Online Supplemental Materials

Navigation

Tables

Brief summary of survey measures not used in the current study

Sample A

In addition to the measures used in the current study, participants answered questions about their demographics (e.g., household size), lifestyle (e.g., modern vs. traditional), general trust, prosociality, TV and social media use, pandemic-related experiences, economic forecasts, and voting intentions. KONDA allows researchers to share only the materials that are used in their studies. Sample A materials used in the current research may be found in https://osf.io/9gcf3/?view_only=205ecef1580d476696e2f9fcc72fc21e

Sample B

In addition to the measures used in the current study, participants reported attitudes and experiences related to kindness, personality, health, and well-being. The full Sample B survey may be found in https://osf.io/3269x/

Data exclusions

In Sample A, all respondents who were at least 18 years old were included in the analyses.

In Sample B, the total number of respondents who consented to participate in the study was 65,521. The Kindness Test team (Banerjee et al., 2023) cleaned the dataset as follows: One participant was removed because they were younger than 18 years old and another one withdrew from the study. Of the remaining, 5,292 participants did not answer any questions in the survey. Seven participants were removed because they took less than 10 minutes to complete the survey, suggesting low-quality responding, and another seven were removed because their responses to open-ended questions were either nonsensical or unusual. Finally, seventy-two participants were removed because they gave the same response to all items at least on half of the scales or the

same response to all items on two or more of the scales that included reverse-coded items, suggesting careless responding. After removing these participants, the final analytic sample included 60,141 adults.

Translation

In Sample A, relational mobility items and the life satisfaction item were translated into Turkish and validated in previous research (European Social Survey, 2018; Thomson et al., 2018). Items assessing weak-tie interactions were written by the authors based on studies using similar measures (e.g., the German Socio-Economic Panel; Sander et al., 2017).

Sample B consisted only of English-speaking participants and the measures were used in their English forms. The item assessing stranger interactions was translated into Turkish by the second and third authors.

Missingness and multiple imputation procedures

Sample A

Conversation frequency with strangers had the highest amount of missing data (12%), followed by household income (8%) (see Figure S1).

Figure S1. *Missingness in Sample A data.*

First, we used Little's MCAR test to determine whether the pattern was missing completely at random (MCAR), meaning that the missingness did not depend on the values of any variables and the probability of missingness is the same for all variables. We rejected the null hypothesis that the missingness in the data was MCAR (*Little's MCAR*(1089) = 1332.52, $p < .001$). Next, we proceeded to test whether the pattern was missing at random (MAR), meaning that the missingness was related to the values of other variables present in the dataset (as opposed to unobserved variables or the values of the missing variable itself). We dummy-coded the top missing variables as missing versus non-missing and ran Welch's t-tests to examine whether there were significant differences in any observed variables (van Ginkel et al., 2019). Those who perceived lower relationship mobility were more likely to have missing values for interactions with strangers (t (387.57) = 3.23, $p = .001$). Note that part of this missingness was not due to respondents skipping the question. Many of these respondents indicated during the interview that they did start a conversation with strangers in the last seven days but were not able to provide an exact number in response to the open-ended question assessing how many such interactions they had. It may be that when it is less normative to interact with strangers (as indexed by lower perceived relational mobility), people are more likely to experience difficulties in estimating the number of interactions with strangers (possibly because such interactions are less regular in daily life). Also, those who reported more frequent interactions with weak ties were more likely to have missing values for their interactions with strangers (t (445.16) = -5.10, $p < .001$ for the composite interaction variable; same pattern for all weak tie interaction measures). Frequency of interacting with weak ties was positively correlated with the number of stranger interactions ($r = .41$, $p < .001$ for the composite interaction variable; same pattern for all weak-tie interaction measures), suggesting that people who frequently interacted with weak ties

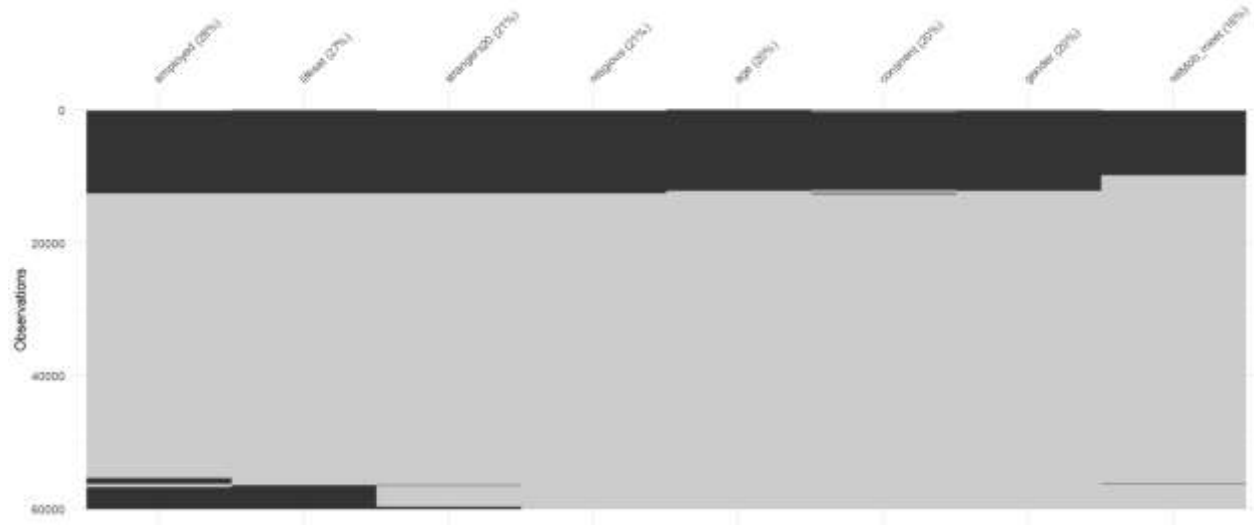
were unable to estimate the number of their stranger interactions because they simply may have had many of those. As a result, we concluded that the pattern of missingness was likely to be MAR (i.e., was related to the values of other variables present in the dataset) and used multiple imputation to deal with missingness (van Ginkel et al., 2019).

We used the mice package to impute missing values (van Buuren & Groothuis-Oudshoorn, 2011). We multiply imputed five sets of data using the futuremice() function. The imputed datasets were saved for reproducibility and are available on the project OSF page (https://osf.io/9gcf3/?view_only=205ecef1580d476696e2f9fcc72fc21e). The analyses reported in the main text were performed by pooling the results across the five datasets with the pool() function.

Sample B

Employment had the highest amount of missing data (28%), followed by life satisfaction (27%), then conversation frequency with strangers (21%) and religiosity (21%; see Figure S2).

Figure S2. *Missingness in Sample B data.*



Again, we first performed the Little's MCAR test to determine whether the pattern of missingness was MCAR. We rejected the null hypothesis that the missingness in the data was MCAR (*Little's MCAR*(304) = 2184.20, $p < .001$). Next, we proceeded to test whether the pattern of missingness was MAR. Similar to our procedure with Sample A, we dummy-coded the top missing variables as missing versus non-missing and ran Welch's t-tests to examine whether there were significant differences in any observed variables. Similar to Sample A, those who perceived lower relationship mobility (indicating it is less normative to interact with minimal social ties) were more likely to have missing values for their interactions with strangers (t (3625) = 5.16, $p < .001$). Also, those who had missing values on the employment variable were likely to have fewer interactions with strangers (t (4577) = 8.02, $p < .001$) and perceive lower relational mobility (t (9097) = 8.32, $p < .001$). This also makes sense given that being employed is associated with more minimal social interactions (see Table 2 in the main text). Those who skipped this question might have more unstable employment situations, which may be related to having fewer minimal interactions and observing fewer of such interactions around them. As a result, we concluded that the pattern of missingness was likely to be MAR and used multiple imputation to deal with missingness. We multiply imputed five sets of data and examined the pooled results using the same procedure as in Sample A.

Diagnostics for instrumental variable regression

In our main analyses, we also examined diagnostic tests for our instrumental variable (IV) analyses. Specifically, we examined two diagnostic tests when evaluating the instrumental variable regression models: (1) the weak instrument test and (2) the Wu-Hausman test.

The weak instrument test examines whether the amount of potential bias (i.e., the difference between the estimated effect and the true effect) introduced by the instrumental

variable regression estimate is sufficiently less than the amount of potential bias introduced by the OLS estimate. The ratio of the amount of potential bias introduced by the instrumental variable regression to the amount of potential bias introduced by OLS regression can be approximated with the following formula.

$$[\,\beta\,(IV)\,-\,\beta\,(True)\,]\,\div[\,\beta\,(OLS)\,-\,\beta\,(True)\,]\;\approx[\,1\,\div\,F\,(First\;Stage)\,]$$

When the first stage instrumental variable analysis has an *F* statistic of 10, the relative potential bias introduced by the instrumental variable regression estimate is approximately 10% of that introduced by the OLS estimate (this is also where the $F_{\text{first stage}} > 10$ rule of thumb comes from). The weak instrument diagnostic test is an *F*-test with a critical value that depends on the acceptable level of "finite sample bias" in the instrumental variable regression relative to the potential bias resulting from the endogeneity problem in OLS regression. Finite sample bias refers to the amount of bias introduced to the model due to not having an infinite sample. An infinite sample could produce knowledge of the *true* effect in the first stage instrumental variable regression, which would then be used in the second stage instrumental variable regression to produce an unbiased estimate of the causal effect. However, with a finite sample, instrumental variable regression contains some random sampling bias. In the weak instrument test, rejecting the null hypothesis shows that the diagnostic test exceeds the critical value, and that the relative bias introduced by the instrumental variable regression estimate is sufficiently small.

The Wu-Hausman test is a test of endogeneity. If the variable that is assumed to be endogenous is actually exogenous, then endogeneity is not an issue of concern, and an OLS approach is more efficient (Papies et al., 2017). Therefore, by testing for endogeneity, the Wu-Hausman test helps researchers determine whether an instrumental variable approach is more appropriate than an OLS approach. Because we only had one instrument, we did not examine the

Sargan test in the main analyses (however, see supplementary section “Analyses with relational mobility items as separate instruments” for this test).

Because diagnostic tests were not compatible with pooling, we re-ran the second-stage instrumental variable analyses separately for each of the five multiply imputed datasets. Taking a conservative approach, we evaluated the diagnostic tests based on the largest *p* values across all tests (4×5=20 tests for Sample A and 1×5=5 tests for Sample B). The weak instrument diagnostics rejected the null hypothesis that the instrument was weak for both samples (*p*s < .001). Testing for differences between OLS and IV analyses, the Wu-Hausman test statistics (*p*s < 019 in Sample A; *p*s < .001 in Sample B) suggested that the OLS results were likely biased and the IV approach was appropriate. Therefore, diagnostic tests confirmed the strength of the instrument and the appropriateness of the IV approach.

Sample A Additional Analyses

Analyses with the composite weak-tie interactions

In our OLS analyses, the composite measure of weak-tie interactions (i.e., the average of greeting, thanking, conversing) predicted greater life satisfaction (= .122, *p* < .001). In the first-stage instrumental variable analysis, relational mobility predicted the composite measure of weak-tie interactions (= .148, p < .001). The first stage *F* statistic was greater than 10, suggesting that relational mobility was a suitable instrument that satisfied the relevance assumption. Diagnostic tests also confirmed the strength of the instrument and the appropriateness of the IV approach (*p*s < .033). The second-stage instrumental variable analysis used the predicted composite weak-tie interaction scores from the first stage. The analysis revealed that the weak-tie interactions composite predicted greater life satisfaction (= .379, p = .003). The unstandardized estimates for all models are presented in Table S5.

Analyses without covariates

We repeated all analyses reported in the main text by excluding the covariates from the models.

OLS analyses

Strangers. Interacting with more strangers predicted greater life satisfaction (b = .038, SE = .015, p = .011).

Weak ties. Greeting (b = .106, SE = .019, p < .001), thanking (b = .101, SE = .019, p < .001), and conversing with weak ties more often (b = .111, SE = .020, p < .001) predicted greater life satisfaction. The composite measure of interactions with weak ties also predicted greater life satisfaction (b = .140, SE = .022, p < .001).

First-stage instrumental variable analyses

We predicted minimal social interactions from relational mobility only, and tested whether relational mobility fulfilled the criteria for an instrumental variable.

Strangers. Relational mobility predicted having more conversations with strangers (b = .301, SE = .032, F (1, 3264) = 91.21, p < .001).

Weak ties. Relational mobility predicted having more frequent conversations with weak ties (b = .155, SE = .020, F (1, 3264) = 59.95, p < .001), as well as greeting (b = .142, SE = .020, F (1, 3264) = 48.52, p < .001) and thanking weak ties more often (b = .176, SE = .020, F (1, 3264) = 73.53, p < .001). The association between relational mobility and the composite measure of interactions with weak ties was also consistent with these results (b = .156, SE = .017, F (1, 3052) = 80.23, p < .001).

The first-stage F statistics were all greater than 10 in all models, suggesting that relational mobility was a suitable instrument that satisfied the relevance assumption.

Second-stage instrumental variable analyses

The second-stage analyses used the predicted values of minimal interaction variables from the first-stage models.

Strangers. Interacting with more strangers predicted greater life satisfaction (b = .246, SE = .080, p = .003).

Weak ties. Having more frequent conversations with weak ties (b = .476, SE = .151, p = .002), as well as greeting (b = .523, SE = .167, p = .002) and thanking (b = .421, SE = .132, p = .001) weak ties more often predicted greater life satisfaction. When we examined the composite measure of interactions with weak ties, we again found that it predicted greater life satisfaction (b = .470, SE = .146, p = .001).

Analyses with listwise deletion

We repeated all analyses reported in the main text after listwise deletion of missing data. The findings remained the same as reported in the main text using multiply imputed data. Please see below for details.

OLS and IV analyses without covariates

Sensitivity analyses showed that at minimum ($N_{\text{Analytical}}$ = 2,719, see Table S7), we were sufficiently powered (80%) to detect very small effects (f^2 = .0029). See Table S6 for the OLS and Table S7 for the IV results. F statistics from the first-stage IV models ranged from 46.28 to 111.50, suggesting that relational mobility was a suitable instrument that satisfied the relevance assumption. The weak instrument diagnostics rejected the null hypothesis that the instrument was weak (ps < .001). Testing for differences between OLS and IV analyses, the Wu-Hausman test statistics were significant (ps < .05). Therefore, the diagnostic tests confirmed that the instrument was strong and an IV approach was appropriate.

OLS and IV analyses with covariates

Sensitivity analyses showed that at minimum ($N_{Analytical}$ = 2,379, see Table S10), we were sufficiently powered (80%) to detect very small effects (f^2 = .0033) in the current multiple regression models with 22 predictors. See Table S8 for the OLS, Table S9 for the first stage IV, and Table S9 for the second-stage IV results. The first-stage *F* statistics were all greater than 10, suggesting that our instrument–relational mobility–was a suitable instrument that satisfied the relevance assumption. The weak instrument diagnostics rejected the null hypothesis that the instrument was weak (*p*s < .001). Testing for differences between OLS and IV analyses, the Wu-Hausman test statistics were significant (*p*s < .05), suggesting that the OLS results were biased and the IV approach was appropriate. Therefore, diagnostic tests confirmed the strength of the instrument and the appropriateness of the IV approach.

Analyses with relational mobility items as separate instruments

We also repeated our instrumental variable analyses using each of the three relational mobility items as individual instruments (as opposed to using their average as the only instrument in the models). Using multiple instruments in the model (more specifically, having more instruments than endogenous variables) allowed us to gain additional diagnostics that test whether the instruments as a set were exogenous (i.e., the Sargan test). A significant result in the Sargan test can mean that the instruments are correlated with the regression error terms. In other words, a large Sargan test statistic suggests that invalid instruments are present.

The results of both the first- and second-stage instrumental variable regression analyses were consistent with those reported in the main paper. We observed small Sargan test statistics that were all insignificant (*p*s > .05): Sargan tests statistics from the second stage ranged from

.926 to 1.879. This suggested that there was likely no correlation between the set of instruments and the error terms. Therefore, we concluded that our instruments were valid.

Analyses with binary stranger interactions variable

To complement the analyses using the winsorized stranger interactions variable, we performed analyses using a dummy variable that contrasted not having conversations with strangers at all (coded as 0) versus having a conversation with at least one stranger (coded as 1) in the last seven days. As reported in the main text, some Sample A participants reported that they had conversations with strangers in the past week but they could not remember the exact number of their stranger interactions. Recoding this variable as a dummy variable enabled us to utilize their responses in the analyses.

OLS results showed that consistent with prior work, having conversations with strangers (b = .140, SE = .070, p = .044) was associated with greater life satisfaction. First-stage results from our IV analyses showed that our instrument, relational mobility, predicted having a conversation with strangers (b = .053, SE = .007, F (22, 2453) = 13.96, p < .001). The first-stage F statistic was greater than 10, suggesting that relational mobility was a suitable instrument. The second-stage model used the predicted values of stranger interactions from the first stage. The results showed that having a conversation with strangers (b = 1.335, SE = .488, p = .006) predicted greater life satisfaction. The diagnostics were also in line with those reported in the main text.

We must note that to facilitate the IV analyses, we used linear regression in our first stage analysis. Although the outcome was binary in this model (i.e., whether or not the participant had a conversation with a stranger), running a linear regression in the first stage IV regression is common practice because the main goal is to create an exogenous X_{Pred} variable for the second

stage. We also ran a logistic regression version of this model and confirmed that the association between relational mobility and having a conversation with strangers remained significant (b = .237, SE = .032, OR = 1.27, 95% CI [1.19 – 1.35], $p < .001$).

Multilevel Regression

We used multilevel regression to examine whether minimal social interactions were associated with life satisfaction after controlling for demographic covariates and accounting for regional clustering. The nationally representative sample was organized by 12 regions of Turkey. We used multilevel linear models where region was included as a level-2 variable to account for the variability in life satisfaction that is attributable to differences across regions. We allowed the intercepts of models predicting life satisfaction to vary across regions. Because the existing instrumental variable regression packages could not deal with multi-level analyses, we manually implemented this procedure by running the first-stage models, saving predicted values, and running the second-stage models using the predicted values from the first stage. We must note that the second-stage standard errors produced by manually implementing this two-step procedure may not be as accurate as when this procedure is implemented simultaneously as in the existing instrumental variable regression packages. We used the nlme() package in R to run the multilevel models.

First, we examined the associations between minimal social interactions and well-being without the instrument in a multi-level model. After controlling for covariates, consistent with results reported in the main text, having conversations with strangers (b = .036, SE = .016, p = .023) and weak ties (b = .128, SE = .022, $p < .001$) were associated with greater life satisfaction. Greeting (b = .108, SE = .021, $p < .001$) and thanking weak ties (b = .103, SE = .021, $p < .001$)

were also associated with greater life satisfaction. Region only explained 1% of the variance in life satisfaction in these models.

Next, we manually ran multilevel IV regressions. First-stage results from our IV analyses suggested that our instrument, relational mobility, was associated with having conversations with strangers (b = .296, SE = .031, p < .001) and weak ties (b = .145, SE = .021, p < .001). Similarly, relational mobility was associated with greeting (b = .162, SE = .021, p < .001) and thanking (b = .162, SE = .021, p < .001) weak ties.

Second-stage results from our multilevel IV analyses using the predicted values from the first stage are presented in Table S11. As shown in the table, all findings remained the same as reported in the main text.

Sample B Additional Analyses

Analyses without covariates

Without covariates, sensitivity analyses showed that the current sample ($N_{\text{Analytical}}$ = 60,141) was sufficiently powered (80%) to detect very small effects (f^2 = .0001) with a single predictor. The OLS analysis suggested that having conversations with more strangers was associated with greater life satisfaction in the unadjusted model (b = .057, SE = .002, p < .001). Next, the first-stage instrumental variable analysis suggested that greater relational mobility predicted having conversations with more strangers (b = .820, SE = .018, p < .001, F (1, 60,140) = 1,992). The second-stage instrumental variable analysis using the predicted stranger interaction scores from the first stage showed that having conversations with more strangers predicted greater life satisfaction (b = .474, SE = .015, p < .001).

Diagnostics of the IV analyses were in line with those of the main analyses with covariates. The weak instrument diagnostic rejected the null hypothesis that the instrument was

weak ($p < .001$). Testing for differences between OLS and IV analyses, the Wu-Hausman test statistic was significant ($p < .001$). Therefore, the diagnostic tests confirmed that the instrument was strong and an IV approach was appropriate.

Analyses with listwise deletion

OLS and IV analyses without covariates

Without covariates, sensitivity analyses showed that at minimum ($N_{\text{Analytical}} = 44{,}003$) we were sufficiently powered (80%) to detect very small effects ($f^2 = .0002$) in the current regression models with a single predictor. The OLS analysis suggested that having conversations with more strangers was associated with greater life satisfaction in the unadjusted model ($b = .058$, $SE = .002$, $p < .001$). Next, the first-stage instrumental variable analysis suggested that greater relational mobility predicted having conversations with more strangers ($b = .058$, $SE = .002$, $p < .001$, $F(1, 47{,}086) = 1630$). The second-stage instrumental variable analysis using predicted stranger interaction scores from the first stage showed that having conversations with more strangers predicted greater life satisfaction ($b = 6.490$, $SE = .228$, $p < .001$).

Diagnostics of the IV analyses were in line with those of the main analyses with covariates. The weak instrument diagnostic rejected the null hypothesis that the instrument was weak ($p < .001$). Testing for differences between OLS and IV analyses, the Wu-Hausman test statistic was significant ($p < .001$). Therefore, the diagnostic tests confirmed that the instrument was strong and an IV approach was appropriate.

OLS and IV analyses with covariates

Sensitivity analyses showed that at minimum ($N_{Analytical} = 42{,}755$), we were sufficiently powered (80%) to detect very small effects ($f^2 = .0002$) in the current multiple regression models with 14 predictors. As shown in Table S12, the findings reported the same as reported in the

main text using multiply imputed data. Diagnostics of the IV analyses were also in line with those of the main analyses. The weak instrument diagnostic rejected the null hypothesis that the instrument was weak ($p < .001$). Testing for differences between the OLS and IV analyses, the Wu-Hausman test statistic was significant ($p < .001$). Therefore, the diagnostic tests confirmed that the instrument was strong and an IV approach was appropriate.

Analyses with household income using the U.K. subsample

We also repeated all analyses within the U.K. subsample. This enabled us to include household income in our analyses, which was only measured for the U.K. participants in Sample B. Sensitivity analyses showed that at minimum ($N_{Analytical} = 35{,}182$), we were sufficiently powered (80%) to detect very small effects ($f^2 = .0002$) in the current multiple regression models with 22 predictors. As shown in Table S13, the findings were the same as in the full sample. Diagnostics of the IV analyses were also in line with those in the full sample. The weak instrument diagnostic rejected the null hypothesis that the instrument was weak ($p < .001$). Testing for differences between the OLS and IV analyses, the Wu-Hausman test statistic was significant ($p < .001$). Therefore, the diagnostic tests confirmed that the instrument was strong and an IV approach was appropriate in the model using the U.K. subsample and controlling for household income.

Multilevel Regression

We used multilevel regression to examine whether minimal social interactions were associated with life satisfaction after controlling for demographic covariates and accounting for regional clustering. Sample B was grouped into six continents (Europe, North America, South America, Asia, Oceania, and Africa). Similar to our multilevel analyses on Sample A, we used multilevel linear models where continent was included as a level-2 variable to account for the

variability in life satisfaction that is attributable to differences across continents. We used the analytical approach as in Sample A to run the multilevel models.

First, we examined the associations between minimal social interactions and well-being without the instrument in a multilevel model. After controlling for covariates, consistent with results reported in the main text, having conversations with more strangers was associated with greater life satisfaction. Continent explained less than 1% of the variance in life satisfaction in this model.

Next, we manually ran multilevel IV regressions. First-stage results from our IV analysis suggested that our instrument, relational mobility, was associated with having conversations with more strangers (b = .803, SE = .022, p < .001). Second-stage results suggested that having conversations with more strangers was associated with greater life satisfaction (b = .430, SE = .012, p < .001). Results from these multilevel analyses are presented in Table S14. As shown in the table, all findings remained the same as reported in the main text.

Examining the role of close relationships

Recent research has found some evidence that people who have worse close relationships (i.e., those who have difficulties building and maintaining close relationships) not only engaged in more non-close relationships but also benefited more from these non-close relationships compared to those who had better relationships (Merolla et al., 2022). Although we did not have a direct measure of close relationship quality in the current samples, Sample B had a measure on receiving kindness from close others (i.e., how often people received acts of kindness from close friends and family). Past research showed that acts of kindness from one's romantic partner is strongly associated with relationship quality (Henderson et al., 2017), suggesting that the

receiving kindness measure in Sample B might be a good proxy for the quality of relationships with close friends and family.

First, we used this variable as an additional control variable. We found that our results remained the same (Table S15). Furthermore, the first stage F value remained sufficiently high ($F(15, 60125) = 289.49$). Diagnostics of the IV analyses were also in line with those of the main analyses. The weak instrument diagnostic rejected the null hypothesis that the instrument was weak ($p < .001$). Testing for differences between the OLS and IV analyses, the Wu-Hausman test statistic was significant ($p < .001$). Therefore, the diagnostic tests confirmed that the instrument was strong and an IV approach was appropriate.

Next, we used this variable as a moderator in the OLS analysis. We found that receiving kindness from close others and having conversations with strangers did indeed have an interactive effect on life satisfaction ($b = -.022$, $p < .001$; Table S16). Simple slopes analyses suggested that having conversations with strangers had a stronger effect on life satisfaction for people who reported receiving less kindness from close others ($\beta = .115$, $p < .001$), compared to people who received more kindness from close others ($\beta = .072$, $p = .005$). However, we must note that both stranger interactions ($\beta = .093$, $p < .001$) and receiving kindness from close others ($\beta = .273$, $p < .001$) still had significant main effects on life satisfaction. We could not conduct instrumental variable analyses to examine this moderation effect because the existing instrumental variable analysis packages cannot handle interactions between the predictor and another variable.

Analyses examining relational mobility as a socio-ecological construct

From a conceptual standpoint, relational mobility is considered a socioecological construct (Kito et al., 2017; Oishi et al., 2015; Thomson et al., 2018), even though it is assessed

at the individual level. As an empirical test of this argument, previous research (Thomson et al., 2018) pointed to the finding that individual-level factors such as gender predicted less than 1% of variance in relational mobility. Similarly, in our data, we found that our covariates (see Table 1 for the full list of covariates) collectively explained only 4% of the variance in relational mobility in Sample A. Notably, the only significant estimates were those reflecting people's social ecology including whether people lived in a metropolitan area, which region of the country they lived, and their socioeconomic conditions (see also Uskul & Oishi, 2020). In Sample B, less than 2% of the variance in relational mobility was explained by our covariates. In Sample B, all covariate variables were significantly associated with relational mobility on some level (e.g., for the different levels of gender, being a woman was associated with perceived relational mobility whereas being non-binary was not).

We also ran an additional test in order to obtain further evidence that relational mobility is a socio-ecological rather than an individual-level construct. Given that participants rated relational mobility in their immediate society, we examined the association between one's neighborhood and relational mobility using multi-level modeling in Sample A. (We did not have neighborhood information for Sample B participants.) The intra-class correlation suggested that 27% of the variance in relational mobility was attributable to one's neighborhood. This intraclass correlation is comparable to other research with well-established Level-2 influences, such as the influence of school or country on students' academic achievement (Lorah, 2018). This gives us more confidence that participants' reports of relational mobility reflect the societal context, in line with Thomson and colleagues' (2018) argument.

However, we do acknowledge that there may be unobserved predictors of life satisfaction that also affect one's perception of relational mobility in their immediate society, such as

personality traits. In order to address this limitation, we conducted additional analyses using Sample B, which had measures of personality factors. We found that openness, extraversion, and agreeableness were associated with greater relational mobility, whereas neuroticism was associated with lower relational mobility. Conscientiousness was not associated with relational mobility. We then repeated our main analyses using the four personality factors that were significant correlates of relational mobility as additional covariates. We found that having conversations with strangers remained positively associated with life satisfaction in the OLS model ($b = .018$, $p < .001$). In the first stage instrumental variable regression model, relational mobility remained a strong instrument ($b = .598$, F (18, 42672) = 255, $p < .001$). The second stage instrumental variable regression model again found that having conversations with strangers remained a significant predictor of greater life satisfaction ($b = .396$, $p < .001$). Diagnostic tests once again confirmed the strength of the instrument ($p < .001$) and the appropriateness of the instrumental variable approach ($p < .001$).

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Tables

Table S1

Sample characteristics.

	Sample A	Sample B
Gender		
Women	1,593 (48.8%)	36,640 (60.9%)
Men	1,673 (51.2%)	10,560 (17.6%)
Non-binary		247 (.4%)
Prefer not to say		389 (.6%)
Prefer to self-describe		316 (.5%)
Missing		11,989 (19.9%)
Age		
Mean (SD)	41.6 (15.4)	57.69 (14.0)
Median [Min, Max]	40 [18, 93]	60 [18, 99]
Missing	6 (0.2%)	12,195 (20.3%)
Education		
High school or less	1,581 (48.4%)	
High school	1,010 (30.9%)	
More than high school	671 (20.5%)	
Missing	4 (0.1%)	
Relationship Status		
In a relationship	2,101 (64.3%)	
Not in a relationship	985 (30.2%)	

Missing	180 (5.5%)	
Employment		
Unemployed	1806 (55.3%)	18,555 (30.9%)
Employed	1448 (44.3%)	24,975 (41.5%)
Missing	12 (0.4%)	16,611 (27.6%)
Religiosity		
Not religious	188 (5.8%)	31,570 (52.5%)
Religious	3,025 (92.6%)	13,302 (22.1%)
Prefer not to say		2,895 (4.8%)
Missing	53 (1.6%)	12,374 (20.6%)
Household Income		
Mean (SD)	3.50 (1.29)	
Median [Min, Max]	3 [1, 6]	
Missing	248 (7.6%)	
	Overall (*N* = 3,266)	Overall (*N* = 60,141)

Note. Household income in Sample A was categorized into income ranges by KONDA such that higher scores indicated a higher income range (1 = 0-2,000₺; 2 = 2,001-3,000₺; 3 = 3,001-5,000₺; 4 = 5,001-8,000₺; 5 = 8,001-10,000₺; 6 = 10,001₺ or more per month).

Table S2

Geographic breakdown of samples.

	Sample A		**Sample B**
	(*N* = 3,266)		(*N* = 60,141)
Turkey Regions		*Continents*	
Istanbul	591 (18.1%)	Europe	43,418 (72.2%)
Western Marmara Region	155 (4.7%)	Africa	283 (0.5%)
Aegean Region	449 (13.7%)	Asia	633 (1.1%)
Eastern Marmara Region	329 (10.1%)	North America	2,984 (5.0%)
Western Anatolia	330 (10.1%)	Oceania	666 (1.1%)
Mediterranean Region	364 (11.1%)	South America	131 (0.2%)
Central Anatolian Region	194 (5.9%)	Missing	12,026 (20.0%)
Western Black Sea Region	190 (5.8%)		
Eastern Black Sea Region	116 (3.6%)		
Northeast Anatolia	101 (3.1%)		
East Anatolia	158 (4.8%)		
Southeast Anatolia	289 (8.8%)		

Table S3

Sample A means, standard deviations, and correlations.

Variable	*M*	*SD*	1	2	3	4	5	6
1. Life satisfaction	2.35	1.70						
2. Relational mobility	2.61	1.39	.06***					
3. Stranger (conversation)	1.81	2.20	.04*	.20***				
4. Weak tie (greeting)	3.46	1.57	.10***	.12***	.32***			
5. Weak tie (thanking)	3.44	1.59	.09***	.15***	.32***	.72***		
6. Weak tie (conversation)	2.95	1.52	.10***	.14***	.44***	.60***	.59***	
7. Weak tie (all interactions)	3.29	1.36	.11***	.16***	.41***	.89***	.89***	.84***

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. *$p < .05$, ***$p < .001$.

Table S4

Sample B means, standard deviations, and correlations.

Variable	*M*	*SD*	1	2
1. Life satisfaction	*6.92*	*1.99*		
2. Relational mobility	*3.89*	*1.00*	*.19****	
3. Strangers (conversation)	*4.34*	*4.52*	*.13****	*.18****

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. ****p* < .001.

Table S5

Sample A analyses with composite weak tie interactions

	Outcome: Life Satisfaction	**Outcome: Weak tie composite**	**Outcome: Life Satisfaction**
	OLS Model	First Stage Model	Second Stage Model
Predictors		*Unstandardized Estimates [CI]*	
Intercept	.10 [-.38, .58]	2.49 *** [2.11, 2.86]	-.83 [-1.85, .20]
Weak tie composite	.15 *** [.11, .20]		.47 ** [.16, .79]
Relational mobility		.15 *** [.11, .18]	
Gender (Women)	.26 *** [.13, .39]	-.29 *** [-.38, -.19]	.36 *** [.19, .52]
Age	.00 [.00, .01]	.01 *** [.01, .01]	.00 [-.01, .01]
Education (HS)	-.23 ** [-.38, -.07]	.18 ** [.06, .30]	-.29 *** [-.46, -.12]
Education (more than HS)	.03 [-.15, .21]	.19 ** [.05, .33]	-.04 [-.24, .16]
Relationship status	.27 *** [.12, .41]	-.11 * [-.23, .00]	.31 *** [.16, .46]
Employment	-.03 [-.17, .11]	.35 *** [.24, .45]	-.14 [-.32, .04]
Religiosity	.58 *** [.32, .84]	-.09 [-.28, .11]	.60 *** [.33, .88]
Household Income	.10 *** [.04, .15]	.04 * [.00, .09]	.08 ** [.02, .14]
Urban	.16 [-.06, .38]	.16 [-.01, .32]	.12 [-.11, .35]
Metropolitan	.30 * [.06, .53]	-.07 [-.25, .11]	.34 ** [.09, .58]
Western Marmara Region	.25 [-.07, .57]	-.34 ** [-.59, -.09]	.38 * [.03, .73]

Aegean Region	.33 ** [.11, .55]	-.07 [-.25, .10]	.35 ** [.12, .58]
Eastern Marmara Region	.71 *** [.48, .95]	.01 [-.18, .19]	.71 *** [.46, .95]
Western Anatolia	.39 *** [.16, .63]	-.03 [-.21, .15]	.41 ** [.16, .65]
Mediterranean Region	.09 [-.14, .32]	.07 [-.11, .25]	.07 [-.17, .31]
Central Anatolian Region	.22 [-.07, .52]	-.43 *** [-.66, -.21]	.38 * [.04, .71]
Western Black Sea Region	.38 * [.08, .68]	-.71 *** [-.94, -.47]	.60 ** [.23, .97]
Eastern Black Sea Region	.18 [-.17, .52]	-.28 * [-.54, -.01]	.27 [-.10, .63]
Northeast Anatolia	.4 * [.01, .78]	-.35 * [-.64, -.05]	.53 * [.11, .95]
East Anatolia	.37 * [.06, .69]	-.91 *** [-1.15, -.67]	.66 ** [.24, 1.09]
Southeast Anatolia	.13 [-.13, .38]	.05 [-.15, .25]	.13 [-.13, .40]
First Stage Model F-value		F (22, 3243) = 27.86	

Note. HS = High-school. *$p<.05$ **$p<.01$ ***$p<.001$. Turkey consists of 12 regions (dummy coded) that differ in population size, geography, level of socioeconomic development, and other factors (e.g., agricultural activities; Nomenclature of Territorial Units for Statistics; Eurostat, 2021). The second-stage analysis used the predicted weak-tie interaction scores obtained from the first-stage analysis.

Table S6

Repeating the Sample A OLS analyses without covariates on listwise deleted data.

	Outcome: Life Satisfaction				
	Strangers Model	Weak Tie Greeting Model	Weak Tie Thanking Model	Weak Tie Conversation Model	Weak Tie Composite Model
Predictors	*Estimates [CI]*	*Estimates [CI]*	*Estimates [CI]*	*Estimates [CI]*	*Estimates [CI]*
Intercept	2.30 *** [2.22, 2.38]	1.99 *** [1.84, 2.13]	2.00 *** [1.86, 2.14]	2.02 *** [1.89, 2.15]	1.90 *** [1.74, 2.05]
Strangers	.03 * [.00, .06]				
Weak tie greeting		.11 *** [.07, .14]			
Weak tie thanking			.10 *** [.06, .14]		
Weak tie conversation				.11 *** [.07, .15]	
Weak tie composite					.14 *** [.10, .18]
Observations	2832	3137	3129	3109	3153

*Note. * p<0.05 ** p<0.01 *** p<0.001*

Table S7

Repeating the Sample A IV analyses without covariates on listwise deleted data.

First Stage	Strangers Model	Weak Tie Greeting Model	Weak Tie Thanking Model	Weak Tie Conversation Model	Weak Tie Composite Model
Predictors	*Estimates [CI]*	*Estimates [CI]*	*Estimates [CI]*	*Estimates [CI]*	*Estimates [CI]*
Intercept	1.00 *** [.82, 1.17]	3.11 *** [2.99, 3.22]	2.98 *** [2.87, 3.10]	2.55 *** [2.44, 2.67]	2.88 *** [2.78, 2.98]
Relational mobility	.32 *** [.26, .38]	.14 *** [.10, .18]	.18 *** [.14, .22]	.16 *** [.12, .19]	.16 *** [.12, .19]
Observations	2745	3039	3035	3023	3054

Second Stage	**Outcome: Life Satisfaction**				
	Strangers Model	Weak Tie Greeting Model	Weak Tie Thanking Model	Weak Tie Conversation Model	Weak Tie Composite Model
Predictors	*Estimates [CI]*	*Estimates [CI]*	*Estimates [CI]*	*Estimates [CI]*	*Estimates [CI]*
Intercept	1.99 *** [1.71, 2.27]	.40 [-.76, 1.56]	.85 [-.04, 1.74]	.88 * [.01, 1.75]	.72 [-.22, 1.66]
Strangers	.20 ** [.05, .35]				
Weak tie greeting		.56 *** [.23, .90]			
Weak tie thanking			.44 *** [.18, .69]		
Weak tie conversation				.50 *** [.20, .79]	
Weak tie composite					.50 *** [.21, .78]
Observations	2719	3005	3001	2989	3019

*Note. * p<0.05 ** p<0.01 *** p<0.001. The second-stage analysis used the predicted weak-tie and stranger interaction scores obtained from the first stage.*

Table S8

Repeating the Sample A OLS analyses with covariates on listwise deleted data.

	Outcome: Life Satisfaction				
	Strangers Model	Weak Tie Greeting Model	Weak Tie Thanking Model	Weak Tie Conversation Model	Weak Tie Composite Model
Predictors	*Estimates [CI]*	*Estimates [CI]*	*Estimates [CI]*	*Estimates [CI]*	*Estimates [CI]*
Intercept	.31 [-.22, .84]	.09 [-.43, .61]	.14 [-.38, .66]	.02 [-.49, .54]	-.01 [-.53, .51]
Strangers	.04 * [.01, .07]				
Weak tie greeting		.11 *** [.07, .15]			
Weak tie thanking			.10 *** [.06, .14]		
Weak tie conversation				.13 *** [.09, .17]	
Weak tie composite					.15 *** [.10, .20]
Gender (Women)	.27 *** [.12, .41]	.28 *** [.14, .42]	.26 *** [.12, .40]	.29 *** [.15, .43]	.29 *** [.15, .43]
Age	.01 * [.00, .01]	.00 [-.00, .01]	.01 * [.00, .01]	.01 * [.00, .01]	.00 [-.00, .01]
Education (HS)	-.19 * [-.36, -.01]	-.17 * [-.34, -.01]	-.19 * [-.36, -.03]	-.17 * [-.34, -.00]	-.18 * [-.35, -.02]
Education (more than HS)	.13 [-.07, .33]	.07 [-.12, .26]	.07 [-.13, .26]	.10 [-.09, .30]	.07 [-.12, .26]
Relationship status	.26 ** [.10, .43]	.29 *** [.14, .45]	.30 *** [.14, .45]	.28 *** [.13, .44]	.30 *** [.15, .46]

Employment	.03 [-.13, .19]	-.03 [-.18, .12]	-.03 [-.18, .12]	-.04 [-.19, .11]	-.04 [-.19, .11]
Religiosity	.55 *** [.26, .84]	.54 *** [.27, .82]	.55 *** [.27, .82]	.56 *** [.28, .83]	.55 *** [.28, .83]
Household Income	.09 ** [.03, .15]	.09 ** [.04, .15]	.09 ** [.03, .15]	.09 ** [.03, .15]	.09 ** [.03, .14]
Urban	.27 * [.02, .53]	.19 [-.05, .43]	.19 [-.05, .44]	.22 [-.02, .46]	.18 [-.06, .42]
Metropolitan	.39 ** [.12, .67]	.34 ** [.08, .60]	.33 * [.07, .59]	.36 ** [.10, .62]	.33 * [.08, .59]
Western Marmara Region	.26 [-.10, .62]	.35 [-.01, .70]	.35 [-.00, .71]	.27 [-.08, .63]	.34 [-.01, .70]
Aegean Region	.31 * [.05, .56]	.38 ** [.13, .62]	.36 ** [.12, .61]	.36 ** [.11, .60]	.37 ** [.13, .61]
Eastern Marmara Region	.76 *** [.49, 1.02]	.79 *** [.54, 1.04]	.79 *** [.54, 1.04]	.79 *** [.53, 1.04]	.78 *** [.53, 1.03]
Western Anatolia	.47 *** [.21, .73]	.46 *** [.21, .71]	.45 *** [.21, .70]	.49 *** [.24, .74]	.47 *** [.23, .72]
Mediterranean Region	.14 [-.11, .40]	.18 [-.07, .43]	.16 [-.09, .41]	.15 [-.10, .40]	.16 [-.08, .41]
Central Anatolian Region	.30 [-.02, .62]	.31 * [.01, .62]	.29 [-.02, .60]	.29 [-.02, .59]	.32 * [.01, .63]
Western Black Sea Region	.34 [-.02, .69]	.39 * [.04, .74]	.35 * [.00, .70]	.39 * [.05, .74]	.39 * [.05, .74]
Eastern Black Sea Region	.46 * [.05, .86]	.39 * [.01, .76]	.38 * [.01, .75]	.41 * [.04, .78]	.40 * [.03, .77]
Northeast Anatolia	.49 * [.02, .96]	.65 ** [.21, 1.08]	.57 * [.13, 1.01]	.59 ** [.15, 1.02]	.62 ** [.18, 1.05]

East Anatolia	.32 [-.03, .67]	.35 * [.00, .69]	.34 [-.01, .69]	.37 * [.02, .71]	.42 * [.08, .76]
Southeast Anatolia	.19 [-.13, .50]	.17 [-.12, .45]	.16 [-.12, .45]	.14 [-.14, .43]	.16 [-.13, .44]
Observations	2556	2722	2717	2702	2734

*Note. * p<0.05 ** p<0.01 *** p<0.001*

Table S9

Repeating the Sample A First Stage IV analyses with covariates on listwise deleted data.

Outcomes	**Strangers**	**Weak Tie Hi**	**Weak Tie Thanks**	**Weak Tie Conversation**	**Weak Tie Composite**
Predictors	*Estimates [CI]*	*Estimates [CI]*	*Estimates [CI]*	*Estimates [CI]*	*Estimates [CI]*
Intercept	.65 [-.03, 1.34]	2.52 *** [2.06, 2.99]	2.35 *** [1.88, 2.82]	2.42 *** [1.96, 2.87]	2.43 *** [2.03, 2.83]
Gender (Women)	-.46 *** [-.64, -.27]	-.34 *** [-.47, -.22]	-.18 ** [-.30, -.05]	-.31 *** [-.43, -.19]	-.28 *** [-.38, -.17]
Age	-.00 [-.01, .00]	.01 *** [.01, .02]	.01 *** [.01, .02]	.01 *** [.00, .01]	.01 *** [.01, .01]
Education (HS)	.17 [-.05, .39]	.12 [-.03, .27]	.26 *** [.11, .41]	.10 [-.04, .25]	.16 * [.03, .29]
Education (more than HS)	-.04 [-.29, .21]	.23 ** [.06, .40]	.29 ** [.12, .47]	.10 [-.07, .27]	.21 ** [.06, .36]
Relationship status	-.31 ** [-.51, -.10]	-.10 [-.24, .04]	-.18 * [-.32, -.04]	-.13 [-.27, .01]	-.14 * [-.26, -.02]
Employment	.57 *** [.37, .77]	.34 *** [.21, .47]	.32 *** [.18, .45]	.38 *** [.25, .51]	.35 *** [.23, .46]
Religiosity	.05 [-.31, .41]	-.01 [-.26, .24]	-.01 [-.26, .24]	-.20 [-.44, .04]	-.08 [-.29, .14]
Household Income	.15 *** [.08, .22]	.04 [-.01, .09]	.05 * [.00, .11]	.05 * [.00, .10]	.05 * [.01, .09]
Urban	.72 *** [.39, 1.04]	.38 *** [.16, .61]	.36 ** [.14, .58]	.17 [-.05, .38]	.30 ** [.11, .49]
Metropolitan	.37 * [.02, .72]	.07 [-.16, .31]	.17 [-.06, .41]	-.16 [-.39, .07]	.02 [-.18, .23]
Western Marmara Region	.05 [-.41, .51]	-.54 *** [-.86, -.22]	-.69 *** [-1.01, -.37]	.10 [-.21, .41]	-.38 ** [-.65, -.10]
Aegean Region	-.14	-.18	-.12	-.06	-.12

	[-.46, .18]	[-.40, .04]	[-.34, .10]	[-.28, .15]	[-.30, .07]
Eastern Marmara Region	-.40 * [-.73, -.07]	-.05 [-.28, .18]	-.16 [-.40, .07]	.07 [-.15, .30]	-.05 [-.25, .15]
Western Anatolia	-.48 ** [-.80, -.16]	-.06 [-.28, .16]	-.07 [-.29, .15]	-.28 * [-.50, -.07]	-.13 [-.32, .06]
Mediterranean Region	-.31 [-.64, .02]	-.05 [-.28, .17]	.03 [-.19, .26]	.14 [-.08, .36]	.05 [-.15, .24]
Central Anatolian Region	-.90 *** [-1.30, -.50]	-.65 *** [-.93, -.37]	-.57 *** [-.85, -.29]	-.43 ** [-.70, -.16]	-.55 *** [-.79, -.31]
Western Black Sea Region	-1.47 *** [-1.92, -1.02]	-.92 *** [-1.23, -.61]	-.68 *** [-.99, -.37]	-.71 *** [-1.02, -.41]	-.77 *** [-1.04, -.51]
Eastern Black Sea Region	-.53 * [-1.04, -.02]	-.23 [-.57, .10]	-.30 [-.64, .04]	-.39 * [-.71, -.06]	-.30 * [-.59, -.02]
Northeast Anatolia	.04 [-.61, .69]	-.52 * [-.94, -.09]	-.26 [-.69, .17]	-.03 [-.45, .38]	-.27 [-.63, .10]
East Anatolia	-.97 *** [-1.43, -.52]	-1.16 *** [-1.47, -.84]	-1.32 *** [-1.64, -1.00]	-.88 *** [-1.19, -.57]	-1.11 *** [-1.38, -.84]
Southeast Anatolia	-.18 [-.58, .22]	-.04 [-.31, .22]	-.20 [-.47, .06]	.06 [-.20, .31]	-.08 [-.30, .15]
Relationship mobility	.30 *** [.24, .36]	.13 *** [.09, .18]	.16 *** [.12, .20]	.16 *** [.12, .20]	.15 *** [.11, .18]
Observations	2399	2637	2635	2624	2647

*Note. * p<0.05 ** p<0.01 *** p<0.001*

Table S10

Repeating the Sample A Second Stage IV analyses with covariates on listwise deleted data.

	Outcome: Life Satisfaction				
	Strangers Model	Weak Tie Greeting Model	Weak Tie Thanking Model	Weak Tie Conversation Model	Weak Tie Composite Model
Predictors	*Estimates [CI]*	*Estimates [CI]*	*Estimates [CI]*	*Estimates [CI]*	*Estimates [CI]*
Intercept	-.03 [-.63, .58]	-1.26 * [-2.44, -.08]	-.93 [-1.93, .07]	-1.05 * [-2.09, -.01]	-1.07 * [-2.11, -.02]
Strangers(Pred)	.23 ** [.06, .40]				
Weak tie greeting(Pred)		.56 ** [.20, .91]			
Weak tie thanking(Pred)			.46 ** [.16, .76]		
Weak tie conversation(Pred)				.49 ** [.18, .80]	
Weak tie composite(Pred)					.50 ** [.19, .82]
Gender (Women)	.36 *** [.19, .53]	.45 *** [.25, .65]	.33 *** [.18, .49]	.42 *** [.24, .60]	.40 *** [.23, .57]
Age	.01 * [.00, .01]	-.00 [-.01, .01]	.00 [-.00, .01]	.00 [-.00, .01]	.00 [-.00, .01]
Education (HS)	-.25 ** [-.43, -.06]	-.25 ** [-.44, -.06]	-.30 ** [-.50, -.11]	-.24 * [-.41, -.06]	-.26 ** [-.44, -.08]
Education (more than HS)	.10 [-.11, .31]	-.08 [-.31, .15]	-.08 [-.30, .15]	.02 [-.19, .23]	-.05 [-.26, .16]
Relationship	.30 *** [.12, .48]	.31 *** [.14, .49]	.34 *** [.16, .51]	.31 *** [.14, .48]	.33 *** [.16, .49]
Employment	-.05 [-.24, .14]	-.16 [-.36, .04]	-.12 [-.30, .07]	-.16 [-.35, .04]	-.14 [-.33, .05]

Religiosity	.50 ** [.20, .80]	.51 *** [.21, .81]	.51 *** [.22, .81]	.60 *** [.30, .90]	.54 *** [.25, .83]
Household Income	.06 [-.01, .13]	.09 ** [.02, .15]	.08 * [.02, .14]	.08 * [.02, .14]	.08 * [.02, .14]
Urban	.24 [-.05, .53]	.10 [-.20, .39]	.15 [-.13, .43]	.23 [-.03, .49]	.15 [-.12, .42]
Metropolitan	.41 ** [.12, .70]	.37 * [.08, .65]	.33 * [.04, .61]	.48 ** [.19, .76]	.38 ** [.11, .65]
Western Marmara Region	.29 [-.09, .67]	.62 ** [.18, 1.06]	.63 ** [.19, 1.07]	.27 [-.10, .64]	.50 * [.11, .90]
Aegean Region	.36 ** [.09, .63]	.48 *** [.21, .75]	.43 ** [.17, .69]	.41 ** [.15, .67]	.44 *** [.18, .70]
Eastern Marmara Region	.86 *** [.58, 1.14]	.83 *** [.55, 1.11]	.87 *** [.59, 1.15]	.78 *** [.50, 1.05]	.82 *** [.56, 1.09]
Western Anatolia	.57 *** [.29, .85]	.52 *** [.24, .79]	.50 *** [.24, .76]	.61 *** [.33, .89]	.54 *** [.28, .81]
Mediterranean Region	.15 [-.13, .43]	.13 [-.14, .41]	.09 [-.18, .35]	.04 [-.23, .31]	.08 [-.18, .35]
Central Anatolian Region	.48 * [.11, .86]	.61 ** [.20, 1.03]	.51 ** [.13, .88]	.47 * [.11, .82]	.52 ** [.15, .89]
Western Black Sea Region	.64 ** [.20, 1.09]	.82 ** [.33, 1.31]	.61 ** [.20, 1.03]	.68 ** [.25, 1.10]	.69 ** [.26, 1.12]
Eastern Black Sea Region	.54 * [.11, .98]	.47 * [.06, .88]	.47 * [.07, .87]	.53 * [.12, .94]	.49 * [.09, .89]
Northeast Anatolia	.42 [-.13, .96]	.90 ** [.34, 1.46]	.72 ** [.21, 1.24]	.63 * [.13, 1.14]	.74 ** [.23, 1.25]
East Anatolia	.58 ** [.17, 1.00]	.92 ** [.36, 1.49]	.88 ** [.34, 1.42]	.74 ** [.28, 1.20]	.86 *** [.35, 1.36]

Southeast Anatolia	.31 [-.02, .65]	.28 [-.04, .60]	.33 * [.01, .65]	.21 [-.09, .52]	.28 [-.03, .58]
Observations	2379	2610	2609	2598	2620

*Note. * p<0.05 ** p<0.01 *** p<0.001*. The second-stage analysis used the predicted weak-tie and stranger interaction scores obtained from the first-stage analysis.

Table S11

Second stage multilevel regression analyses.

	Outcome: Life Satisfaction				
	Strangers Model	Weak Tie Greeting Model	Weak Tie Thanking Model	Weak Tie Conversation Model	Weak Tie Composite Model
Predictors	*Estimates [CI]*	*Estimates [CI]*	*Estimates [CI]*	*Estimates [CI]*	*Estimates [CI]*
Intercept	.46 [-.06, .97]	-.74 [-1.69, .22]	-.40 [-1.20, .40]	-.70 [-1.64, .25]	-.59 [-1.48, .31]
Strangers	.18 * [.03, .34]				
Weak tie greeting(Pred)		.61 *** [.25, .96]			
Weak tie thanking(Pred)			.48 ** [.19, .77]		
Weak tie conversation(Pred)				.54 ** [.22, .86]	
Weak tie composite(Pred)					.54 ** [.22, .86]
Gender (Women)	.34 *** [.17, .50]	.46 *** [.27, .64]	.34 *** [.18, .49]	.42 *** [.25, .59]	.40 *** [.23, .56]
Age	.01 * [.00, .01]	-.00 [-.01, .01]	.00 [-.01, .01]	.00 [-.00, .01]	.00 [-.01, .01]
Education (HS)	-.23 * [-.41, -.05]	-.24 ** [-.41, -.07]	-.30 ** [-.49, -.12]	-.23 ** [-.40, -.06]	-.26 ** [-.43, -.08]
Education (More than HS)	.10 [-.10, .30]	-.08 [-.29, .14]	-.09 [-.30, .13]	.02 [-.18, .22]	-.05 [-.26, .16]
Relationship	.29 *** [.12, .47]	.33 *** [.17, .50]	.35 *** [.18, .52]	.34 *** [.17, .50]	.35 *** [.18, .51]
Employment	-.02 [-.21, .16]	-.18 [-.37, .02]	-.12 [-.30, .06]	-.18 [-.38, .01]	-.15 [-.34, .03]

Religiosity	.51 *** [.22, .80]	.52 *** [.24, .80]	.52 *** [.24, .80]	.62 *** [.33, .91]	.55 *** [.27, .83]
Household Income	.07 * [.00, .14]	.08 * [.02, .14]	.08 ** [.02, .14]	.08 * [.02, .14]	.08 * [.02, .14]
Urban	.25 [-.03, .53]	-.05 [-.36, .27]	.05 [-.24, .34]	.15 [-.10, .41]	.04 [-.24, .33]
Metropolitan	.38 ** [.10, .65]	.10 [-.20, .40]	.13 [-.16, .42]	.35 ** [.10, .61]	.18 [-.09, .46]
Random Effects					
σ^2	2.77	2.77	2.77	2.76	2.76
τ_{00}	.04 Region	.04 Region	.04 Region	.04 Region	.04 Region
ICC	.02	.01	.01	.01	.01
N	12 Region	12 Region	12 Region	12 Region	12 Region
Observations	2379	2610	2609	2598	2620

*Note. * p<0.05 ** p<0.01 *** p<0.001. The second-stage analysis used the predicted weak-tie and stranger interaction scores obtained from the first-stage analysis.*

Table S12

Repeating the Sample B OLS and IV analyses with covariates on listwise deleted data.

	Outcome: Life Satisfaction	**Outcome: Stranger Conversations**	**Outcome: Life Satisfaction**
	OLS Model	First Stage Model	Second Stage Model
Predictors	*Estimates [CI]*	*Estimates [CI]*	*Estimates [CI]*
Intercept	5.60 *** [5.48, 5.71]	-.18 [-.48, .12]	4.63 *** [4.45, 4.80]
Stranger conversation	.05 *** [.05, .05]		.43 *** [.40, .46]
Relational mobility		.80 *** [.76, .85]	
Gender (Non-binary)	-.56 *** [-.84, -.29]	.01 [-.63, .64]	-.62 *** [-.99, -.25]
Gender (Prefer not to say)	-.48 *** [-.73, -.23]	.62 * [.05, 1.19]	-.72 *** [-1.06, -.39]
Gender (Prefer to self-describe)	-.47 *** [-.70, -.23]	.27 [-.29, .82]	-.61 *** [-.93, -.29]
Gender (Women)	.17 *** [.13, .22]	.18 *** [.07, .28]	.04 [-.02, .10]
Age	.02 *** [.01, .02]	.02 *** [.02, .02]	.01 *** [.00, .01]
Employment	.07 ** [.03, .11]	.23 *** [.13, .33]	-.01 [-.06, .05]
Religiosity (Prefer not to say)	-.12 ** [-.20, -.04]	.15 [-.04, .33]	-.16 ** [-.26, -.05]
Religiosity (Religious)	.20 *** [.16, .24]	.31 *** [.22, .41]	.06 * [.01, .12]
Continent (Africa)	-.22 [-.47, .03]	-.72 * [-1.30, -.14]	-.02 [-.36, .32]
Continent (Asia)	.05 [-.12, .22]	-1.33 *** [-1.71, -.94]	.55 *** [.32, .78]
Continent (North America)	.13 *** [.06, .21]	-.02 [-.20, .15]	.09 [-.01, .20]
Continent (Oceania)	.15 [-.01, .30]	-.73 *** [-1.08, -.37]	.38 *** [.17, .59]
Continent (South America)	.13 [-.23, .48]	-.87 * [-1.70, -.03]	.37 [-.11, .85]
Observations	42884	43026	42755

*Note. * p<0.05 ** p<0.01 *** p<0.001. The second-stage analysis used the predicted stranger interaction scores obtained from the first-stage analysis.*

Table S13

Repeating the Sample B OLS and IV analyses in the UK data.

	Outcome: Life Satisfaction	**Outcome: Stranger Conversations**	**Outcome: Life Satisfaction**
	OLS Model	First Stage Model	Second Stage Model
Predictors	*Estimates [CI]*	*Estimates [CI]*	*Estimates [CI]*
Intercept	4.46 *** [3.95, 4.98]	.75 [-.48, 1.98]	3.05 *** [2.33, 3.76]
Stranger conversation	.05 *** [.05, .05]		.43 *** [.40, .47]
Relational Mobility		.79 *** [.74, .84]	
Gender (Non-binary)	-.23 [-.54, .09]	.27 [-.49, 1.03]	-.40 [-.84, .03]
Gender (Prefer not to say)	-.40 * [-.71, -.08]	.97 * [.23, 1.72]	-.77 *** [-1.21, -.34]
Gender (Prefer to self-describe)	-.23 [-.49, .03]	-.04 [-.66, .59]	-.26 [-.62, .10]
Gender (Women)	.25 *** [.20, .30]	.19 *** [.08, .31]	.12 *** [.05, .18]
Age	.02 *** [.02, .02]	.02 *** [.01, .02]	.01 *** [.01, .01]
Employment	-.09 *** [-.14, -.05]	.19 ** [.07, .30]	-.15 *** [-.22, -.09]
Religiosity (Prefer not to say)	-.06 [-.15, .03]	.18 [-.03, .39]	-.12 * [-.24, -.00]
Religiosity (Religious)	.21 *** [.17, .26]	.35 *** [.25, .46]	.06 [-.00, .12]
Income	.23 *** [.22, .25]	.01 [-.02, .04]	.22 *** [.21, .24]
Postcode region (East of England)	.03 [-.47, .53]	-.86 [-2.04, .31]	.50 [-.17, 1.18]
Postcode region (East Midlands)	.09 [-.41, .59]	-.70 [-1.89, .48]	.48 [-.20, 1.16]
Postcode region (Greater London)	-.10 [-.60, .39]	-.92 [-2.10, .25]	.43 [-.25, 1.11]
Postcode region (Isle of Man)	-.38 [-1.14, .38]	-.47 [-2.28, 1.34]	-.19 [-1.23, .84]
Postcode region (North East)	.07 [-.43, .57]	-.61 [-1.79, .57]	.44 [-.25, 1.12]
Postcode region (North West)	.04 [-.46, .54]	-.72 [-1.90, .46]	.44 [-.24, 1.12]

Postcode region (Northern Ireland)	.08 [-.46, .62]	-.87 [-2.14, .40]	.57 [-.16, 1.31]
Postcode region (Scotland)	.11 [-.39, .61]	-.91 [-2.09, .27]	.58 [-.10, 1.27]
Postcode region (South East)	.04 [-.46, .54]	-.70 [-1.88, .47]	.44 [-.24, 1.12]
Postcode region (South West)	.09 [-.41, .59]	-.55 [-1.73, .62]	.40 [-.28, 1.08]
Postcode region (Wales)	.15 [-.36, .65]	-.81 [-2.00, .37]	.58 [-.11, 1.27]
Postcode region (West Midlands)	.04 [-.46, .54]	-.70 [-1.88, .49]	.47 [-.22, 1.15]
Observations	35273	35389	35182

*Note. * p<0.05 ** p<0.01 *** p<0.001. The second-stage analysis used the predicted stranger interaction scores obtained from the first-stage analysis.*

Table S14

Repeating the Sample B OLS and IV analyses in the UK data.

	Outcome: Life Satisfaction	**Outcome: Stranger Conversations**	**Outcome: Life Satisfaction**
	OLS Model	First Stage Model	Second Stage Model
Predictors	*Estimates [CI]*	*Estimates [CI]*	*Estimates [CI]*
Intercept	5.64 *** [5.51, 5.78]	-.75 ** [-1.28, -.22]	4.84 *** [4.63, 5.05]
Stranger conversation	.05 *** [.05, .05]		.43 *** [.41, .45]
Relational Mobility		.80 ***[.76, .85]	
Gender (Non-binary)	-.56 *** [-.83, -.28]	.01 [-.63, .65]	-.62 *** [-.89, -.34]
Gender (Prefer not to say)	-.48 *** [-.73, -.23]	.61 * [.04, 1.18]	-.70 *** [-.94, -.45]
Gender (Prefer to self-describe)	-.46 *** [-.70, -.23]	.27 [-.28, .83]	-.63 *** [-.87, -.39]
Gender (Women)	.17 *** [.13, .22]	.18 *** [.07, .28]	.04 [-.00, .09]
Age	.02 *** [.01, .02]	.02 *** [.02, .02]	.01 *** [.01, .01]
Employment	.07 ** [.03, .11]	.23 *** [.13, .33]	-.01 [-.05, .03]
Religiosity (Prefer not to say)	-.12 ** [-.20, -.04]	.14 [-.04, .33]	-.17 *** [-.24, -.09]
Religiosity (Religious)	.20 *** [.16, .24]	.31 *** [.22, .41]	.06 ** [.02, .11]
Random effects			
σ^2	3.66	19.80	3.58
τ_{00}	.01 $_{continent}$	.26 $_{continent}$	.04 $_{continent}$
ICC	.00	.01	.01
N	6 $_{continent}$	6 $_{continent}$	6 $_{continent}$
Observations	42884	43026	42755

*Note. * p<0.05 ** p<0.01 *** p<0.001. The second-stage analysis used the predicted stranger interaction scores obtained from the first-stage analysis.*

Table S15

Repeating the Sample B OLS and IV analyses while controlling for kindness received from close others.

	Outcome: Life Satisfaction	**Outcome: Stranger Conversations**	**Outcome: Life Satisfaction**
	OLS Model	First Stage Model	Second Stage Model
Predictors		*Standardized Estimates [CI]*	
Intercept	-.09 *** [-0.11, -0.07]	-.07 *** [-0.09, -0.04]	-.02 [-.05, .00]
Stranger conversation	.09 *** [0.08, 0.1]		.82 *** [.75, .90]
Relational mobility		.16 *** [.15, .17]	
Gender (Non-binary)	-.30 ** [-.46, -.14]	.00 [-.13, .13]	-.31 ** [-.51, -.11]
Gender (Prefer not to say)	-.24 *** [-.35, -.13]	.13 [-.03, .28]	-.32 *** [-.46, -.19]
Gender (Prefer to self-describe)	-.26 ** [-.41, -.11]	.07 [-.04, .17]	-.33 ** [-.51, -.15]
Gender (Women)	.06 *** [.04, .08]	.04 ** [.01, .06]	.01 [-.01, .04]
Age	.12 *** [.11, .13]	.06 *** [.05, .07]	.07 *** [.05, .08]
Employment	.05 *** [.02, .07]	.05 *** [.02, .07]	.01 [-.01, .04]
Religiosity (Prefer not to say)	-.05 ** [-.08, -.01]	.02 [-.02, .06]	-.06 ** [-.10, -.02]
Religiosity (Religious)	.06 *** [.04, .08]	.05 *** [.03, .07]	.02 * [.00, .05]
Continent (Africa)	-.07 [-.32, .18]	-.14 * [-.27, -.02]	.01 [-.18, .20]
Continent (Asia)	.02 [-.07, .12]	-.23 *** [-.31, -.16]	.19 *** [.09, .29]
Continent (North America)	.07 *** [.03, .11]	.01 [-.03, .04]	.05 * [.00, .10]
Continent (Oceania)	.08 [-.02, .19]	-.16 *** [-.24, -.08]	.19 ** [.06, .31]
Continent (South America)	.01 [-.16, .17]	-.22 * [-.43, 0]	.14 [-.06, .34]
Kindness from close others	.27 *** [.26, .29]	.08 *** [.08, .09]	.19 *** [.18, .21]

*Note. * p<0.05 ** p<0.01 *** p<0.001. The second-stage analysis used the predicted stranger interaction scores obtained from the first-stage analysis.*

Table S16

Repeating the Sample B OLS analysis with kindness received from close others as a moderator.

	Outcome: Life Satisfaction
Predictors	*Estimates [CI]*
Intercept	-.08 *** [-.11, -.06]
Stranger conversation	.09 *** [.08, .10]
Kindness from close others	.27 *** [.26, .28]
Gender (Non-binary)	-.30 ** [-.46, -.14]
Gender (Prefer not to say)	-.23 *** [-.34, -.12]
Gender (Prefer to self-describe)	-.25 ** [-.40, -.11]
Gender (Women)	.06 *** [.04, .08]
Age	.12 *** [.11, .13]
Employment	.05 *** [.02, .07]
Religiosity (Prefer not to say)	-.05 ** [-.08, -.01]
Religiosity (Religious)	.07 *** [.05, .09]
Continent (Africa)	-.07 [-.32, .18]
Continent (Asia)	.02 [-.07, .12]
Continent (North America)	.07 *** [.03, .11]
Continent (Oceania)	.08 [-.03, .19]
Continent (South America)	.01 [-.16, .17]
Stranger conversation x Kindness from close others	-.02 *** [-.03, -.01]

*Note. * p<0.05 ** p<0.01 *** p<0.001.*