



When Close Ties Falter, Do Minimal Interactions Matter? Daily Dynamics of Social Connections and Well-Being

Esra Ascigil¹ · Ceyda Ozer¹ · Zeynep Soyalan¹ · Gul Gunaydin¹ · Emre Selcuk¹

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Abstract

Close and minimal ties are both key social resources that contribute to subjective well-being. Yet, they have largely been examined in separate bodies of literature. The current research aims to understand the association between close and minimal social ties, and their role in subjective well-being. In a 21-day diary study, we examined (1) whether close others' responsiveness positively or negatively predicted minimal interaction frequency and (2) whether close others' responsiveness and minimal interaction frequency had independent or interactive roles in happiness. Pre-registered analyses showed that on days when individuals perceived close others as more responsive than usual, they participated in a greater number of minimal interactions. These analyses also demonstrated that when modeled simultaneously, only close others' responsiveness (but not minimal interaction frequency) significantly predicted happiness. Exploratory analyses contrasting days when participants engaged in no minimal interactions versus when they engaged in at least one indicated an interactive role of minimal and close ties in happiness: On days when close others were perceived as less responsive than usual, engaging in minimal interactions (vs. not) was associated with greater happiness. These findings underscore the importance of studying different aspects of interpersonal relationships together for achieving a more comprehensive understanding of social connections and their links to well-being.

Keywords Minimal social interactions · Weak ties · Strangers · Close relationships · Responsiveness · Happiness · Subjective well-being · Positive affect · Negative affect

Research across various disciplines finds that social relationships are among the most robust and reliable predictors of well-being. Social relationships have been linked to greater life satisfaction (Carr et al., 2014; Chopik, 2017), greater happiness (Folk & Dunn, 2025; Hawkins & Booth, 2005), lower likelihood of depression (Santini et al., 2015), and better health outcomes (Holt-Lunstad et al., 2010; Slatcher & Selcuk, 2017). Although the vast majority

✉ Esra Ascigil
esra.ascigil@sabanciuniv.edu

¹ Faculty of Arts and Social Sciences, Sabanci University, Psychology Program, Istanbul, Turkey

of these works focused on close relationships, such as those with a romantic partner, family member, or close friend, a growing number of studies show that even interactions with strangers and weak ties (i.e., acquaintances) can have well-being benefits (Sprecher, 2022; Van Lange & Columbus, 2021). However, as the close relationships and minimal interactions literatures continue to grow independently, the interplay between these two important domains of social life remains understudied.

In the current study, we aimed to address this gap by jointly examining close and minimal social ties. To address close ties, we focused on perceived responsiveness of close others—a core construct in relationship science (Reis et al., 2004) capturing whether close others are viewed as understanding, validating, and caring. To address minimal ties, we focused on frequency of weak-tie and stranger interactions—how often individuals greet, thank, and converse with acquaintances and strangers. Both having responsive close ties (Selcuk & Gunaydin, 2023; Tasfiliz et al., 2018) and frequently engaging in minimal interactions (Ascigil et al., 2025; Gunaydin et al., 2021a; Ishiguro, 2023; Sandstrom & Dunn, 2014a) were shown to predict subjective well-being across different cultures. In a 21-day diary study, we asked participants to report on a daily basis how responsive they perceived close ties (friends, family, and romantic partner), how many minimal interactions they engaged in, and how positive and negative they felt. This allowed us to examine two research questions that test competing hypotheses: Does close others' responsiveness positively or negatively predict minimal interaction frequency (Research Question 1 [RQ1]) and do close others' responsiveness and minimal interaction frequency have independent or interactive roles in happiness (Research Question 2 [RQ2])?

1 The Association Between Close and Minimal Ties

People have a fundamental need to belong, which is essential to their subjective well-being (Baumeister & Leary, 1995). A recent theoretical framework proposed that close and minimal social ties are two important paths to achieving a greater sense of belonging (Hirsch & Clark, 2019). However, it remains unclear how different paths to belonging work together: Do obstacles in one path prompt us to compensate by trying different paths, or do positive experiences in one path broaden our motivation to explore different paths? Based on recent theorizing, failing to achieve a sense of belonging via one path may increase the motivation to seek belonging through another path (*compensation hypothesis*; Hirsch & Clark, 2019). This is consistent with motivation and goal-directed behavior theory, which suggests that when a goal is unfulfilled (vs. satisfied), the motivation to pursue that goal will remain active (Förster et al., 2007). This theory suggests that when the goal of achieving belongingness cannot be fulfilled through close relationships, people may turn to minimal interactions as an alternate way of satisfying this goal. Recent empirical evidence supports the compensation hypothesis: People who encountered greater difficulties building and maintaining close relationships in general had more day-to-day interactions with non-close others (Merolla et al., 2022). A limitation of this work is measuring close relationship difficulties only once, allowing researchers to examine only the between-person association between close and minimal ties. Given close relationship processes in general—and perceived responsiveness in particular—show daily fluctuations (Gunaydin et al., 2021b; Totenhagen et al., 2016), it

is important to study how within-person changes in close others' responsiveness predict minimal interaction frequency on a daily basis.

Alternatively, successfully achieving a sense of belonging via one path may increase the motivation to explore another path. This is consistent with the broaden-and-build theory of positive emotions, which suggests that when people experience positive emotions, they experience broadened cognition that increases their preference for variety and openness to a wider array of behavioral options (*broadening hypothesis*; Fredrickson, 2004). The broaden-and-build cycle of attachment security perspective (Mikulincer & Shaver, 2020) further suggests that experiences with responsive close others is a source of greater positive affect. Consistent with these ideas, a recent experience sampling study found that interacting with close others made people happier and happier people were more likely to interact with strangers at a subsequent time point (Quoidbach et al., 2019). Researchers suggested that people are more open to potentially anxiety-provoking social situations (i.e., talking to strangers) when experiencing positive emotions, which is consistent with the broaden-and-build theory (Isen, 1970; Waugh et al., 2006). Another experience sampling study found that when people felt more connected to others, they perceived their conversation partner (including both close and minimal ties) as more responsive at a later time point (Merolla et al., 2024), again suggesting a broadening effect. However, this study did not analyze feelings of connectedness or perceived responsiveness separately for close and minimal ties, leaving the interplay between these ties an open empirical question.

To sum, building on prior work and studying close and minimal ties together, the current daily diary study tested two competing hypotheses: the *compensation* hypothesis which predicts that individuals would participate in a greater number of minimal interactions on days when they perceived close ties as *less* responsive than usual (Hypothesis 1a [H1a]) versus the *broadening* hypothesis which predicts that individuals would participate in a greater number of minimal interactions on days when they perceive close ties as *more* responsive than usual (Hypothesis 1b [H1b]).

2 The Joint Roles of Close and Minimal Ties in Happiness

Different paths to belonging may have independent or interactive effects on well-being (Hirsch & Clark, 2019). Having examined close and minimal ties separately in most empirical studies, the extant literature seems to make the implicit assumption that close and minimal ties have independent effects on subjective well-being. Theoretical works on belongingness seem to agree with this assumption, suggesting that close and minimal ties might affect well-being through distinct mechanisms. Minimal interactions may fulfill a sense of community—the feeling of belonging to a community and being important to other community members (Chavis et al., 1986), which is rooted in survival benefits obtained through larger groups (McMillan & Chavis, 1986). This may be different from the sense of belongingness fulfilled through stable close relationships (Baumeister & Leary, 1995), which is rooted in survival and reproductive benefits obtained through parental and romantic relationships, respectively (Baumeister & Leary, 1995). Therefore, interactions with close and minimal ties may have independent roles in happiness through different mechanisms (H2a).

Based on the extant literature, there are also reasons to expect an interactive effect. Following from H1, the interactive effect might take two competing forms. On the one hand,

individuals might turn to minimal interactions to compensate for deficits in close relationships, in which case they may experience greater well-being benefits from minimal interactions when they perceive *lower* responsiveness in close relationships. This perspective is aligned with theorizing that different social spheres may substitute for one another and that this substitution may counteract the potential ill effects of social deprivation in another sphere (Baumeister & Leary, 1995). Recent empirical evidence also lends support to this account. People who had close relationship difficulties (vs. not) reported being in a better mood when conversation partners (including both close and minimal ties) were responsive to the things that they said (Merolla et al., 2022). However, it is not clear from the findings whether mood benefits were due to the responsiveness of minimal or close ties. Another cross-sectional study showed that conversing with strangers more strongly predicted life satisfaction for individuals who reported receiving less (vs. more) kindness from close others (Ascigil et al., 2025). Based on these studies, the current study tested the possibility that minimal interaction frequency predicts happiness more strongly on days when participants perceive their close ties as less responsive than usual (H2b).

On the other hand, close others' responsiveness may help broaden social life by motivating individuals not only to engage in more minimal interactions, but also to adopt an open outlook that enables them to contribute to, learn from, and enjoy these interactions—thereby enhancing their subjective well-being benefits. The broaden-and-build theory of positive emotions suggests that when people experience positive emotions, they are more likely to benefit from their subsequent experiences, which produces an “upward spiral” (Catalino & Frederickson, 2011; Fredrickson, 2004). This spiral can be triggered when interactions with one person increase the subjective well-being benefits of interactions with the next person. Support for this idea comes from the attachment literature, where attachment security is conceptualized as a foundation to broaden and build social capacities (Mikulincer & Shaver, 2020). For instance, among children going to a week-long summer camp, those who were securely attached to their mother had more satisfying relationships with their peers at the camp (Abraham & Kerns, 2013). Similarly, in a study examining week-long social interactions, those who were more securely attached in their romantic relationships reported experiencing greater positive affect in their daily social interactions (Tidwell et al., 1996). Following from this work, the current study tested the possibility that minimal interaction frequency may predict happiness more strongly on days when participants perceive their close ties as more responsive than usual (H2c).

3 Current Study

The current research used a 21-day diary study to examine competing hypotheses on the association between close and minimal ties (RQ1) and their joint associations with happiness (RQ2). Pre-registered analyses focused on close others' responsiveness, minimal interaction frequency, and happiness. We also ran exploratory analyses that aimed to distinguish the presence of minimal interactions from the amount of these interactions (see Methods for details).

As previous studies rarely examined minimal and close ties together, answering these research questions will help bridge the close relationship and minimal interaction literatures. In doing so, the current study advances prior work in several ways. First, it moves

beyond between-person designs by using a daily diary method to capture within-person fluctuations in social connection and happiness. Second, it provides a clearer differentiation between social domains by assessing responsiveness specifically within close ties, rather than treating responsiveness as a general experience across all social ties. Third, it directly pits competing hypotheses suggested by prior theory and evidence against each other. Finally, by recruiting a non-Western sample, the current research contributes to the cultural understanding of minimal social interactions, a literature that has been shaped predominantly by studies conducted in Western contexts (e.g., Epley & Schroeder, 2014; Sandstrom & Dunn, 2014a, 2014b).

4 Methods

4.1 Participants and Procedure

We determined the sample size using a priori power analysis. In a previous study conducted in Türkiye (previously referred to as Turkey), the associations between minimal interactions and subjective well-being were small to medium ($\eta_p^2 = .026-.059$; Gunaydin et al., 2021a). Taking a conservative approach, we aimed to have sufficient power to detect small effects. Using the *simr* package in R (Green & MacLeod, 2016), we found that multilevel models with 21 days of data could detect small Level-1 effects (corresponding to a standardized association of .10) with 93% power in a sample of 130 participants. However, we were also interested in running exploratory lagged analyses. Because lagged associations can be smaller, we decided to collect data from 200 participants to ensure sufficient statistical power.

Participants were adults residing in Türkiye. They were recruited via social media platforms (Facebook and Instagram) and email announcements, and received monetary compensation. To maximize reach, social media ads targeted participants living in the top two populated cities in each of the 12 statistical regions of Türkiye. Interested participants were screened for eligibility based on age (25 years of age or older¹ and their ability to complete daily surveys for 21 consecutive days. Eligible participants were subsequently invited to take part in the study, which included a baseline survey² where participants reported their demographic information and 21 daily diary surveys. A total of 224 participants were recruited for the study. Following exclusions, 212 were included in the analytical sample (see Online Supplementary Materials for details). Two hundred participants completed the diary study with less than five missing days and an additional 12 participants completed at least two of the daily surveys.

Participants' age ranged from 25 to 69 ($M = 37.14$, $SD = 10.01$). The median household income was 60,000–69,999 TL per month (approximately 1,750–2,000 USD; minimum

¹ We only included participants aged 25 or older in order to minimize the number of participants who were students. Younger adults are more likely to be students, and the social ecology of university campuses—especially in larger universities (Bahns et al., 2012) and in the first year of school (Sato & Yuki, 2014)—tend to boost minimal social interactions. As a result, minimal interaction frequency among students may be greater than that in the broader society.

² The baseline and diary surveys included additional measures that were not included in the current research. An overview of measures included in the larger project can be found in the Online Supplementary Materials (OSM).

wage was 17,002 TL at the time of data collection). The remaining participant characteristics are summarized in Table 1.

5 Measures

5.1 Minimal Interaction Frequency

Participants were provided with a definition of strangers (“Strangers are people you have not interacted with before. These include people you see for the first time or people you have seen around but have never interacted with before.”) and weak ties (“Weak ties refer to people you have interacted with before but are not close to. These include people that you interact with from time to time or more regularly but are not emotionally close to.”). Then, on each day, they rated the frequency of their stranger and weak-tie interactions on three items: (1) “Today, how often did you greet [strangers/weak ties]? (for example, waving or saying hi)”, (2) “Today, when they did something for you or provided you with a service, how often did you thank [strangers/weak ties]?”, (3) “Today, how often did you start a face-to-face conversation with [strangers/weak ties]?” Stranger and weak-tie questions were displayed in counterbalanced order. Based on prior research on daily interactions (Fu, 2005), we used ordinal categories with frequency ranges as the response options (0; 1; 2; 3; 4; 5; 6–10; 11–15; 16–20; 21–30; 31–40; 41–50; more than 50). Separate composite measures of weak-tie ($M=1.86$, $SD=1.96$, $\Omega_{\text{Within}}=.90$, $\Omega_{\text{Between}}=.95$) and stranger

Table 1 Participant characteristics

	Category	Frequencies
Gender	Women	$N=134$ (63.2%)
	Men	$N=77$ (36.3%)
	Non-binary	$N=1$ (.5%)
Student Status	Student	$N=50$ (23.6%)
	Non-student	$N=161$ (75.9%)
Employment	Employed (Full-time)	$N=121$ (57.1%)
	Employed (Part-time)	$N=27$ (12.7%)
	Unemployed	$N=63$ (29.7%)
Relationship Status	Married	$N=128$ (60.4%)
	Engaged	$N=1$ (.5%)
	Cohabiting relationship	$N=3$ (1.4%)
	Non-cohabiting relationship	$N=25$ (11.8%)
	Single	$N=55$ (25.9%)
Education	High-school	$N=11$ (5.2%)
	Associate's*	$N=7$ (3.3%)
	Bachelor's	$N=101$ (47.6%)
	Master's	$N=73$ (34.4%)
	Doctoral or higher	$N=20$ (9.4%)

*Associate's degree refers to a two-year college program

interactions ($M=1.63$, $SD=1.87$, $\Omega_{\text{Within}}=.88$, $\Omega_{\text{Between}}=.93$) were calculated by averaging across the three items for each target.³

5.2 Close Others' Responsiveness

Participants responded to three items assessing understanding, validation, and care perceived from their family, friends, and (if available) romantic partner ("Today, my [family members/friends/romantic partner] made me feel understood", "...made me feel really cared for.", "...made me feel like they value me."; 1 = *Strongly disagree* to 7 = *Strongly agree*; see Gunaydin et al., 2021b; Maisel & Gable, 2009 for similar short measures). Those who were in a relationship were instructed not to consider their partner when answering questions about their family members. First, a relationship-specific perceived responsiveness score was calculated by averaging across the three items for each relationship type. Then, to compute a composite perceived responsiveness score, we averaged across relationship-specific scores ($M=5.22$, $SD=1.14$, $\Omega_{\text{Within}}=.74$, $\Omega_{\text{Between}}=.95$). If the participant was in a romantic relationship, we averaged across family, friend, and partner responsiveness; if not, we averaged across family and friend responsiveness.

5.3 Happiness

As in previous research, happiness was conceptualized as the frequency of positive versus negative affect (Diener et al., 1991). Participants reported the frequency of experiencing positive (e.g., cheerful, happy, full of life) and negative (e.g., restless, anxious, worthless) emotions on a scale from 0 = *Never* to 6 = *Almost always* (see OSM for the full scale). These items were adapted from the National Survey of Midlife Development in the United States (Almeida, 2007) in which positive and negative affect showed strong psychometric properties (Chan et al., 2019). A shorter version of the scales was also previously utilized in daily diary studies (e.g., Bayraktaroglu et al., 2023). Daily happiness was assessed by averaging the eight positive affect and ten negative affect (reverse coded) items ($M=3.87$, $SD=1.18$, $\Omega_{\text{Within}}=0.95$, $\Omega_{\text{Between}}=0.96$).

5.4 Covariates

To be used in the adjusted models (see OSM), each participant reported their age, gender, relationship status, household income, employment, and extraversion as part of the baseline survey. Extraversion was measured using three items from the Big Five Inventory (John & Srivastava, 1990; "I see myself as someone who is talkative", "...sociable, outgoing", and a reversed item "...reserved"; 1 = *Strongly disagree* to 7 = *Strongly agree*; $M=4.93$; $SD=1.51$; Cronbach's $\alpha=.88$). This three-item short version was previously used in a large study (The Kindness Test; Ascigil et al., 2025; Sandstrom & Banerjee, 2023).

³We also examined greeting, thanking, and conversing separately in supplementary analyses. Results were consistent with models using the composite measure (see OSM).

6 Analytic Plan

6.1 Pre-registered Analyses

We pre-registered a set of analyses prior to examining the data at https://osf.io/xfh6n?view_only=90c19d0bdc4d4ea6942e1878bf00467b (hereafter referred to as “pre-registered analyses”). All materials, analytical data, and code are available at https://osf.io/6zsmf/?view_only=90c19d0bdc4d4ea6942e1878bf00467b. Given the longitudinal structure of the diary data, we used multilevel modeling with repeated measurements nested within participants. We ran the analyses using the lme4 package (Bates et al., 2015) in R 4.4.2. Level 1 intercepts were allowed to vary across participants⁴ For each hypothesis, we performed separate models for weak ties and strangers.

To test whether close others’ responsiveness predicted minimal interaction frequency (RQ1), we performed multilevel models where the person mean-centered (i.e., group mean-centered) responsiveness was the predictor and minimal interaction frequency (weak ties/strangers) was the outcome:

$$\begin{aligned} (\text{Minimal interaction frequency})_{ti} = & B_{00} \\ & + B_{10} (\text{Perceived responsiveness}_{ti} - \text{Perceived responsiveness}_i) \\ & + r_{0i} + e_{ti} \end{aligned}$$

In the above model, t is an index of the day of measurement and i is an index of the person. Person mean-centered perceived responsiveness was computed by subtracting each participant’s average perceived responsiveness across 21 days ($\text{Perceived responsiveness}_i$) from their perceived responsiveness scores at each day ($\text{Perceived responsiveness}_{ti}$). This allowed us to examine whether departures from one’s typical perceived responsiveness levels (i.e., increases or decreases in perceived responsiveness) predicted minimal interaction frequency.

To examine whether minimal interactions and close others’ responsiveness have independent or interactive roles in happiness (RQ2), we performed a multilevel model with person mean-centered perceived responsiveness, person mean-centered minimal interaction frequency, and their interaction as predictors and happiness as the outcome. Note that centering in a model that includes interaction effects not only facilitates model interpretation, but also mitigates potential multicollinearity:

$$\begin{aligned} (\text{Happiness})_{ti} = & B_{00} + B_{10} (\text{Perceived responsiveness}_{ti} - \text{Perceived responsiveness}_i) \\ & + B_{20} (\text{Minimal interaction frequency}_{ti} - \text{Minimal interaction frequency}_i) \\ & + B_{30} (\text{Perceived responsiveness}_{ti} - \text{Perceived responsiveness}_i) \\ & \times (\text{Minimal interaction frequency}_{ti} - \text{Minimal interaction frequency}_i) \\ & + r_{0i} + e_{ti} \end{aligned}$$

Previous research identified demographic covariates including age, gender, relationship status, household income, and employment as potential confounders when examining the

⁴The results were virtually identical when using the nlme package (Pinheiro et al., 2025) with autoregressive covariance structures, supporting the robustness of the findings.

subjective well-being benefits of minimal interactions (Ascigil et al., 2025). In addition, extraversion has been associated with a greater affinity for social relationships (Breil et al., 2019) and elevated levels of happiness (Pavot et al., 1990). Therefore, we also repeated the analyses by including these covariates in the models. Results from these adjusted models were consistent with the unadjusted models. We also repeated the analyses using lagged models but failed to find significant lagged associations. Please see OSM for results of these supplementary analyses.

6.2 Exploratory Analyses

In addition to the pre-registered analyses described above, we also conducted additional analyses that were not pre-registered (hereafter referred to as “exploratory analyses”). This was a decision made due to the unforeseen distribution of the minimal interaction frequency variable. Participants had many diary entries in which they reported no minimal interactions at all (27% of the diary entries for weak ties and 30% for strangers)⁵ This meant that the distribution of the minimal interaction measure was concentrated at its lower bound (i.e., zero), which can lead to problems such as less reliable parameters and reduced statistical power (Baldwin et al., 2016). Because of this distribution, we decided to run additional analyses with a two-step approach that we describe below. Such approaches were previously recommended in health psychology research, which often deals with similar distributions for variables measuring health behaviors (e.g., physical activity; Baldwin et al., 2016).

In the first step, we explored the idea that there may be something qualitatively different about not engaging in minimal interactions at all versus engaging in at least one minimal interaction. Therefore, we examined our research questions using binary-coded minimal interaction variables. All participants had at least one day in which they engaged in minimal interactions and 89.6% of the participants had at least one day in which they did not engage in minimal interactions. Using the binary variables, we re-ran the models described in the pre-registered analyses with small adjustments. The model for RQ1 was adjusted into a binomial model due to the outcome being a binary variable (0=No interaction; 1=At least one interaction). The binary minimal interaction variable was contrast-coded (-0.5 =No interaction; 0.5 =At least one interaction) in RQ2 because the models included interaction effects.

In the second step, we focused only on days when participants engaged in minimal interactions and explored the differences between engaging in fewer versus more minimal interactions. For these analyses, we repeated the models described in the pre-registered analyses, using only the days in which minimal interaction frequency was greater than zero.

⁵Although we pre-registered our plans to Winsorize this measure if they were skewed, these measures did not meet the commonly used criteria for skewness with the exception of the item measuring conversing with strangers (Skewness > 2). See OSM for more details on the distribution of the minimal interaction measures.

Table 2 RQ1 Analyses

Predictors	Outcome: Happiness	
	Stranger model	Weak-Tie model
	Unstandardized estimates [95% CI]	
<i>Pre-registered Analyses</i>		
Intercept	1.635*** [1.478, 1.792]	1.863*** [1.694, 2.031]
PR	0.206*** [0.141, 0.270]	0.265*** [0.199, 0.331]
<i>Exploratory Analyses: Presence of minimal interactions</i>		
Intercept	1.120*** [0.940, 1.311]	1.380*** [1.174, 1.602]
PR	0.324*** [0.222, 0.428]	0.372*** [0.266, 0.480]
<i>Exploratory Analyses: Minimal interaction frequency on interaction days</i>		
Intercept	2.194*** [2.034, 2.354]	2.415*** [2.248, 2.580]
PR	0.139*** [0.061, 0.218]	0.196*** [0.118, 0.275]

PR Perceived responsiveness of close others. *** $p < .001$

7 Results

7.1 RQ1: Does Close Others' Responsiveness Predict Minimal Interaction Frequency?

7.1.1 Pre-Registered Analyses

On days when they perceived close others as more responsive than typical, participants engaged in more frequent stranger ($b = .206$, $SE = .033$, $p < .001$) and weak-tie interactions ($b = .265$, $SE = .034$, $p < .001$; see Table 2). These results supported the broadening hypothesis (H1b) suggesting that experiencing higher perceived responsiveness in close relationships may motivate people to engage in minimal interactions more frequently.

7.1.2 Exploratory Analyses

7.1.2.1 Presence of Minimal Interactions We found a positive association between close others' responsiveness and the likelihood of interacting with strangers ($b = 0.324$, $SE = 0.052$, $p < 0.001$) and weak ties ($b = 0.372$, $SE = 0.054$, $p < 0.001$; see Table 2).

7.1.2.2 Minimal Interaction Frequency on Interaction Days On days when minimal interactions occurred, close others' responsiveness was positively linked to frequency of interactions with both strangers ($b = 0.139$, $SE = 0.040$, $p < 0.001$) and weak ties ($b = 0.196$,

$SE=0.040$, $p<0.001$; see Table 2). Overall, exploratory analyses corroborated the broadening account.

7.2 RQ2: Do Close Others' Responsiveness and Minimal Interaction Frequency have Independent or Interactive Roles in Happiness?

Replicating previous studies, when examined separately, close others' responsiveness ($b=0.424$, $SE=0.017$, $p<0.001$) and the frequency of stranger ($b=0.035$, $SE=0.009$, $p<0.001$) and weak-tie interactions ($b=0.031$, $SE=0.009$, $p=0.001$) were each positively associated with happiness. However, to examine the joint roles of close and minimal ties, we examined them as simultaneous predictors in the same model.

7.2.1 Pre-Registered Analyses

Pre-registered analyses revealed only an independent role of close others' responsiveness in happiness ($b=0.421$, $SE=0.018$, $p<0.001$ in the stranger and $b=0.420$, $SE=0.018$, $p<0.001$ in the weak-tie model). Minimal ties did not predict happiness either independently or in interaction with close others' responsiveness ($ps>0.103$; see Table 3). Overall, these findings lend partial support for the independent associations hypothesis (H2a).

7.2.2 Exploratory Analyses

7.2.2.1 Presence of Minimal Interactions When we repeated the analysis with the binary minimal interactions variable, the independent role of close others' responsiveness held ($ps<0.001$) but support for the independent role of minimal interactions was mixed, with stranger interactions positively predicting happiness ($b=0.083$, $SE=0.031$, $p=0.007$) while weak-tie interactions failing to do so ($b=0.042$, $SE=0.033$, $p=0.202$; see Table 4). Impor-

Table 3 RQ2 Pre-registered analyses

Predictors	Outcome: Happiness	
	Stranger model	Weak-Tie model
	Unstandardized estimates [95% CI]	
Intercept	3.875*** [3.762, 3.988]	3.876*** [3.764, 3.989]
PR	0.421*** [0.386, 0.455]	0.420*** [0.385, 0.454]
Stranger Interactions	0.014 [− 0.003, 0.030]	
PR × Stranger Interactions	− 0.004 [− 0.026, 0.019]	
Weak-Tie Interactions		0.008 [− 0.009, 0.024]
PR × Weak-Tie Interactions		− 0.012 [− 0.036, 0.012]

PR Perceived responsiveness of close others. *** $p<0.001$

Table 4 RQ2 Exploratory analyses

Predictors	Outcome: Happiness	
	Stranger model	Weak-Tie model
Unstandardized estimates [95% CI]		
<i>Presence of minimal interactions</i>		
Intercept	3.861*** [3.748, 3.974]	3.868*** [3.755, 3.982]
PR	0.434*** [0.398, 0.471]	0.438*** [0.402, 0.474]
Stranger Interactions	0.083** [0.023, 0.143]	
PR × Stranger Interactions	− 0.099** [− 0.173, − 0.026]	
Weak-Tie Interactions		0.042 [− 0.022, 0.106]
PR × Weak-Tie Interactions		− 0.107** [− 0.181, − 0.033]
<i>Minimal interaction frequency on interaction days</i>		
Intercept	3.912*** [3.801, 4.023]	3.913*** [3.804, 4.023]
PR	0.370*** [0.327, 0.413]	0.377*** [0.336, 0.417]
Stranger Interactions	0.004 [− 0.016, 0.023]	
PR × Stranger Interactions	0.018 [− 0.009, 0.045]	
Weak-Tie Interactions		0.009 [− 0.010, 0.028]
PR × Weak-Tie Interactions		− 0.016 [− 0.045, 0.013]

PR Perceived responsiveness of close others. ** $p < 0.01$, *** $p < 0.001$

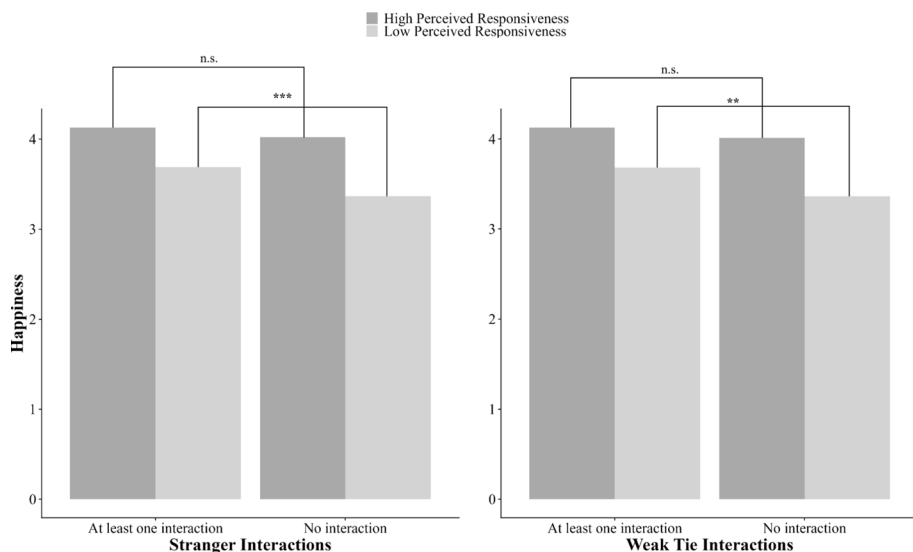


Fig. 1 Interactive roles of close others' responsiveness and minimal interaction presence in happiness. ** $p < 0.01$, *** $p < 0.001$, n.s.=non-significant

tantly, minimal and close ties interacted in predicting happiness in both the stranger ($b = -0.099$, $SE = 0.038$, $p = 0.008$) and weak-tie models ($b = -0.107$, $SE = 0.038$, $p = 0.005$).

Simple slope analyses supported a compensation account (H2b). On days when participants perceived their close others as less responsive than typical, interacting with strangers or weak ties were both associated with greater happiness ($b = 0.154$, $SE = 0.039$, $p < 0.001$ and $b = 0.117$, $SE = 0.041$, $p = 0.004$, respectively). When close others' responsiveness was higher than typical, engaging in minimal interactions or not was not linked to happiness ($ps > 0.435$; see Fig. 1).

7.2.2.2 Minimal Interaction Frequency on Interaction Days Repeating the analyses using only the days in which participants engaged in at least one minimal interaction revealed the same pattern of findings as pre-registered analyses, with the main effect of close others' responsiveness being the only significant predictor of happiness. Neither the main effect of minimal interactions nor its interaction with close others' responsiveness were significantly linked to happiness (see Table 4).

8 Discussion

The current research focused on the interplay between close and minimal ties. Using daily diary methodology, we examined whether close others' responsiveness predicted the frequency of weak-tie and stranger interactions (RQ1), and whether close others' responsiveness and minimal interaction frequency had independent or interactive roles in daily happiness (RQ2). For both research questions, we pitted a broadening account against a compensation account. In RQ1 pre-registered analyses, we found that on days when they perceived close others more responsive than typical, participants engaged in more minimal interactions, supporting a broadening hypothesis (H1b). In line with these findings, exploratory analyses suggested that close others' responsiveness was associated with increases in the likelihood of engaging in minimal interactions and increases in the frequency of minimal interactions on days with at least one interaction. Overall, these results lend support to a broadening account (H1b), suggesting that high quality close relationships may motivate people to engage with strangers and weak ties more frequently. Given that these associations hold even after controlling for factors that are associated with both social relationships and well-being (e.g., extraversion; see OSM), these findings hint at a novel mechanism that may explain the well-being benefits of responsiveness. Prior research identified two primary mechanisms by which close others' responsiveness contributes to happiness: by preserving happiness in stressful contexts and by augmenting happiness in pleasant contexts (Selcuk et al., 2018). Our findings suggest that broadening social networks via motivating minimal interactions can be another mechanism explaining the role of responsiveness in happiness. Testing this mechanism is an important future research direction.

In RQ2 pre-registered analyses, we found that close others' responsiveness had an independent role in happiness, whereas minimal interaction frequency did not, lending partial support for H2a. In exploratory analyses focusing on engaging in minimal interactions versus not, we found support for interactive effects, in the form of compensation (H2b): Engag-

ing in minimal interactions (vs. not engaging in these interactions) was associated with greater happiness on days when participants perceived close others as less responsive than typical. In contrast, engaging in minimal interactions or not was not significantly linked to happiness on days when close others were perceived as more responsive than typical. Although this finding suggests that engaging in minimal interactions may compensate for lower quality close relationships, the compensation account was supported only when we examined the difference between days when minimal interactions occurred versus not. This suggests that focusing on presence versus absence of minimal interactions (rather than their frequency) might prove to be a better approach for understanding the interplay between multiple social pathways to well-being.

Our findings also have implications for the measurement of minimal social interactions. Although interactions like having a brief conversation with, greeting, or thanking minimal ties may appear ubiquitous, many participants reported zero minimal interactions on many days. The infrequency of minimal interactions in the present study may have been due to the cultural context. Being sociable is not very desirable in more interdependent cultures with tighter social ties (Oishi & Schimmack, 2010) and people trust non-close others less in non-Western countries (Torpe & Lolle, 2011). Indeed, in a previous large-sample cross country comparison, the percentage of respondents who reported not having a conversation with a stranger within the past week was much higher in Türkiye (45%) than that in an English-speaking sample primarily from the UK (16%; Ascigil et al., 2025). The zero-clustered distribution of minimal interaction frequency in the current study suggests that future researchers should be mindful with decisions on how minimal social interactions are measured, especially in cultures where such interactions may be less frequent.

The present study has several additional implications for research on social relationships. In line with recent theoretical work (Hirsch & Clark, 2019), our results show that it is important to study minimal and close ties together. Although there is a growing literature on the well-being benefits of minimal interactions, prior studies had not accounted for the effects of having responsive close ties. Consistent with prior work, when we did not include perceived responsiveness of close ties in the same model as minimal interactions, the frequencies of both stranger and weak-tie interactions positively predicted happiness. However, current findings suggest that when close and minimal ties are examined together, close relationships may overshadow the well-being benefits of minimal interactions. We should note that in prior research, minimal interactions were positively associated with well-being even when other close relationships constructs were controlled for (e.g., marital status, kindness received from close others; Ascigil et al., 2025). Therefore, close others' responsiveness may be an especially critical construct to examine together with minimal social interactions.

The competing hypotheses suggested by past theorizing on close versus minimal ties had not been directly tested before. Previous research either did not clearly distinguish close and minimal ties (Merolla et al., 2022) or when it did, examined only between-person effects. The present work expanded on prior evidence by filling both gaps. Measuring close and minimal ties separately allowed us to pit alternative accounts on how experiences in one domain are linked to another and how they jointly shape subjective well-being. Using intensive daily experience data enabled testing whether the processes we examined are sensitive to the everyday ups and downs in relationship experiences (Gunaydin et al., 2021b; Totenhagen et al., 2016).

The current study also expanded the evidence base for the association between minimal social interactions and happiness in non-WEIRD cultures. The majority of the previous works on minimal interactions was conducted in Western samples such as North America (Epley & Schroeder, 2014; Sandstrom & Dunn, 2014a, 2014b) and the U.K. (Aknin & Sandstrom, 2024). The present study joins the recently emerging evidence from a few non-WEIRD cultures including Türkiye (Ascigil et al., 2025; Gunaydin et al., 2021a) and Japan (Ishiguro, 2023). Nevertheless, more work in diverse geographical locations is needed to more precisely understand whether minimal social interactions have similar well-being benefits across cultures.

The current study also carries practical implications. Previous literature tested interventions to increase interactions with strangers (Sandstrom et al., 2022) and weak ties (Aknin & Sandstrom, 2024) in order to harness the well-being benefits of minimal social interactions. Current research may inform future interventions in two key ways. First, we found that having responsive close relationships was associated with more frequent minimal interactions. This broadening effect suggests that future interventions aimed at strengthening close relationships may have positive effects on other social domains and should be evaluated accordingly. Second, we found that people benefit more from the presence of minimal interactions when their close others are less responsive. This compensation effect implies that the benefits of interventions aimed at promoting minimal interactions may depend on the quality of close ties. Future research could explore whether such benefits also depend on other social factors, such as the risk of loneliness.

The current study is not without limitations. Although we used community participants, the sample was not representative. Participants were highly educated, with less than ten percent having completed less than a bachelor's degree. Those who are more educated tend to have higher quality close relationships (Aarskaug Wiik et al., 2012) and greater life satisfaction (Salinas-Jimenez et al., 2011) than those who are less educated. Therefore, future studies should test the current hypotheses in samples that are more representative of the population including individuals with varying levels of education.

Despite the limitations, the current study addressed some important knowledge gaps regarding minimal and close ties. We found that perceiving greater responsiveness in close relationships was linked to greater likelihood and frequency of engaging in minimal interactions. Moreover, our findings suggested that engaging in minimal interactions may compensate for times when people experience difficulties in close relationships. Current findings may inform future interventions targeting contexts and life periods when quality of close relationships are more likely to falter (Kannan & Veazie, 2023). We hope that this study sparks more research examining different paths to belonging, especially minimal and close ties, in a unified framework.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s10902-025-00971-8>.

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Data Availability All materials, data, and analytic code are available at the Open Science Framework Database, https://osf.io/6zsmp/?view_only=90c19d0bdc4d4ca6942e1878bf00467b.

Declarations

Conflict of Interest We have no conflicts of interest to disclose.

Ethical Approval Ethical approval for this study was granted by the Sabanci University Research Ethics Council (Protocol No: FASS-2024–06).

Informed Consent Participants provided informed consent prior to their participation in this study.

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