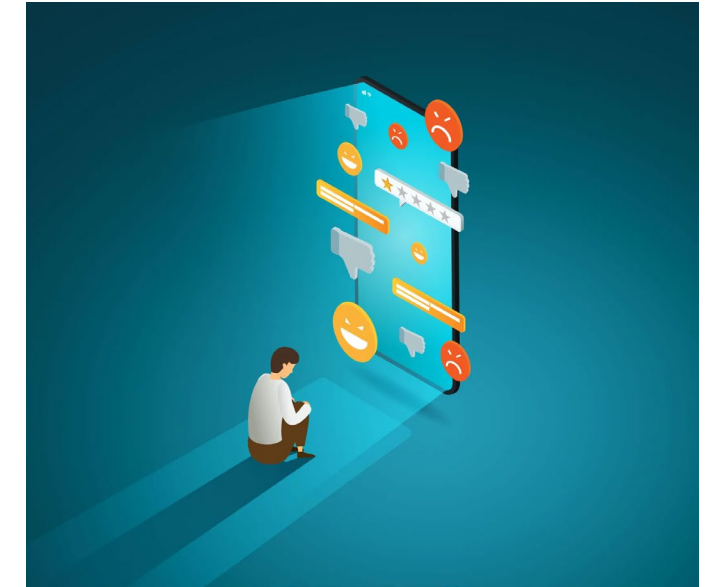
Note: Unstandardized average marginal effects (lines) from Fixed Effects (FE) Panel Regression including 95% confidence intervals (areas) based on individually clustered standard errors. The FE models control for other media use (television, gaming, information), residence in an agglomeration with more than 100k inhabitants, dummies for age, dummies for the survey years, and dummies for the months of the interview. The models only include cases with three or more observations. Data source: Transitions from Education to Employment (TREE, cohort 2).





4. Discussion and conclusion

- **(Problematic) social media use is negatively linked with the subjective well-being of adolescents in Switzerland.**
- **Causal inference** on panel data (TREE cohort 2) **shows** that the **effect** of social media use on life satisfaction **only applies to girls and young women with low or middle parental educational background until majority age (~ 40 % of the population).** The **effect is substantial** and comparable with life events like entering a new partnership, separation from the partner or childbirth (e.g. Krämer et al. 2024).
- We found **no evidence of perpetuation of the effect over the life course** (up to age 22).





4. Discussion and conclusion

- Our study **confirms and enhances** the findings of **Orben et al. (2022)** on ‘**windows of developmental sensitivity to social media**’.
- It **reaffirms** the importance of prevention and health promotion targeted at vulnerable groups.
- **Education on responsible social media use** and **regulation of adverse aspects of social media platforms** may be **useful to balance pros and cons of social media use**.





Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
Swiss Confederation

Federal Department of Home Affairs
Federal Office of Public Health FOPH

Prevention and Public Health Services Directorate
Prevention of Non-Communicable Diseases Division
Scientific Bases Section

Thank you very much for your attention!





Q&A



The paper on Social Science & Medicine



Mader, Sebastian, Damiano Costantini, Annette Fahr, and Marina Delgrande Jordan (2025): The effect of social media use on adolescents' subjective well-being: Longitudinal evidence from Switzerland. *Social Science & Medicine* 365: 117595.
<https://doi.org/10.1016/j.socscimed.2024.117595>.



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
Swiss Confederation

Federal Department of Home Affairs
Federal Office of Public Health FOPH

Prevention and Public Health Services Directorate
Prevention of Non-Communicable Diseases Division
Scientific Bases Section

WISSENSCHAFTLICHE GRUNDLAGEN ZUR
PRÄVENTION NICHT-ÜBERTRAGBARER KRANKHEITEN UND SUCHT

Studienzusammenfassung



The Factsheet

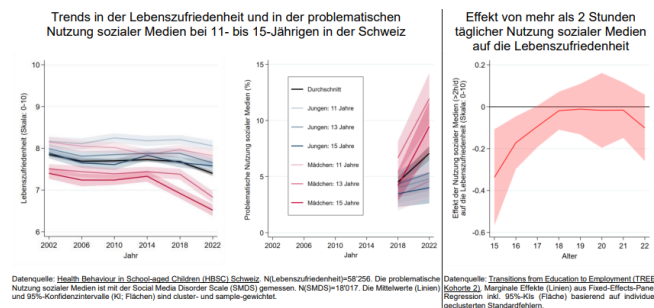
BASES SCIENTIFIQUES POUR LA PRÉVENTION
DES MALADIES NON TRANSMISSIBLES ET DES ADDICTIONS

Résumé de l'étude



Soziale Medien und das Wohlbefinden von Jugendlichen in der Schweiz

Eine Studie des Bundesamtes für Gesundheit BAG, der Universität Bern und von Sucht Schweiz zeigt mit Daten der Trendstudie Health Behaviour in School-aged Children (HBSC), dass die beobachtete Verschlechterung des subjektiven Wohlbefindens bei Jugendlichen in der Schweiz mit einer Zunahme der problematischen Nutzung sozialer Medien zusammenfällt. Eine Kausalanalyse basierend auf Daten der schweizweiten Kohortenstudie Transitions from Education to Employment (TREE) weist jedoch darauf hin, dass die negativen Auswirkungen der Nutzung sozialer Medien auf das subjektive Wohlbefinden nur für Mädchen und junge Frauen mit niedrigem oder mittlerem elterlichen Bildungshintergrund bis zum Alter von 18 Jahren gelten. Die Studie bestätigt und erweitert damit erste Befunde aus dem Vereinigten Königreich zu «Entwicklungsfenstern der Sensibilität für soziale Medien».



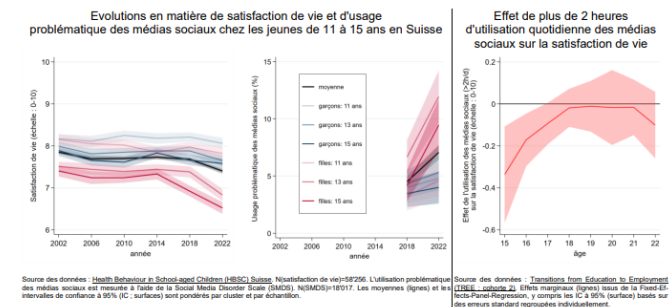
Bedeutung der Studie

Digitale Medien im Allgemeinen und insbesondere soziale Medien **haben die Kommunikation** und soziale Interaktion **wesentlich geprägt**. Die Nutzung sozialer Medien und psychische Erkrankungen/geringes subjektives Wohlbefinden bei Jugendlichen fallen zusammen, was sich in politischen Forderungen nach Regulierung von sozialen Medien auch in der Schweiz widerspiegelt. Die kausalen Beweise für die **Auswirkungen der Nutzung sozialer Medien** auf das subjektive Wohlbefinden sind jedoch **nicht eindeutig**. Eine interessante Analyse von Orben et al. (2022) mit Daten aus dem Vereinigten Königreich zeigt, dass der Effekt vom Alter und Geschlecht abhängt und damit sog. **«Entwicklungsfenster der Sensibilität für soziale Medien»** existieren würden. Die vorliegende Studie des BAG, der Universität Bern und von Sucht Schweiz analysiert, ob dieser Befund auch für die Schweiz gilt.



Les médias sociaux et le bien-être des jeunes en Suisse

Une étude de l'Office fédéral de la santé publique OFSP, de l'Université de Berne et d'Addiction Suisse montre, à l'aide des données de l'étude de monitoring Health Behaviour in School-aged Children (HBSC), que la détérioration observée du bien-être subjectif chez les jeunes en Suisse coïncide avec une augmentation de l'usage problématique des médias sociaux. Une analyse causale basée sur les données de l'étude de cohorte Transitions from Education to Employment (TREE) menée dans toute la Suisse indique toutefois que les effets négatifs de l'utilisation des médias sociaux sur le bien-être subjectif ne concernent que les filles et les jeunes femmes dont les parents ont un niveau d'éducation faible ou moyen jusqu'à l'âge de 18 ans. L'étude confirme et élargit ainsi les premières conclusions du Royaume-Uni sur les «fenêtres de développement de la sensibilité aux médias sociaux».



Importance de l'étude

Les médias numériques en général et les médias sociaux en particulier ont **considérablement influencé la communication** et l'interaction sociale. L'utilisation des médias sociaux et les maladies psychiques/le faible bien-être subjectif chez les jeunes coïncident, ce qui se reflète dans les demandes politiques de régulation des médias sociaux, y compris en Suisse. Cependant, les implications causales de l'**impact de l'utilisation des médias sociaux** sur le bien-être subjectif ne sont **pas claires**. Une analyse intéressante d'Orben et al. (2022) avec des données du Royaume-Uni montre que l'effet dépend de l'âge et du genre et qu'il existerait ainsi ce que l'on appelle des **«fenêtres de développement de la sensibilité aux médias sociaux»**. La présente étude de l'OFSP, de l'Université de Berne et d'Addiction Suisse analyse si cette constatation est également valable pour la Suisse.