PROJECT

Supervisor:	Chiara Brombin
Title:	When Psychology Meets Official Statistics: A Granular Assessment of Adolescent Wellbeing
Curriculum:	Cognitive and behavioral sciences

Link to the personal page of the University or relevant hospital site website:	https://www.unisr.it/docenti/b/brombin-chiara

Description of the Project (max 3,000 characters including spaces)

Background/gap of knowledge

Psychological wellbeing is conceptualized as a multifactorial construct requiring monitoring, particularly during adolescence, a developmental phase marked by significant cognitive, emotional and social changes. Early monitoring is essential to prevent symptom chronicization into adulthood. WHO estimates that one in seven young people worldwide faces a mental health condition, highlighting the urgency of reliable population-level monitoring. Moreover evidence consistently links contextual factors and social inequalities to adolescents mental well-being. Despite growing attention, research remains limited by methodological gaps particularly in sampling and measurement. Large-scale surveillance systems (e.g. HBSC) often assess psychological constructs with brief screening indicators rarely integrating granular contextual (social and territorial) data, whereas psychological studies using validated psychometric tools often rely on convenience samples reducing generalizability. Hence findings remain mixed, especially when contextual heterogeneity is not explicitly modelled, limiting identification of vulnerable population subgroups or areas.

Rationale and hypothesis

Reliable assessment of adolescent psychological wellbeing requires integrating valid psychological measures with contextual data in representative samples. Including brief validated non-diagnostic measures of wellbeing, relational functioning and internalizing symptoms within a national statistical survey offers a unique opportunity. Given wellbeing heterogeneity, multidimensional data-driven approaches can identify profiles of psychological functioning while accounting for contextual specificities and data interdependence. This

approach may clarify whether and how contextual conditions overlap with spatial patterns of adolescent psychological wellbeing.

Objectives and specific aims

-Support integration of a psychological assessment module using validated psychometric tools within an ISTAT survey, enabling large-scale evaluation in a representative sample.

-Apply data-driven approaches to explore interplay among psychological, behavioral and contextual data from ISTAT surveys and identify latent vulnerability profiles.

-Develop composite indicators of psychological and contextual factors.

-Examine spatial overlap between patterns of psychological vulnerability and contextual conditions.

-Derive evidence-based guidelines for preventive interventions for adolescents and socialization agents accounting for territorial specificities.

Expected outcomes

The project will provide a scalable framework for population-level assessment of adolescent wellbeing. Using a multidimensional perspective, it will identify vulnerability profiles, map relations between contextual factors and adolescent wellbeing across areas, supporting monitoring across territories and survey waves. Integrating psychological expertise within official statistics will enable translation of research into evidence-based prevention strategies, strengthening academia–stakeholder collaboration.

Skills that the student should acquire (max. 600 characters including spaces):

The student will deepen knowledge in psychometrics and developmental psychology, focusing on how psychological processes and contextual factors are associated with adolescent wellbeing. She/he will acquire expertise in network analysis and advanced mixed models to analyze multidimensional multilevel data using R software. The student will also develop skills in sampling procedures, composite indicators construction, basics of spatial analysis, interpretation of population-level findings from a psychological perspective to design evidence-based prevention and intervention programs.

References (max. 15)

1. Baird, S., Choonara, S., Azzopardi, P.S., Banati, P., Bessant, J., Biermann, O., Capon, A., Claeson, M., Collins, P.Y., De Wet-Billings, N. and Dogra, S., 2025. A call to action: the second Lancet Commission on adolescent health and wellbeing. The Lancet, 405(10493), pp.1945-2022.

2. Bersia, M., Berchialla, P., Charrier, L., Lemma, P., Borraccino, A., Nardone, P., Pierannunzio, D., Ciardullo, S., Comoretto, R.I. and Dalmasso, P. (2022). Mental well-being: 2010–2018 trends among Italian adolescents. International journal of environmental research and public health, 19(2), p.863.

3. Cosma A, Abdrakhmanova S, Taut D, Schrijvers K, Catunda C, Schnohr C. (2023) A focus on adolescent mental health and wellbeing in Europe, central Asia and Canada. Health Behaviour in School-aged Children international report from the 2021/2022 survey. Volume 1. Copenhagen: WHO Regional Office for Europe. Licence: CC BY-NC-SA 3.0 IGO

4. Elgar, F.J., Pförtner, T.K. and Rothwell, D., 2024. Socioeconomic differences and global trends in youth wellbeing and emotional distress in 165 countries and territories. Health & place, 89, p.103322.

5. Fop, M., Murphy, T.B. and Scrucca, L. (2019). Model-based clustering with sparse covariance matrices. Statistics and Computing 29, pp.791-819.

6. Geraci, M. and Bottai, M., 2014. Linear quantile mixed models. Statistics and computing, 24(3), pp.461-479.

7. ISTAT: Indagine Bambini e ragazzi - anno 2023 Nuove generazioni sempre più digitali e multiculturali https://www.istat.it/it/files/2024/05/Bambini-e-ragazzi-2023.pdf

8. ISTAT (2025). Il disagio socio-economico degli individui e delle famiglie a livello sub-comunale: primi risultati. Anno 2021. https://www.istat.it/comunicato-stampa/dati-disagio-socio-economico-livello-sub-comunale-idise-anno-2021/

9. Li, L., Sawyer, S.M., Newby, H., Dunstan, L. and Azzopardi, P.S., 2025. Quantitative measures of subjective wellbeing for adolescents: a scoping review and synthesis of comparable data. The Lancet Child & Adolescent Health.

10. Newland, L.A., Giger, J.T., Lawler, M.J., Roh, S., Brockevelt, B.L. and Schweinle, A., 2019. Multilevel analysis of child and adolescent subjective well-being across 14 countries: Child-and country-level predictors. Child development, 90(2), pp.395-413.

11. Niccodemi, G., Akanni, L., Bennett, D.L., Black, M., Hargreaves, D., Munford, L., Adjei, N.K. and Taylor-Robinson, D.C., 2026. Family income trajectories and adverse outcomes in late adolescence: Evidence from the UK Millennium Cohort Study. Social Science & Medicine, p.119010.

12. OECD (2025), OECD Guidelines on Measuring Subjective Well-being (2025 Update), OECD Publishing, Paris, https://doi.org/10.1787/9203632a-en.

13. Pickett, K.E. and Wilkinson, R.G. (2024), Editorial: Socio-economic inequality and child and adolescent mental health. Child Adolesc Ment Health, 29: 308-310. https://doi.org/10.1111/camh.12699

14. Pinheiro, J.C. and Bates, D.M., 2000. Mixed-effects models in S and S-PLUS. New York, NY: Springer New York.

15. Snijders, T.A. and Bosker, R., 2011. Multilevel analysis: An introduction to basic and advanced multilevel modeling.