Family Connection and Flourishing Among Adolescents in 26 Countries

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abstract

OBJECTIVES: To determine whether higher levels of family connection are associated with a greater prevalence of flourishing in adolescence.

METHODS: We analyzed cross-sectional data from the International Survey of Children's Well-Being collected in 26 countries between 2016 and 2019 from 11- to 13-year-olds. Family connection was based on a mean score of 5 items that asked about care, support, safety, respect, and participation using a Likert-type scale (range 0–4). Flourishing was based on a mean score of 6 items that asked about self-acceptance, purpose in life, positive relations with others, personal growth, environmental mastery, and autonomy using a Likert-type scale (range 0–10). A mean score of >8 was considered flourishing.

RESULTS: The analysis involved 37 025 of 39 286 (94.2%) adolescents, after excluding those with missing data. The mean (SD) age was 11.9 (0.6) years and 51.4% were girls. The prevalence (95% confidence interval) of flourishing was 65.8% (65.3–66.3). Adolescents were distributed across 5 increasing levels of the family connection score: <2.5 (11.2%), 2.5 to <3.0 (8.8%), 3.0 to <3.5 (24.2%), 3.5 to <4.0 (25.1%), and 4.0 (30.7%). After controlling for covariates, including material resources and food sufficiency, the prevalence (95% confidence interval) of flourishing increased across the 5 levels of increasing family connection: 34.9% (33.3–36.5), 45.0% (43.2–46.8), 58.2% (57.2–59.3), 72.6% (71.6–73.5), and 84.3% (83.6–85.1), respectively.

CONCLUSIONS: Among adolescents from 26 countries, greater family connection was associated with a higher prevalence of flourishing. Family connection may contribute to flourishing, not just the avoidance of negative outcomes.

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WHAT'S KNOWN ON THIS SUBJECT Safe, stable, and nurturing relationships within families protect children from negative outcomes that result from adversity, but less is known about whether family connection is associated with childhood flourishing.

WHAT THIS STUDY ADDS Using a sample of over 37 000 adolescents, we found a graded association between family connection and the prevalence of flourishing. Family connection, which reflects relational health, may contribute to adolescent flourishing and not just the avoidance of poor outcomes.

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Relational health has been defined as the capacity to develop and maintain safe, stable, and nurturing relationships with others[1]; for children to achieve their developmental potential, they need such relationships with adults.[2,3] Although there is evidence that relational health in families, or family connection, protects children from the negative outcomes that result from adversity,[4,5] less is known about whether family connection is associated with children's flourishing.

There is no consensus about what constitutes flourishing, including among children and adolescents. For example, the term flourishing has been applied to multiple dimensions of well-being used in different well-being frameworks, including eudaimonic (or psychological), hedonic, and social.[6–10] Measures of flourishing have been developed to assess many of these dimensions.[11–13] However, to better understand childhood factors that may lead to flourishing in adulthood, we have previously limited the term flourishing to mean eudaimonic well-being[14,15] and measured it using the 6 dimensions of self-acceptance, environmental mastery, positive relations with others, autonomy, personal growth, and purpose in life.[16] Defined this way, flourishing is a developmental aspiration for children that neither requires nor excludes the hedonic aspects of well-being, such as happiness, positive affect, or satisfaction.[6,17] In addition, flourishing indicates thriving, even with adversity.[18,19] This is different from resilience, which often means recovery from or avoidance of poor outcomes and harms in the context of adversity.[20–22]

There are well-established associations between midlife flourishing and later health and well-being,[23,24] but little is known about factors during childhood that lead to flourishing, both during childhood and across the course of life. Several studies have shown that childhood family connection is associated with flourishing in adulthood.[25–30] We have shown that this association is also present across levels of adverse childhood experiences and childhood socioeconomic position, among both midlife adults[15] and young adults with childhood-onset chronic disease.[14] In a study of over 50 000 US children, who were 6 to 17 years of age, family connection was associated with a higher prevalence of flourishing; however, flourishing was measured based on parents' reports of their children's task persistence, interest in learning, and emotion regulation, rather than on dimensions of eudaimonic well-being.[31]

The research to date supports the association between childhood family connection and adult flourishing, reflecting the convention of focusing on child well-becoming (ie, an interest in childhood factors associated with functioning in adulthood) rather than child well-being (ie, an interest in childhood factors associated with functioning in childhood).[10] To our knowledge, there are no studies examining the association of childhood family connection with childhood flourishing (as eudaimonic well-being) using data based on children's perspectives. To address this gap, we used data from the International Survey of Children's Well-Being (ISCWeB), which is unique because of its international scope, use of questionnaires administered to adolescents rather than their parents, and assessment of flourishing based on Ryff's 6 dimensions of eudaimonic well-being.[16] The purpose of our study was to use these cross-sectional data to determine whether higher levels of family connection were associated with greater flourishing among adolescents.

METHODS

Study Population and Survey Design

We used data from the third wave of the ISCWeB, a survey of children's well-being, daily activities, and time-use that was conducted between 2016 and 2019 across 35 countries. The detailed survey methods are described elsewhere and summarized here.[32–34] Teams of investigators in each country administered separate questionnaires to 8-, 10-, and 12-year-olds. The questionnaires were developed in English, translated into the languages of participating children, and then backtranslated. To reach survey respondents, investigators used random sampling of mainstream schools across their country or within specific region(s) of their country. However, because the full sampling frame of potential respondents was not established, the participation rate was not reported. Each team received the appropriate ethical approval for the survey, all children provided informed consent, and parents gave active or passive consent for their children to participate.

For our analysis, we used the publicly available, deidentified data provided by the ISCWeB investigative team. We used data only from those who completed the 12-year-old questionnaire because it was the only questionnaire containing the items we used to measure our outcome (flourishing). Nine countries were not included in our analysis: 5 did not survey the 12-year-old age group, 2 did not include all the survey items we used to measure our exposure (family connection), and 2 did not have public data available on age or

gender. The ISCWeB had 41 125 respondents to the 12-year-old questionnaire in these 26 countries. Within sampled schools, specific grades were targeted to receive the 12-year-old questionnaire. We restricted our analysis to the 11- to 13-year-old respondents to the 12-year-old questionnaire to decrease variability around the target age of 12 years, leaving a sample of 39 286 adolescents.

Measures

Flourishing

The flourishing score was based on 6 close-ended survey items. Each item was aligned with a dimension of Ryff's Psychological (eudaimonic) Well-Being Scale[16,35]: self-acceptance ("I like being the way I am"), environmental mastery ("I am good at managing my daily responsibilities"), positive relations with others ("People are generally friendly towards me"), autonomy ("I have enough choice about how I spend my time"), personal growth ("I feel that I am learning a lot at the moment"), and purpose in life ("I feel positive about my future"). On an 11-point Likert-type scale, anchored at 0 ("not at all agree") and 10 ("totally agree"), adolescents were asked to indicate their level of agreement with each item. Those with complete data on at least 5 items were included in the analysis, and we calculated a mean flourishing score (range 0–10) from the available items. The reliability and construct validity of the scale has been established.[36,37] In our sample, the internal consistency (Cronbach's α) of the flourishing score items was .84. To assess our study aim in a manner that was both statistically valid and interpretable, we used a binary measure for flourishing (scores >8), with the cut point based on qualitative studies from the ISCWeB investigative team.[38]

Family Connection

We created a family connection score using 5 survey items. Each item asked about a dimension of connection in the adolescent's home context: care ("There are people in my family who care about me"), support ("If I have a problem, people in my family will help me"), safety ("I feel safe at home"), respect ("My parent(s) listen to me and take what I say into account"), and participation ("My parents and I make decisions about my life together") (data provided by the International Survey of Children's Well-Being project team, July 13, 2021). On a 5-point Likert-type scale from 0 ("I do not agree") to 4 ("I totally agree"), adolescents were asked to indicate their level of agreement with each item. Those with complete data on at least 4 items were included in the analysis, and we calculated a mean family connection score (range 0–4) from the available items. The internal consistency (Cronbach's α) of the family connection score items in our sample was .79.

Covariates

Our analyses included 7 covariates, which we considered as potential confounders of the association between family connection and flourishing. These variables, all based on self-report by the child, included gender (girl or boy), age (whole years), household structure (living with mother or stepmother and/or father or stepfather and coded as living with both, either, or neither), and country. We also included 3 variables related to the child's economic circumstances: material resources, family financial worry, and food sufficiency. The material resources variable was a count (0–8) of 8 items children reported (yes or no) that they had: clothes in good condition, 2 pairs of shoes in good condition, enough money for school trips and activities, internet at home, equipment and things needed for sports and hobbies, pocket money or money to spend on yourself, mobile phone, and equipment and things needed for school. The survey items used for the family financial worry variable ("How often do you worry about how much money your family has?") and the food sufficiency variable ("Do you have enough food to eat each day?") each had the response options of "never," "sometimes," "often," or "always."

Statistical Analysis

Our analytic sample included 37 025 of the 39 286 (94.2%) adolescents with completed surveys after we excluded 2260 adolescents who had missing data on either the exposure (family connection) and/or outcome (flourishing), and one who had missing data on sampling stratum (Supplemental Table 3). We conducted statistical analyses with Stata/MP version 15.1 (Stata Corp), and we used the Stata "svyset" command, with the ISCWeB variables caseweight and stratum (school), to account for the complex sampling design. All reported percentages were weighted.

We first computed the mean (95% confidence interval [CI]) of the family connection score and the prevalence (95% CI) of flourishing across levels of the covariates. We then used a logistic regression model to examine the association between flourishing (binary dependent variable) and family connection score, while controlling for all 7 potentially confounding covariates. For these regression analyses, 6217 cases (16.8%) of the analytic sample were missing data on one or more of 5 covariates (gender, family structure, material resources, family financial worry, or food sufficiency) (Table 1). Missing

data for these covariates were imputed[39] using sequential regression imputation[40] to create 20 imputed data sets. We then ran logistic regression models on the imputed datasets and reported model parameters that were aggregated across datasets.[41]

We analyzed the family connection score in 2 ways. To facilitate interpretation of our findings, we first used family connection as a categorical independent variable with 5 levels (<2.5, 2.5 to <3.0, 3.0 to <3.5, 3.5 to <4.0, and 4.0) and used the lowest level of family connection score (<2.5) as the reference group. Regression-based margins, standardized to the distribution of covariates in the study population, were used to estimate the adjusted prevalence (95% CI) of flourishing at each level of family connection. In a logistic regression model with all 7 covariates, we also used the family connection score as a continuous independent variable and estimated the probability (95% CI) of flourishing across the entire range of family connection scores. In secondary analyses, we examined the association between family connection score and flourishing in each country. We also examined the association with flourishing defined using a different cut point (score >9).

RESULTS

Of the 37 025 adolescents included in this analysis, the mean (SD) age was 11.9 (0.6) years, and 51.4% were girls. Family financial worry was reported to occur "always" or "often" by 24.2% of adolescents, and 6.3% reported "never" or only "sometimes" having enough food to eat each day (Table 1). The mean (SD) family connection score was 3.4 (0.7), and adolescents were distributed, as follows, across 5 levels of increasing score: <2.5 (11.2%), 2.5 to <3.0 (8.8%), 3.0 to <3.5 (24.2%), 3.5 to <4.0 (25.1%), and 4.0 (30.7%) (Supplemental Fig 2). The prevalence (95% CI) of flourishing was 65.8% (65.3–66.3). The mean (SD) flourishing score was 8.3 (1.7), and adolescents were distributed, as follows, across 6 levels of increasing score: 0 to 4 (2.7%), >4 to 6 (8.0%), >6 to 7 (8.7%), >7 to 8 (14.7%), >8 to 9 (24.6%), >9 to 10 (41.2%) (Supplemental Fig 3).

Family connection scores were similar across age levels and between boys and girls, but the prevalence of flourishing was higher in boys and those who were younger (Table 1). The highest family connection scores and the highest prevalence of flourishing were for those adolescents who reported never having family financial worry, always having enough food, or living with both parents (Table 1).

The prevalence of flourishing increased in a graded manner as the level of family connection increased (Table 2 and Fig 1). After controlling for gender, age, family structure, material resources, family financial worry, food sufficiency, and country, the prevalence (95% CI) of flourishing increased across the 5 levels of increasing family connection score: 34.9% (33.3–36.5), 45.0% (43.2–46.8), 58.2% (57.2–59.3), 72.6% (71.6–73.5), and 84.3% (83.6–85.1), respectively. The adjusted prevalence of flourishing was 49.4 (95% CI 47.6–51.2) percentage points higher among those with the highest level of family connection (4.0) compared with those with the lowest level of family connection (<2.5). Secondary analyses of the association between family connection score and flourishing within each country showed similar graded associations across countries as in the pooled analysis (Supplemental Table 4). The graded association between family connection and flourishing was also seen when we used a different cutpoint to define flourishing (score >9) (Supplemental Table 5).

DISCUSSION

Key Findings

Based on cross-sectional survey data obtained from over 37 000 adolescents residing in 26 countries, we showed that higher levels of family connection were associated with a greater prevalence of flourishing. To our knowledge, this is the first population-based study of adolescents showing the association between a measure of relational health (family connection) and flourishing (assessed as eudaimonic well-being). This cross-sectional association cannot be interpreted as a causal relationship. However, the association was graded and strong, accounted for potential confounders assessing relative socioeconomic disadvantage and adversity, and was present in a range of countries across Europe, Asia, Africa, and South America. The psycho-social-biologic mechanisms supporting the causal links between adult-child connection and later flourishing arise from a well-established body of research on attachment[42] and mammalian evolutionary biology.[43,44]

Findings in Context

Aside from studies using ISCWeB data,[36–38,45] we are not aware of any other population-based studies of adolescents that include a measure of flourishing, like the one used here, based on Ryff's framework of eudaimonic (psychological) well-being.[16] As reviewed by Nahkur and Casas,[37] investigators have examined the psychometric properties of Ryff's scale of psychological well-being among diverse groups of adolescents. We know of 7 studies that have used Ryff's scale of psychological well-being to examine correlates of flourishing among adolescents,[46–52]

TABLE 1 Family Connection Score and Prevalence of Flourishing by Participant Characteristics

Characteristic	*n* (%)[a]	Family Connection Score		Flourishing	
		Mean	95% CI	*n* (%)	95% CI
All	37 025 (100.0)	3.38	3.37–3.38	24 395 (65.8)	65.3–66.3
Age, y					
11	8739 (23.7)	3.35	3.34–3.37	6229 (71.2)	70.2–72.2
12	21 549 (58.2)	3.39	3.38–3.40	14 048 (65.0)	64.4–65.7
13	6737 (18.1)	3.36	3.34–3.38	4118 (61.2)	59.9–62.5
Gender					
Boy	18 064 (48.6)	3.37	3.36–3.38	11 997 (66.4)	65.7–67.2
Girl	18 828 (51.4)	3.38	3.37–3.39	12 317 (65.2)	64.5–66.0
Household structure[b]					
Lives with both parents	27 964 (79.0)	3.43	3.42–3.44	18 970 (67.7)	67.1–68.3
Lives with either parent	6570 (18.5)	3.23	3.21–3.25	3926 (60.4)	59.1–61.6
Lives with neither parent	957 (2.6)	3.04	2.98–3.09	546 (56.7)	53.3–60.0
Material resources score[c]					
8 (highest)	18 968 (52.5)	3.51	3.50–3.52	13 417 (70.7)	70.0–71.4
7	7891 (22.0)	3.32	3.30–3.33	5135 (65.3)	64.1–66.4
6	4289 (11.8)	3.19	3.17–3.22	2612 (60.6)	59.1–62.2
5	2290 (6.4)	3.18	3.15–3.22	1341 (58.5)	56.3–60.6
3–4	1970 (5.6)	3.14	3.10–3.18	1050 (53.0)	50.6–55.3
0–2 (lowest)	626 (1.7)	3.03	2.94–3.12	291 (45.9)	41.7–50.1
Family financial worry[d]					
Never	11 551 (34.2)	3.54	3.53–3.56	8730 (75.5)	74.6–76.4
Sometimes	13 795 (41.6)	3.32	3.31–3.34	8660 (63.0)	62.1–63.8
Often	4709 (14.3)	3.24	3.22–3.27	2668 (56.5)	55.0–58.0
Always	3396 (9.9)	3.24	3.21–3.27	2155 (63.2)	61.4–64.9
Food sufficiency[e]					
Always	29 665 (81.9)	3.46	3.45–3.47	20 929 (70.5)	69.9–71.1
Often	4248 (11.9)	3.08	3.05–3.10	1981 (46.8)	45.2–48.4
Sometimes	2004 (5.5)	2.92	2.88–2.97	915 (45.4)	43.1–47.7
Never	280 (0.8)	2.95	2.82–3.08	138 (49.8)	43.6–56.1

[a] $N = 37\,025$. The sample sizes are unweighted, and the percentages are weighted using the survey sample weights. Percentages may not add to 100% due to rounding. Participants were missing data on characteristics as follows: gender ($n = 133$), household structure ($n = 1534$), material resources score ($n = 991$), family financial worry ($n = 3574$), and food sufficiency ($n = 828$).

[b] Survey question asks respondents to check from a list, "all of the people who live in your home." The list includes options for mother, father, stepmother, and stepfather. Responses were classified as follows: both parents (checked both mother [or stepmother] and father [or stepfather]), either parent (checked either mother [or stepmother] or father [or stepfather]), and neither (checked neither mother [or stepmother] nor father [or stepfather]).

[c] Material resources score (0–8) with lower scores indicating fewer material resources. The score is the count of "Yes" responses for 8 items ("Which of the following do you have?"): clothes in good condition, enough money for school trips and activities, access to the internet at home, equipment or things for sports and hobbies, pocket money, 2 pairs of shoes in good condition, mobile phone, and equipment or things for school.

[d] Survey question asks, "How often do you worry about how much money your family has?"

[e] Survey question asks, "Do you have enough food to eat each day?"

but none of these studies have examined family connection. Frameworks of positive youth development include constructs such as purpose, relationships, competence, and identity.[53–56] Although these constructs are aligned with our conceptualization of flourishing, the body of work on positive youth development does not explicitly assert the developmental goal of eudaimonic well-being.

Limitations

The cross-sectional design of this study has inherent limitations. We cannot make causal inferences, and we cannot exclude reverse causality or common rater bias as possible explanations for our findings. While the ISCWeB was international in scope, it did not collect nationally representative samples in participating countries. A school-based sampling frame was used in each country, but this frame excluded children not enrolled in mainstream schools, and the scope of the study made it infeasible to calculate survey-wide response rates at the school or student levels. The family connection and flourishing measures have limitations. Although the measures of family connection and flourishing had adequate internal consistency, the measurement of these multidimensional constructs in adolescents is still evolving. We are not aware of any studies of adolescents in which responses to the 6-item flourishing measure used in the ISCWeB were compared with responses from Ryff's full scale of psychological well-being. Only a single item was used to assess each of the 6 dimensions of flourishing.[16] Furthermore, adolescents' understanding of the flourishing items and/or their response style for these items may differ by

TABLE 2 Association Between Level of Family Connection and Prevalence of Flourishing

Level of Family Connection	*n* (%)[a]	Flourishing		
		Unadjusted Prevalence, % (95% CI)[b]	Adjusted Prevalence, % (95% CI)[c,d]	Adjusted Prevalence Difference, % (95% CI)[c]
<2.5	4100 (11.2)	29.4 (27.9–30.9)	34.9 (33.3–36.5)	Reference
2.5 to <3.0	3238 (8.8)	42.8 (41.0–44.6)	45.0 (43.2–46.8)	10.1 (7.8–12.4)
3.0 to <3.5	8980 (24.2)	57.9 (56.8–59.0)	58.2 (57.2–59.3)	23.3 (21.4–25.2)
3.5 to <4.0	9319 (25.1)	74.0 (73.0–74.9)	72.6 (71.6–73.5)	37.6 (35.8–39.5)
4.0	11 388 (30.7)	85.4 (84.6–86.1)	84.3 (83.6–85.1)	49.4 (47.6–51.2)

[a] $N = 37\,025$. The sample sizes are unweighted, and the percentages are weighted using the survey sample weights.

[b] The prevalence of flourishing significantly increased across levels of family connection (χ^2 test for trend $z = 74.51$, $P < .001$).

[c] Based on a logistic regression model with adjustment for gender, age, household structure, material resources score, family financial worry, food sufficiency, and country and using imputation for missing data on the following 5 covariates: gender, household structure, material resources score, family financial worry, and food sufficiency. The adjusted prevalence differences (and 95% CIs) describe the adjusted prevalence of flourishing among those in the higher levels of family connection score relative to the adjusted prevalence of flourishing among those in the lowest level of family connection score.

[d] In a logistic regression model, after adjusting for all 7 covariates, the addition of family connection (4 levels) to the model significantly improved model fit, as assessed by the Wald test (F [4, 36 944.6] = 786.69, $P < .001$).

country; these differences may be due to cultural factors, including language, and warrant some caution when comparing levels or correlates of flourishing among countries.[37]

Implications

Family connection, as operationalized here and in our other recent work,[14,15,31] is consistent with the definition of relational health in the context of family: safe, stable, and nurturing relationships that children and adolescents experience with their parents or primary caregivers.[1] The importance of family connection is not just to develop resilience to adversity but to promote flourishing, with or without adversity. Future research should address the more applied question of how to enhance and sustain adult-child connection in the face of social forces that favor disconnection.[57,58] These studies could also examine the potential role of children's connections with nonparental adults in their schools, faith-based institutions, and communities to promote children's flourishing,[59] as well as the role of health care innovations, such as the family-centered pediatric medical home,[60] in supporting adult-child connection. Research in this area will benefit from obtaining data directly from children and adolescents, using emerging measures of both family connection and flourishing.[10] While parents have aspirations for their children's well-being (who children are currently) and well-becoming (who children will be in the future), children may also hold present and future aspirations for themselves. For adults to provide the safe, stable, and nurturing relationships that allow children to flourish, adults must understand children's perspectives on both connection and flourishing.

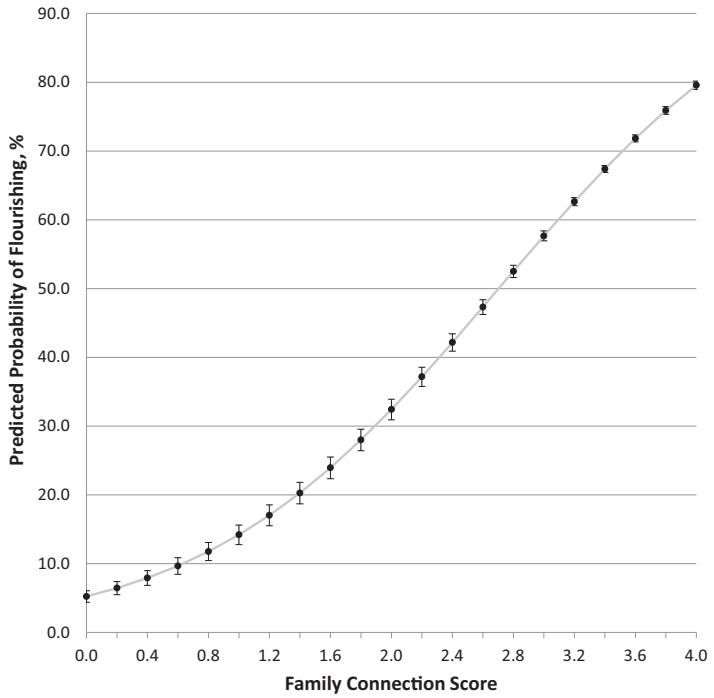

FIGURE 1
Predicted probability of flourishing across family connection scores. Each point represents the predicted probability (and 95% CI) of flourishing at a given family connection score ($N = 37\,025$). The line and 95% CI bands are derived from a logistic regression model and adjusted for the following: gender, age, household structure, material resources score, food sufficiency, family financial worry, and country.

As for enhancing adult-child connection, children's perceptions that they are safe and seen by an

adult may be as important as children's reports of what they do with adults. For example, whether adverse childhood experiences are classified as traumatic and impair later health and functioning is not only about the events and circumstances but also about their enduring emotional impact.[61] Similarly, whether positive childhood experiences promote lifelong flourishing may depend more on the emotional impact for children of consistently feeling safe and seen by an adult (ie, the emotional climate), rather than on the particular activities the child shares with an adult. This possibility could be empirically evaluated in studies using psychophysiologic measures of social safety.[62] If supported by further study, efforts to increase positive childhood experiences might benefit from helping adults understand how best to make children feel safe and seen (ie, a focus more on *being* than *doing*).[63] This process may even involve interventions in which the adults themselves experience being safely seen,[42] so that they can provide this gift to children.[64] As summarized by the evolutionary neurobiologist C. Sue Carter, "Without positive relationships, especially in early life, humans fail to flourish, even if all of their basic needs are met."[65]

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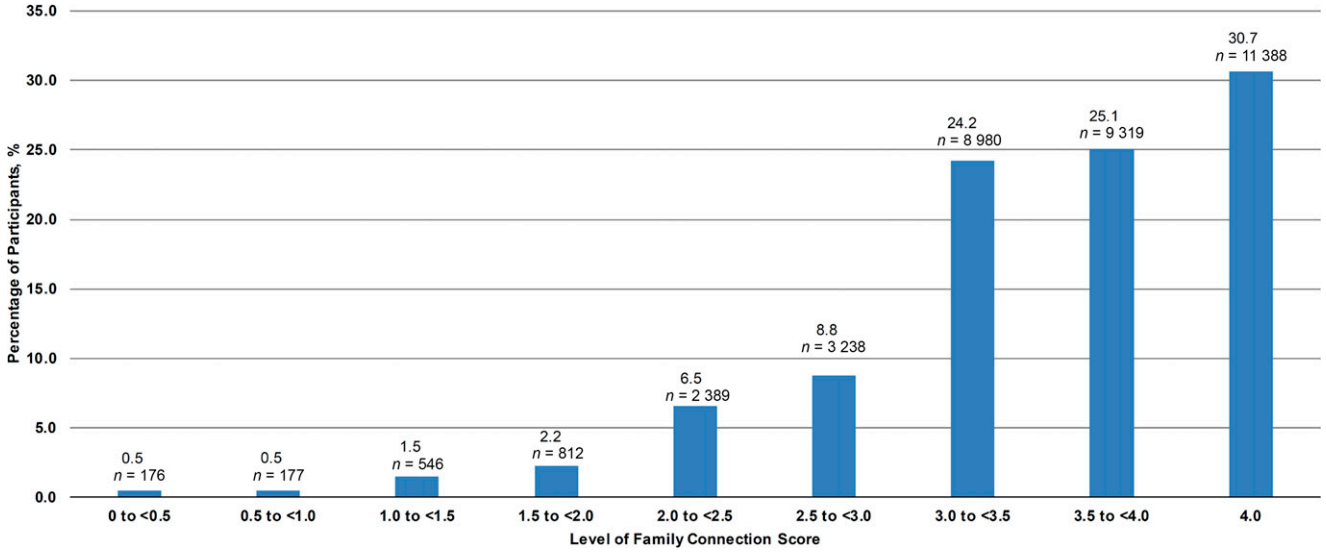
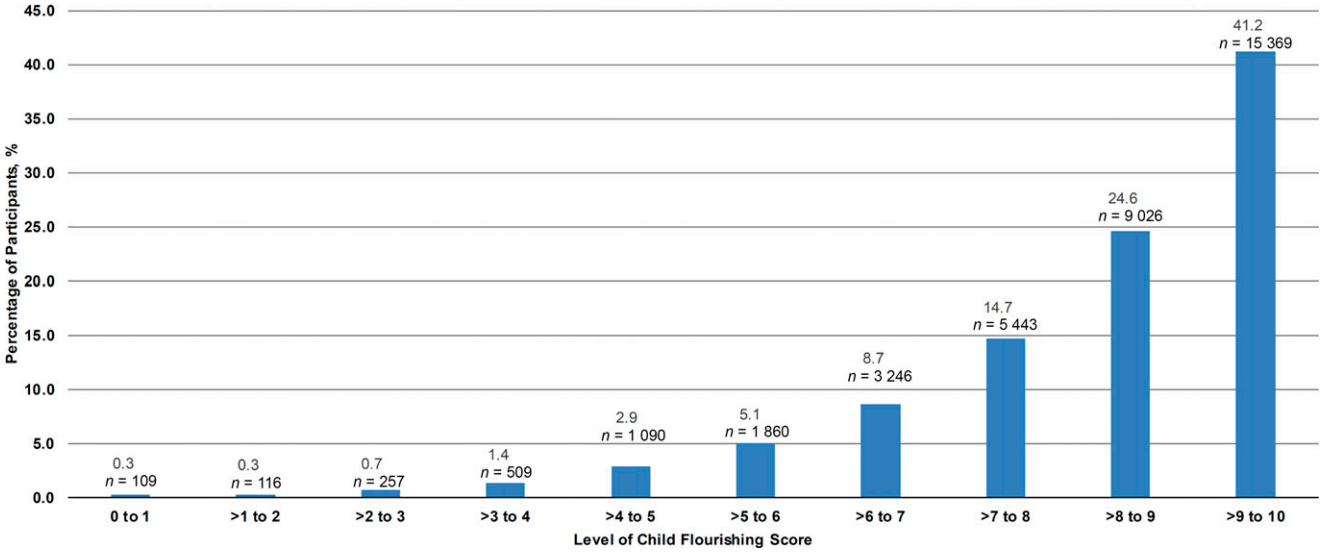
SUPPLEMENTAL INFORMATION



SUPPLEMENTAL FIGURE 2

Number and percentage of participants across levels of family connection. Note: $N = 37\,025$. The sample sizes are unweighted and the percentages are weighted using the survey sample weights. Percentages may not add to 100% due to rounding.



SUPPLEMENTAL FIGURE 3

Number and percentage of participants across levels of child flourishing. Note: $N = 37\,025$. The sample sizes are unweighted, and the percentages are weighted using the survey sample weights. Percentages may not add to 100% due to rounding.

SUPPLEMENTAL TABLE 3 Twenty-six Countries and Number of Adolescents Included in Analytic Sample

Country (Region)	No.	Geographic Region[a]	Total Population[a]
All	37 025		
Albania	1090	Europe and Central Asia	2 854 191
Algeria (Western)	853	Middle East and North Africa	43 053 054
Belgium (Flanders)	967	Europe and Central Asia	11 488 980
Brazil (Cities)	800	Latin America and Caribbean	211 049 519
Chile (Cities)	855	Latin America and Caribbean	18 952 035
Croatia	1114	Europe and Central Asia	4 065 253
Estonia	1023	Europe and Central Asia	1 326 898
Finland	1015	Europe and Central Asia	5 521 606
Hong Kong SAR	721	East Asia and Pacific	7 507 400
Hungary	798	Europe and Central Asia	9 771 141
Indonesia (West Java)	7224	East Asia and Pacific	270 625 567
Israel	1221	Middle East and North Africa	9 054 000
Italy (Liguria)	1134	Europe and Central Asia	59 729 081
Malta	587	Middle East and North Africa	504 062
Namibia (Khomas)	995	Sub Saharan Africa	2 494 524
Nepal (Selected)	935	South Asia	28 608 715
Norway	742	Europe and Central Asia	5 347 896
Poland	1075	Europe and Central Asia	37 965 475
Romania	1031	Europe and Central Asia	19 371 648
Russia (Tyumen)	837	Europe and Central Asia	144 406 261
South Africa	3273	Sub-Saharan Africa	58 558 267
South Korea	3316	East Asia and Pacific	51 709 098
Spain (Catalonia)	1935	Europe and Central Asia	47 133 521
Sri Lanka (Central)	1148	South Asia	21 803 000
Vietnam (North)	826	East Asia and Pacific	96 462 108
United Kingdom (Wales)	1510	Europe and Central Asia	66 836 327

[a]Each country's geographic region and total population (2019) were determined using World Bank Open Data. Details available at https://data.worldbank.org/.

SUPPLEMENTAL TABLE 4 Association Between Level of Family Connection and Prevalence of Flourishing by Country

	Lowest Family Connection (Score <2.5)		Highest Family Connection (Score = 4)		
Country (Region)	*n* (%)[a]	Flourishing, % (95% CI)[b]	*n* (%)[a]	Flourishing, % (95% CI)[b,c]	Prevalence Difference, % (95% CI)[b]
All	4100 (11.2)	34.9 (33.3–36.5)	11 388 (30.7)	84.3 (83.6–85.1)	49.4 (47.6–51.2)
Albania	38 (2.9)	81.3 (69.2–93.4)	489 (47.0)	98.0 (96.6–99.5)	16.7 (4.6–28.9)
Algeria (Western)	75 (9.3)	50.9 (38.3–63.4)	384 (45.3)	84.7 (80.8–88.6)	33.8 (20.6–47.0)
Belgium (Flanders)	57 (5.7)	40.9 (27.1–54.7)	279 (27.9)	88.9 (84.5–93.3)	48.0 (33.5–62.6)
Brazil (Cities)	220 (27.5)	31.2 (24.8–37.6)	112 (14.0)	81.6 (74.0–89.1)	50.4 (40.3–60.4)
Chile (Cities)	150 (17.5)	21.0 (14.0–28.1)	248 (29.0)	88.6 (84.2–93.0)	67.5 (59.1–76.0)
Croatia	64 (6.6)	31.0 (17.2–44.5)	382 (33.1)	92.7 (89.4–95.9)	61.6 (47.3–76.0)
Estonia	101 (9.7)	21.8 (12.6–31.1)	326 (31.9)	84.1 (79.7–88.6)	62.3 (51.9–72.6)
Finland	84 (8.3)	22.0 (11.4–32.7)	397 (39.1)	84.3 (80.5–88.1)	62.2 (50.8–73.7)
Hong Kong SAR	210 (29.4)	19.1 (13.6–24.7)	104 (14.4)	79.0 (70.9–87.1)	59.9 (49.8–70.0)
Hungary	40 (4.6)	19.3 (5.6–33.0)	317 (41.4)	83.4 (78.9–87.9)	64.1 (49.6–78.6)
Indonesia (West Java)	931 (12.9)	38.7 (35.6–41.9)	1005 (13.9)	82.1 (79.6–84.6)	43.4 (39.3–47.4)
Israel	73 (6.8)	46.4 (33.1–59.6)	575 (45.8)	87.9 (84.7–91.1)	41.6 (27.7–55.4)
Italy (Liguria)	116 (10.6)	50.7 (39.2–62.2)	210 (19.2)	92.0 (88.1–95.9)	41.3 (28.8–53.8)
Malta	46 (7.8)	31.0 (15.6–46.5)	241 (41.4)	93.8 (90.5–97.0)	62.7 (46.7–78.8)
Namibia (Khomas)	210 (20.6)	34.6 (27.2–42.0)	180 (17.4)	81.1 (75.0–87.2)	46.5 (36.8–56.3)
Nepal (Selected)	51 (5.4)	42.8 (29.0–56.6)	517 (55.3)	84.0 (80.6–87.4)	41.2 (26.8–55.6)
Norway	47 (6.3)	63.2 (49.9–76.6)	388 (52.3)	83.4 (79.6–87.3)	20.2 (6.1–34.4)
Poland	102 (9.6)	11.3 (4.6–18.0)	322 (31.2)	80.1 (75.3–84.9)	68.8 (60.4–77.3)
Romania	65 (7.0)	49.6 (35.8–63.5)	408 (39.4)	88.3 (85.0–91.7)	38.7 (24.2–53.2)
Russia (Tyumen)	127 (16.3)	26.1 (16.9–35.2)	201 (23.3)	78.2 (71.1–85.2)	52.1 (40.0–64.2)
South Africa	478 (14.5)	49.4 (44.3–54.5)	866 (27.0)	89.9 (87.7–92.1)	40.5 (34.8–46.2)
South Korea	283 (8.5)	13.0 (8.0–18.1)	1298 (38.4)	69.8 (66.8–72.7)	56.7 (50.8–62.6)
Spain (Catalonia)	115 (6.2)	44.3 (34.3–54.4)	644 (32.9)	93.2 (91.1–95.3)	48.9 (38.6–59.2)
Sri Lanka (Central)	40 (4.0)	66.4 (49.7–83.1)	783 (69.0)	85.6 (82.8–88.5)	19.2 (21.8–36.3)
Vietnam (North)	164 (20.1)	20.3 (13.7–26.8)	159 (17.7)	68.1 (60.4–75.9)	47.9 (37.4–58.3)
United Kingdom (Wales)	213 (14.7)	18.0 (11.0–25.1)	553 (38.3)	59.4 (54.3–64.4)	41.4 (32.4–50.3)

[a] $N = 37\,025$. The sample sizes are unweighted, and the percentages are weighted using the survey sample weights.

[b] Based on a logistic regression model with adjustment for gender, age, household structure, material resources score, family financial worry, food sufficiency, and country and using imputation for missing data on the following 5 covariates: gender, household structure, material resources score, family financial worry, and food sufficiency. In Belgium, Croatia, Israel, and Spain, the levels of food sufficiency were high, so this variable was imputed as a binary (always versus often, sometimes, or never).

[c] In a logistic regression model, after adjusting for all 6 covariates, the addition of family connection (4 levels) to the model significantly improved model fit, as assessed by the Wald test ($P < .001$ in each of the 26 countries).

SUPPLEMENTAL TABLE 5 Association Between Level of Family Connection and Prevalence of Flourishing (score >9)

		Flourishing		
Level of Family Connection	*n* (%)[a]	Unadjusted Prevalence, % (95% CI)[b]	Adjusted Prevalence, % (95% CI)[c,d]	Adjusted Prevalence Difference, % (95% CI)[c]
<2.5	4100 (11.2)	13.3 (12.2–14.4)	16.6 (15.3–17.8)	Reference
2.5 to <3.0	3238 (8.8)	19.8 (18.4–21.3)	21.7 (20.2–23.1)	5.1 (3.2–7.0)
3.0 to <3.5	8980 (24.2)	29.9 (28.9–30.9)	30.6 (29.7–31.6)	14.1 (12.5–15.7)
3.5 to <4.0	9319 (25.1)	44.7 (43.6–45.8)	43.5 (42.5–44.6)	27.0 (25.3–28.6)
4.0	11 388 (30.7)	63.6 (62.6–64.6)	62.0 (61.0–62.9)	45.4 (43.8–47.1)

[a] $N = 37\,025$. The sample sizes are unweighted, and the percentages are weighted using the survey sample weights.

[b] The prevalence of flourishing significantly increased across levels of family connection (χ^2 test for trend $z = 67.58$, $P < .001$).

[c] Based on a logistic regression model with adjustment for gender, age, household structure, material resources score, family financial worry, food sufficiency, and country and using imputation for missing data on the following 5 covariates: gender, household structure, material resources score, family financial worry, and food sufficiency. The adjusted prevalence differences (and 95% CIs) describe the adjusted prevalence of flourishing among those in the higher levels of family connection score relative to the adjusted prevalence of flourishing among those in the lowest level of family connection score.

[d] In a logistic regression model, after adjusting for all 7 covariates, the addition of family connection (4 levels) to the model significantly improved model fit, as assessed by the Wald test ($F[4, 36\,957.4] = 740.70$, $P < .001$).