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1) Have any data been collected for this study already?

It's complicated. We have already collected some data but explain in Question 8 why readers may consider this a valid pre-registration nevertheless.

2) What's the main question being asked or hypothesis being tested in this study?

- 1) Perceptions of social support from different sources are positively related to adolescent life-satisfaction.
- 2) These associations vary across countries and are moderated by country-level trust.

3) Describe the key dependent variable(s) specifying how they will be measured.

The dependent variable of this study is adolescent life satisfaction measured using the Cantril's (1965) ladder ranging from 0 (worst possible life) to 10 (best possible life).

4) How many and which conditions will participants be assigned to?

Representative samples of adolescents participated in the international Health- Behavior in School-aged Children (HBSC) study and are nested in 45 countries. Adolescents rated their perceived social support from family, friends, teachers, and classmates. Specifically, participants completed the 4-item family support and 4-item friend support subscales of the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1998). Also, they completed the 3-item Classmate Support Scale and the 3-item Teacher Support Scale designed by HBSC international network (Torsheim et al., 2000). Gender, age, family structure, and relative family affluence will be control variables at the individual level; Gini index and GDP, at the national level.

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.

We will merge individual-level data from 45 countries/ regions (i.e., national-level) and conduct a multilevel regression model: The associations between individual-level life-satisfaction and country-level variables will be tested by fitting two-level linear regression models, which consider individuals to be clustered within countries ($n = 45$). Individual- and country-level variables are added to the models using a stepwise approach. Individual-level variables will be group mean centered and country-level variables grand mean centered. Model 1 will include random slopes for family (1a), friend (1b), teacher (1c), classmate support (1d), and all social support measures (1e) to assess whether there is significant variation between countries in the link between perceived social support and life-satisfaction (adjusting for age, gender, family structure, and relative family affluence). We will interpret random slopes using the 95% prediction interval (PI), indicating the range of the estimated slope across countries. Model 2 will add all four country-level variables, and cross-level interaction terms between all social support indicators and each country-level indicator. For testing the significance of variables in the models, we will use an alpha of 05.

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.

As long as the scores are theoretically possible, we will keep them in the dataset. We will check the original data and leave out the impossible scores due to mistakes in data entry.

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.

Our individual level data will be obtained from the dataset of 2017/18 cycle of the HBSC study. In this cycle survey, there were 46 countries and regions with 236,691 adolescents participating. In addition, we will obtain country-level data from a global social trust ranking list using the Harmonized Trust Database (<https://globaltrustresearch.wordpress.com/results/>). Combining the HBSC's study with the national generalized trust ranking list, we will only include the 45 countries and regions for which trust data are available ($n = 235,448$).

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)

This study will analyze data from an already available dataset. The HBSC study as a cross-national, large-scale survey study conducting data every four-year. However, it is not allowed to publish this cycle data till the end of April, 2020, so there is no published paper yet. We will not analyze the data until this preregistration is approved.