Lonely Alone or Lonely Together? A Cultural-Psychological Examination of Individualism–Collectivism and Loneliness in Five European Countries

Luzia C. Heu[1], Martijn van Zomeren[1], and Nina Hansen[1]

Abstract

Average levels of loneliness have been suggested to differ between collectivistic and individualistic countries. However, we know little about how *individual-level* collectivism (i.e., perceiving the self or one's social environment as collectivistic) is related to loneliness. As individualism and collectivism imply different ideals about how individuals should be embedded in social relationships, they may imply distinct risks for loneliness. Specifically, less demanding ideals in individualism should imply the risk of lower actual social embeddedness; more demanding ideals in collectivism should imply the risk of higher perceived discrepancies from such ideals. Two cross-sectional survey studies in five European countries (Study 1: Austria, $N = 239$; Study 2: Italy, Portugal, Sweden, The Netherlands, total $N = 860$) revealed that higher collectivism was related to *lower* loneliness. Individualism indeed implied lower social embeddedness, but collectivism did not imply higher discrepancies from ideal embeddedness. We discuss implications for reducing loneliness in different cultural contexts.

Although experienced by most of us at some point in life, loneliness seems detrimental to well-being. Not only is it an unpleasant experience, it also relates to multiple mental (e.g., higher depressiveness, suicidal thoughts, and aggressiveness) and physical health problems (e.g., obesity and elevated blood pressure; for a review, see Cacioppo, Grippo, London, Goossens, & Cacioppo, 2015). Indeed, loneliness was found to be associated with a 26% higher likelihood of mortality, with an even higher likelihood for those below the age of 65 (for a meta-analysis, see Holt-Lunstad, Smith, Baker, Harris, & Stephenson, 2015). However, little is known about the role of cultural-psychological factors that might set individuals at risk for loneliness. As such knowledge is crucial for developing interventions to prevent negative consequences of loneliness in different cultures, we conducted survey studies in five European countries to examine the relationship between individualism–collectivism (IC) as a major cultural-psychological dimension and loneliness.

IC (e.g., Fischer et al., 2009; Triandis, 1995) has attracted much attention from the media, as individualization is thought to account for increasing loneliness (e.g., Hendrix, 2018; Sanders, n.d.). In this line of thought, the turn toward individualism (versus collectivism) should make individuals neglect their relationships more, which is why they lack

actual contact or meaningful relationships and, consequently, feel lonely. Yet surprisingly, there is little empirical evidence for this claim—in fact, the scarce evidence available suggests *lower* levels of loneliness in more (versus less) individualistic countries (Lykes & Kemmelmeier, 2014).

However, such differences in mean loneliness between countries do not tell us much about risk factors within countries. We therefore investigate whether loneliness relates to *individuals' perceptions of* IC (that is, perceptions of the self or others in one's social environment as individualistic/collectivistic) against the cultural backdrop of different countries.

Different from previous work, we propose that both individualism and collectivism contain cultural-psychological risk factors for loneliness based on different ideals about how individuals should be socially embedded. These should affect important sources of loneliness (actual social embeddedness and ideal–actual discrepancies regarding social embeddedness). Figure 1 illustrates different mechanisms,

[1]University of Groningen, The Netherlands

Corresponding Author:
Luzia C. Heu, University of Groningen, Grote Kruisstraat 2/1, Groningen 9712 TS, The Netherlands.
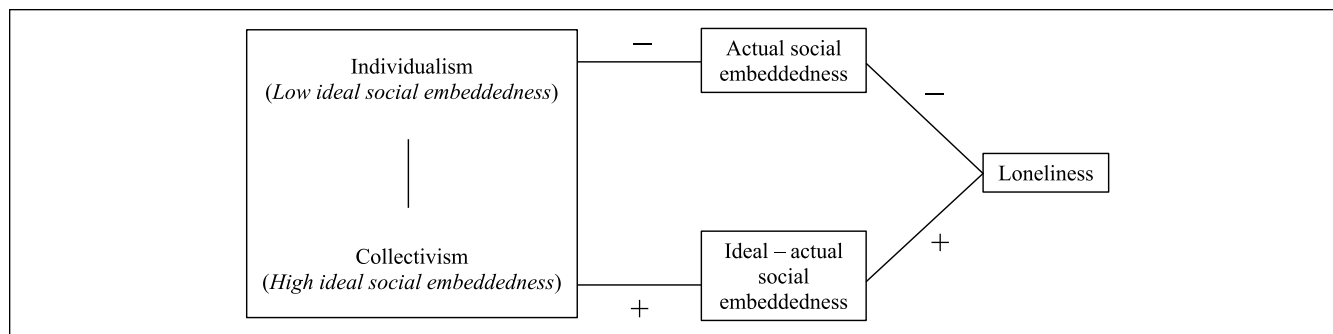Email: l.c.heu@rug.nl

Figure 1. Risk factors for loneliness implied in individualism and collectivism.
Note. Ideal–actual social embeddedness refers to the perceived discrepancy between an individuals' ideal and actual social embeddedness.

with lower ideals about social embeddedness in individualism potentially implying lower actual social embeddedness, and higher ideals in collectivism possibly implying higher perceived discrepancies from such ideal social embeddedness (i.e., higher ideal–actual discrepancies).

Due to the richness and diversity of concepts inherent to IC (Oyserman, Coon, & Kemmelmeier, 2002), we seek to identify what precisely it is in this concept that would relate to loneliness and test it across individuals from five countries. As such, our studies are the first to investigate different facets of IC and loneliness among individuals within different countries. This is important because such research can pinpoint how individuals' loneliness is affected by and within their cultural environment, and may suggest a starting point for cultural-psychological interventions to reduce loneliness.

Loneliness

Humans can be viewed as essentially relational beings that rely on their perceived and actual connection with others in social networks (e.g., Baumeister & Leary, 1995; van Zomeren, 2016). This implies that being alone but also feeling alone should be negative experiences. Indeed, loneliness has been compared with physical pain (Cacioppo et al., 2006), such that it constitutes a warning sign that motivates secluded individuals to seek social contact. However, loneliness does not necessarily flow from objective social isolation: One can feel lonely in the company of others, and one can feel connected when in solitude. We therefore focus on the subjective experience of perceived social isolation (VanderWeele, Hawkley, & Cacioppo, 2012), on the feeling of being cut-off or separated from others (Hays & DiMatteo, 1987).

Figure 1 depicts our suggestion that, conceptually, experiences of loneliness follow from a lack of absolute *social embeddedness* (e.g., a lack of close relationships; for a review see, Perlman & Peplau, 1984; Shiovitz-Ezra, & Leitsch, 2010; Stickley et al., 2013; van Tilburg, 1990) and/or from unfulfilled personal or social standards regarding social embeddedness (perceived *ideal–actual discrepancies* such as a deviation from the personally desired or normative

closeness in relationships; Johnson & Mullins, 1987; Perlman & Peplau, 1981, 1984). These are particularly important for a cultural-psychological investigation of loneliness because a cultural dimension such as IC includes ideals and norms about social relationships (Chiu, Leung, & Hong, 2011; Johnson & Mullins, 1987) that are potentially relevant to actual embeddedness and perceived discrepancies and thus important for whether individuals feel lonely.

IC and Loneliness

The few studies that addressed the link between IC and loneliness often did not include explicit measures of IC but relied on comparisons of countries assumed to reflect differences in IC (Lykes & Kemmelmeier, 2014). Despite some inconsistent findings, loneliness seems higher in traditionally collectivistic than in individualistic countries (Anderson, 1999; Dykstra, 2009; Fokkema, de Jong Gierveld, & Dykstra, 2012; Jylhä & Jokela, 1990; Lykes & Kemmelmeier, 2014; van Tilburg, de Jong Gierveld, Lecchini, & Marsiglia, 1998). However, country-level comparisons do not account for within-country variation in IC or the extent to which individuals internalize or perceive it. Indeed, the only study that investigated the link between proxies of IC (e.g., living alone, community bonds) and loneliness at both levels found opposing results (Jylhä & Jokela, 1990). Specifically, average loneliness was higher in regions characterized by higher collectivism, whereas individual-level proxies of collectivism were related to *lower* loneliness. However, there have, to the best of our knowledge, been no other studies to replicate this finding, or studies that include more specific and direct measures of IC.

We view IC as one dimension of culture, which can be defined as a set of shared ideas that coordinate the goal pursuits of individuals in a collective (Chiu et al., 2011). Specifically, IC addresses how individual need fulfillment in a collective should be taken care of: reciprocally in smaller groups (collectivism) or by individual members themselves (individualism). From this, a number of other related ideas about how to relate to whom follow, such as norms regarding

the responsibilities for others, or the value attached to self-reliance. Most important for loneliness, this also includes norms about how an individual should be socially embedded (i.e., *ideal social embeddedness*) and, as such, about the types of relationships one should establish (e.g., a partnership, a certain number of friends), how often one should be in contact with, or even about how close one should feel to specific others (e.g., in parent-adolescent relationships; Imamoğlu & Karakitapoğlu-Aygün, 2006; Lykes & Kemmelmeier, 2014). More specifically, as higher collectivism (versus individualism) implies that individuals should depend more strongly on others in their groups to have their individual needs fulfilled, collectivism is likely to also imply more demanding ideals regarding social embeddedness than individualism (i.e., higher ideal social embeddedness).

The Risk Implied by Individualism

As cultural norms are usually reflected in behavior and realities (Cialdini, Kallgren, & Reno, 1991), IC should, however, not only imply differences in *ideal*, but also in *actual social embeddedness*. Less demanding norms about social embeddedness for those who are more individualistic (rather than collectivistic) should, thus, imply that individuals are effectively less socially embedded. This should be particularly pronounced for family relationships, because IC is related to a person's reference group (e.g., Triandis, 1995), which is usually the family (e.g., Fischer et al., 2009). As such lower embeddedness (e.g., less variety of available relationships, lower frequency of contact, lower relationship quality) seems to be an important structural risk factor for loneliness (e.g., de Jong Gierveld & van Tilburg, 1995; Jylhä & Jokela, 1990; for a review, see Perlman & Peplau, 1984; Shiovitz-Ezra & Leitsch, 2010; Stickley et al., 2013; van Tilburg, 1990), we expect that individualism implies the risk of comparatively lower actual social embeddedness (Lykes & Kemmelmeier, 2014), as illustrated in the upper part of Figure 1.

The Risk Implied by Collectivism

Although some characteristics of social embeddedness should quite universally buffer from or set at risk for loneliness, most should require some personal or shared standard of comparison to be informative to loneliness (Johnson & Mullins, 1987; Perlman & Peplau, 1981, 1984). Consequently, loneliness should flow from perceived (quantitative or qualitative) deficiencies in an individual's social network, resulting if actual deviate from ideal relationship characteristics. Past research has mostly focused on *desired* relationship characteristics as standard of comparison (e.g., Perlman & Peplau, 1981, 1984), but social norms should not only inform personal desires but also present independent standards of comparison (Chiu, Gelfand, Yamagishi, Shteynberg, & Wan, 2010). Therefore, we assume that loneliness flows from both *desired*–actual and *socially expected*–actual discrepancies

regarding social relationships (summarized as *ideal*–actual discrepancies). For instance, a person who is "single" may or may not personally desire a partner, but perceive to deviate from a societal norm, which should result in an actual–normative discrepancy that would set that person at risk for loneliness.

More demanding ideal social embeddedness inherent to collectivism should, thus, partly constitute the ideal side of such an ideal–actual discrepancy. If higher ideal social embeddedness entails higher actual social embeddedness, it is conceivable that individualistic and collectivistic cultures would not differ in average ideal–actual discrepancies. However, highly demanding cultural ideals about social embeddedness may imply a higher likelihood of being individually unable to fulfill such cultural ideals (Jylhä & Jokela, 1995; Lykes & Kemmelmeier, 2014), which should be a risk for loneliness due to the perception of comparatively higher ideal–actual discrepancies, as illustrated in the lower part of Figure 1.

Overview of Studies

We tested our expectations in five European countries that differ on country-level IC and are all developed Western nations with functioning democracies. Although, as outlined before, both individualism and collectivism imply a certain risk of loneliness, most empirical findings (Lykes & Kemmelmeier, 2014) led us to expect that higher individual-level collectivism should relate to higher loneliness (Hypothesis 1). In addition, based on differences in ideal social embeddedness, higher individualism should relate to lower actual social embeddedness (Hypothesis 2) and higher collectivism to higher ideal–actual discrepancies (Hypothesis 3).

Study 1 was conducted in the moderately individualistic context of Austria (55 out of 100 on the Hofstede scale; Hofstede, Hofstede, & Minkov, 2010) and sampled from urban (presumably more individualistic) and rural (presumably more collectivistic) areas.[1] Austria was suitable for present purposes because, for one, a moderate level of IC allows for sufficient within-country variation on IC without bottom or ceiling effects. Furthermore, Austria provides a particularly strong contrast between more individualistic urban and more collectivistic rural areas, as assessed by indicators of IC in the European Social Survey (Norwegian Centre for Research Data, 2014).

Study 2 investigated the specific aspects of IC that were relevant for loneliness in four other European countries, which were either higher or lower in IC than Austria. Based on an analysis of IC indicators[2] in the European Social Survey (Norwegian Centre for Research Data, 2012) and the World Values Survey (World Values Survey Association, 2016), we sampled from Italy and Portugal as two Southern European (presumably more collectivistic), and the Netherlands and Sweden as two Northern European (presumably more individualistic) countries.

Study 1: Austria

Method

Design and sample. Study 1 employed a cross-sectional design. Participants were recruited from the first author's extended social network and from Austrian villagers' Facebook groups. We excluded 170 cases (41.56%) of the initial sample ($N = 409$), out of which 164 dropped out before indicating their location of residence. Another six did not meet inclusion criteria (one participant was younger than 16, five did not reside in Austria).

Our final sample consisted of 239 participants between the age of 16 and 76 (69.46% female, 30.13% male, $M_{age} = 44.03$, $SD = 14.58$), with 53.55% ($n = 128$) indicating to reside in cities, 20.50% ($n = 49$) in small or middle-sized towns, and 25.94% ($n = 62$) in villages. Of all respondents, 70.35% indicated to be in a romantic relationship, and 51.57% reported to have children.

A power analysis was conducted using the software package g*power before data collection and reassessed with the final sample of $N = 239$. We planned to conduct regression analyses with one predictor each to test associations with loneliness. The power to detect a small effect ($f'' = .03$) was higher than .80 and could, therefore, be regarded as sufficient.

Procedure. Participants were invited to participate in a study on well-being, social relationships, and location of residence. They filled in an online questionnaire with measures of (a) loneliness (randomly positioned either after an initial well-being scale or ideal–actual discrepancies), (b) IC, (c) social embeddedness and ideal–actual discrepancies, and (d) location of residence among other demographic control variables. The questionnaire was (back-)translated from English to German and pre-tested. Median completion time was 19.57 min. Participation was voluntary and followed by a careful debriefing.

Materials. Cronbach's αs for all scales were good or excellent (for sample items, see Online Appendix).

Loneliness. Loneliness was assessed using a six-item version of the UCLA Loneliness Scale, the ULS-6 scale (Neto, 2014), which ranges from 1 (*never*) to 4 (*often*). We added the item "There is no one I can turn to" from the ULS-8 scale (Hays & DiMatteo, 1987), as this item captures a lack of supportive relationships in times of need, which we considered a central aspect of loneliness. We further added two items, asking for loneliness in general and within the last 2 weeks on a scale ranging from 1 (*not at all*) to 5 (*very much*). One item from the initial ULS-6 scale ("I feel part of a group of friends") was deleted due to comparatively low factor loadings and associated decreased reliabilities across the different samples reported in this article (thus across Study 1 and 2). In total, the final scale thus comprised eight items (α = .87, 95% confidence interval [CI] [.84, .89]).

IC. We assessed IC with a scale measuring IC as descriptive norms (Fischer et al., 2009), which conceptualizes IC as one single dimension, focusing on perceived norms in one's surroundings. The measure consists of four subscales with 22-item pairs that reflect Triandis's (1995) four core attributes of IC: (a) independent versus interdependent self-construal, (b) focus on attitudes versus focus on norms, (c) rationality versus relatedness in social relationships, and (d) emphasis on independent versus interdependent goals. Based on theoretical considerations, we selected 11 pairs of items from the original scale (e.g., "Most people follow their personal attitudes" versus "Most people follow their family/group norms and rules" with "most people" referring to others in participants' city or village; for the entire scale, see Online Appendix). Importantly, because individuals' internalized IC can differ from the level of IC they perceive in their social environment, we also created a scale in which we reworded all items into self-descriptions (i.e., internalized IC; e.g., "I usually follow my personal attitudes" versus "I usually follow my family/group norms and rules"). Consequently, the final scales consisted of 2×11 item pairs (IC as descriptive norms: α = .82, 95% CI [.78, .85]; internalized IC: α = .77, 95% CI [.73, .82]).

IC revolves around individuals' reference groups, and the nuclear family appears to be a particularly relevant reference group in different cultures (Fischer et al., 2009). Thus, based on our pre-testing, we used "family" instead of "group" in scale items. For each pair, participants were asked to rate which statement was more applicable to their situation, resulting in a scale from 1 (*highest individualism, lowest collectivism*) to 7 (*lowest individualism, highest collectivism*).

Social embeddedness and ideal–actual discrepancies. Social embeddedness was assessed by the number of relationships in different categories (friends, partner, children, parents, other family members, acquaintances, and group membership) and closeness to the subjectively most important person in each category on a scale from 1 (*not at all*) to 7 (*very much*). We summed the number of friends, family members (including parents), partner, and children into a measure of the number of relationships available to a participant.

Ideal–actual discrepancies were assessed by self-reports. Participants were, first, asked to indicate whether there were certain desired or socially expected relationships that they did not have (*desired–actual discrepancy* and *socially expected–actual discrepancy*). Higher values indicated individually less favorable discrepancies (i.e., higher ideal as compared to actual characteristics). In addition, participants compared the number and closeness of their actual social relationships to their desires and social expectations about these characteristics on a scale from 1 (*much less*) to 7 (*much more*; i.e., *desired–actual number, socially expected–actual number, desired–actual closeness*, and *socially expected–actual closeness*). To align discrepancy with comparison measures, we reverse coded comparisons, such that lower values would reflect individually more favorable comparisons.

Table 1. Correlations Between Relationship Characteristics, Loneliness, Internalized IC, and IC as Descriptive Norms (Study 1).

	Loneliness	Internalized IC	IC as descriptive norms
Number of relationships ($n = 205$)	.01	.13	.01
Average relationship closeness ($n = 233$)	−.26***	.20**	.05
Desired–actual discrepancy	.56***	−.11	−.06
Socially expected–actual discrepancy	.29***	−.26***	.08
Desired–actual closeness	.42***	−.08	−.03
Socially expected–actual closeness	.33***	−.03	.16*
Desired–actual number	.47***	−.05	.02
Socially expected–actual number	.30***	−.08	.10

Note. N = 239 if not otherwise indicated. IC = individualism–collectivism.
*p < .05. **p < .01. ***p < .001.

Demographic variables. We assessed location of residence,[3] age, gender, education level, marital status, financial comfort, and employment status.

Results[4]

Descriptive analysis. Univariate descriptive statistics for most important measures can be found in the Online Appendix. Across the board, loneliness was significantly below the scale's midpoint, $M (SD) = 1.77 (0.60)$, 95% CI [1.65, 1.81], $t(238) = −18.83$, $p < .001$, $d = 1.22$. Internalized IC, $M (SD) = 3.93$ (0.85), and IC as descriptive norms, $M (SD) = 3.77 (0.93)$, were around the midpoint of the scale confirming moderate individualism in Austria. Participants perceived higher collectivism in their social environments in villages than in cities, village: $M (SD) = 4.32 (0.86)$, town: $M (SD) = 3.86 (0.81)$, city: $M (SD) = 3.48 (0.89)$, $F(2, 236) = 20.34$, $p < .001$, $\eta^2 = .15$, 95% CI [.07, .23], yet internalized collectivism did not differ significantly, village: $M (SD) = 4.05 (0.89)$, town: $M (SD) = 3.95 (0.73)$, city: $M (SD) = 3.86 (0.87)$, $F(2, 236) = 1.02$, $p = .363$, $\eta^2 = .01$, 95% CI [.00, .04].

Hypothesis testing

To test whether higher collectivism was related to higher loneliness, we regressed loneliness on IC indicators. As loneliness was positively skewed (indicating a somewhat low level of loneliness), we calculated both general and generalized linear models (with gamma distribution of errors and log-link). We present only solutions for general linear models as results converged.

Contrary to Hypothesis 1, both facets of collectivism were related to *lower* loneliness, although only internalized collectivism significantly predicted loneliness, explaining a small amount of variance according to Cohen's (1992) guidelines, $\beta = −.16$, $b = −0.12$, $SE = 0.05$, 95% CI [−0.20, −0.03], $t = −2.56$, $F(1, 237) = 6.53$, $p = .011$, $R_{adj}^2 = .02$, collectivism as descriptive norms, $\beta = −.09$, $b = −0.06$, $SE = 0.04$, 95% CI [−0.14, 0.03], $t = −1.37$, $F(1, 237) = 1.89$, $p = .171$, $R_{adj}^2 < .01$. Hypothesis 1 was thus not supported.

IC, social embeddedness, and loneliness. In line with the assumption that loneliness flows from a lack of social embeddedness, loneliness was negatively related to average relationship closeness, $r(231) = −.26$, 95% CI [−.37, −.13], $p < .001$, although quite unrelated to the number of social relationships, $r(205) = .01$, 95% CI [−.13, .15], $p = .895$. Furthermore, less favorable ideal–actual discrepancies were also related to higher loneliness, with the highest association emerging between loneliness and the discrepancy between desired and actual relationships, $r(237) = .56$, 95% CI [.47, .64], $p < .001$.

Regarding Hypothesis 2 that higher individualism would relate to lower social embeddedness, Table 1 reveals that higher internalized individualism was indeed related to lower average relationship closeness, $r(231) = .20$, 95% CI [.08, .32], $p = .002$, and lower number of relationships, $r(203) = .13$, 95% CI [−.01, .26], $p = .061$, although not significantly so. IC as descriptive norms was quite unrelated to measures of embeddedness.

Contrary to predictions from Hypothesis 3 that higher collectivism would be related to *higher* ideal–actual discrepancies, the only discrepancy that significantly related to internalized IC, that is, a socially expected–actual discrepancy, which was positively associated with loneliness, $r(237) = .29$, 95% CI [.17, .40], $p < .001$, was lower for those who described themselves as more collectivistic, $r(237) = −.26$, 95% CI [−.37, −.14], $p < .001$. However, higher collectivism as descriptive norms was indeed associated with an individually less favorable comparison of actual and socially expected closeness, $r(237) = .16$, 95% CI [.04, .28], $p = .012$, which was also accompanied by higher loneliness, $r(237) = .33$, 95% CI [.21, .44], $p < .001$.

Discussion

Study 1 shows how two facets of individual-level IC are related with loneliness against the cultural backdrop of a moderately individualistic country. Internalized collectivism was associated with lower loneliness and with higher social embeddedness. Furthermore, IC was quite unrelated to ideal–actual

Table 2. Sample Descriptions by Country (Study 2).

Sample	n	M_{age} (SD)	Women (in %)	Tertiary education (in %)	In romantic relationship (in %)	With children (in %)
Italian	203	41.58 (12.19)	49.75	30.54	75.37	54.19
Portuguese	237	37.32 (11.63)	47.68	45.99	76.37	54.85
Swedish	211	34.33 (11.39)	43.60	38.86	69.19	63.98
Dutch	209	35.42 (12.27)	49.76	50.24	69.86	44.02

discrepancies. This suggests that, at the individual level of analysis, collectivism may buffer individuals from loneliness, whereas individualism may be a risk factor because it may reflect individuals' lower actual embeddedness.

However, we note that results differed depending on whether IC was internalized or perceived in the social environment. Being *individually* more collectivistic (i.e., higher internalized collectivism) related to a *more* favorable comparison of own to others' relationships and higher social embeddedness, while collectivism as descriptive norms implied a *less* favorable comparison (i.e., arguably to those others that were described as more collectivistic) and no benefits in social embeddedness. Accordingly, internalized collectivism was significantly related to lower loneliness, while we found a nonsignificant trend for collectivism as descriptive norms only. Although we do not want to overinterpret these particular findings, they do at the very least suggest that a differentiation of these facets of IC is meaningful and potentially useful for understanding loneliness.

Study 2: Italy, Portugal, Sweden, and the Netherlands

Study 2 aimed to replicate the findings from Study 1 in a wider range of cultural contexts. In addition to the measures we used in Study 1, we also added new measures, which provide the basis for a more refined analysis of potential risk factors for loneliness implied in IC.

Method

Design and sample. Study 2 employed a cross-sectional study design. To achieve some variation along the dimension of IC, we sampled from Portugal and Italy as more collectivistic, and The Netherlands and Sweden as more individualistic countries. Data collection was performed by Qualtrics Panels, with quota sampling for gender, age, and education level. Participants were screened out if they responded incorrectly to at least one out of two bogus items, or if they completed the questionnaire in less than a set minimum time (13 min). We recorded 3,314 responses, out of which only 860 were complete and met inclusion criteria. Selected characteristics of the final samples are presented in Table 2.

Again, power analyses were conducted before and after data collection using the statistical package g*power. We planned to conduct regression analyses with one predictor

(for associations between single IC indicators and loneliness). The power to detect a small effect ($f'' = .03$) was higher than .80 for all samples and can therefore be regarded as sufficient.

Procedure. Participants filled in an online survey assessing (a) demographic characteristics, (b) loneliness, (c) IC, (d) (ideal) social embeddedness, and (e) perceived relationship discrepancies. The initial questionnaire was translated from English into Italian, Portuguese, Swedish, and Dutch by professional translators or bilingual psychologists. Questionnaires were subsequently double-checked and pilot-tested in each of the four countries. Participants received the questionnaire in the dominant language of the country that matched their geolocation. Including informed consent and debriefing, the median completion time was 19.31 min. Participants were financially compensated by Qualtrics panels.

Measures. Cronbach's αs were good to excellent for all scales. Translated sample items are presented in the Online Appendix.

Loneliness. Loneliness was assessed using the same measures as in Study 1 (Italian sample: α = .91, 95% CI [.89, .93]; Portuguese sample: α = .92, 95% CI [.90, .93]; Swedish sample: α = .91, 95% CI [.90, .93]; Dutch sample: α = .93, 95% CI [.92, .95]).[5]

IC. The same measure as in Study 1 was applied (with Cronbach's αs ranging from α = .63, 95% CI [.55, .70] in the Swedish to α = .81, 95% CI [.78, .84] in the Portuguese sample for IC as descriptive norms; and α = .71, 95% CI [.65, .77] in the Swedish to α = .83, 95% CI [.80, .86] in the Portuguese sample for internalized IC; for all αs, see Online Appendix), but preliminary analyses revealed a number of issues (see Online Appendix). For one, neither of the IC scales seemed unidimensional and extracted factors did not correspond to the four subscales as suggested by Fischer et al. (2009). Also, factor structures differed between countries, which was confirmed by tests of measurement invariance (indicating a lack of configural measurement invariance). This might be interpreted as a weakness of the measure we used, but, perhaps more importantly, also indicates the need to deconstruct the heterogeneous concept of IC. Additional to interpreting results for IC scales with caution, we, therefore, computed two ad hoc indices that reflect those aspects

of IC that are most relevant to our investigation of loneliness (i.e., ideal and actual social embeddedness) and that empirically discriminated between Northern and Southern European countries (which were assumed to differ on IC). Accordingly, we selected items from (ideal) social embeddedness measures or related sociodemographic questions, transformed responses to range from 0 to 1, and summarized them in an average score.

To capture *ideal* social embeddedness, a first index (the *injunctive relational norms index*) comprises injunctive norms about different relationship characteristics. Both injunctive and descriptive norms systematically differed by country, but injunctive norms showed the more consistent pattern across different relationship domains. Due to high correlations between the measures of descriptive and injunctive norms, we thus decided to include injunctive relational norms only. Specifically, we selected items from our ideal social embeddedness measure (see below) asking for the relationships a person of the respondent's age should have according to others that age (i.e., a partner, children, number of friends) and the frequency with which such a person should be in contact with his or her closest family member and best friend.

A second index (the *family embeddedness index*) summarizes differences in *actual* social embeddedness or, more specifically, in *family* embeddedness, as Northern and Southern European countries clearly differed on family relationship characteristics and living arrangements. This was not surprising given that IC has been argued to revolve around individuals' reference groups, which seem to usually be the family (Fischer et al., 2009; Triandis, 1995). The family embeddedness index includes whether individuals live alone, live together with their children, live together with their parents, how often they are in contact with their closest family member, and how many evenings they usually spend alone over the course of 2 weeks.

Social embeddedness. Social embeddedness was again assessed by asking for actual relationship characteristics, although in a more faceted way than in Study 1 and focused on three close relationships: partnership (if in a romantic relationship), closest family relationship (customized based on participants' selection of a closest family member), and best friendship. Specifically, we asked for frequency of contact (i.e., "Over the course of two weeks, how many days are you usually in contact [see, hear from, or exchange messages] with your partner?"), perceived closeness ("How close do you feel to your brother?") measured on an IOS (Inclusion of Other in the Self) scale with seven pictorial anchors, and estimations of how good the respective relationship was (e.g., "How good do you think is the relationship with your best friend?") on a scale from 1 (*not good at all*) to 7 (*very good*). Answers to the latter two items were averaged to form an overall measure of relationship quality. Furthermore, answers for the three different relationship types were aver-

aged into scores for *quality* and *frequency of contact* in close relationships. We also assessed general quantitative characteristics of participants' relational networks (i.e., relationship status, number of children, number of friends, number of family members) using answer categories or open-ended questions. As in Study 1, these were summed to obtain the number of relationships available to a participant.

Ideal social embeddedness. Items for social embeddedness were slightly rephrased to assess desired (e.g., "Over the course of two weeks, how many days would you like to be in contact with your [best friend]?"), injunctive normative (e.g., "According to others your age, how close should a person your age feel to [his or her partner]?"), and descriptive normative relationship characteristics (e.g., "How good do you think are relationships of others your age with their [mother]?").

Ideal–actual discrepancies. For subjective evaluations, we used the measures from Study 1. Furthermore, we computed discrepancy scores from desires, injunctive norms, and descriptive norms for each characteristic of each relationship type based on actual and desired/normative relationship characteristics described above. Together with scores for discrepancies regarding number of friends, this resulted in a total of 30 discrepancies. We averaged discrepancies from desired and both types of normative levels into overall discrepancies from quality (i.e., closeness and quality; *ideal–actual quality*) and frequency of contact (i.e., *ideal–actual contact*).

Demographic variables. We assessed age, gender, education level, marital status, relationship status, length of relationship, religion, financial comfort, subjective socioeconomic status (SES; using an adapted version of the MacArthur Scale of Subjective Social Status), employment status, country of residence, duration of stay in country of residence, and parents' country of origin.

Results

Descriptive analysis. Univariate descriptive statistics for most relevant measures in each context are provided in the Online Appendix. As in Study 1, loneliness was significantly below the scale midpoint with the lowest level of reported loneliness in the Dutch sample, M (SD) = 2.09 (0.90), 95% CI [1.97, 2.22], t(208) = −14.59, $p < .001$, $d = 1.01$, and the highest level in the Italian sample, M (SD) = 2.35 (0.90), 95% CI [2.22, 2.47], t(202) = −10.38, $p < .001$, $d = 0.73$. Although cross-country differences need to be interpreted with caution due to the low number of countries and indications of measurement invariance (see Online Appendix), means seemed to be lower in Northern than Southern European countries.

Just as in the Austrian sample, means for IC were in the middle of the scale, ranging from M (SD) = 3.84 (0.84) in the Dutch sample to M (SD) = 4.26 (1.02) in the Italian

sample for internalized IC and from M (SD) = 3.79 (0.96) in the Portuguese sample to M (SD) = 4.00 (0.72) in the Swedish sample for IC as descriptive norms. Our classification into relatively more individualistic and relatively more collectivistic countries was supported for IC as descriptive norms, but not for internalized IC.

Hypothesis testing

Due to a lack of measurement invariance (see Online Appendix), we tested our hypotheses within each country separately. Furthermore, we computed both general and generalized linear models (as in Study 1) because loneliness was positively skewed in all contexts. As results converged, we present solutions for general linear models only.

IC and loneliness. In line with earlier studies (for a review, see Lykes & Kemmelmeier, 2014), we first compared average loneliness between samples from more individualistic (i.e., Sweden, the Netherlands) and more collectivistic countries (i.e., Italy, Portugal). Due to the higher degree of measurement invariance for the ULS scale than the combined loneliness scale, we conducted an analysis of variance (ANOVA) with ULS scores as dependent variable[6] and country as independent variable. Loneliness levels differed significantly, $F(3, 856) = 2.94$, $p = .032$, $\eta^2 = .01$, 95% CI = [.00, .03] (results need to be interpreted with caution because metric invariance could not be established), with higher means in Southern European than Northern European countries, Italian sample: M (SD) = 2.31 (0.87), Portuguese sample: M (SD) = 2.32 (0.85), Swedish sample: M (SD) = 2.24 (0.91), Dutch sample: M (SD) = 2.10 (0.89).

Furthermore, to test Hypothesis 1 that collectivists would report higher loneliness than individualists, we conducted multiple regression analyses with loneliness as dependent variable and either of the IC indicators as predictor.

Italian sample. Indicators of higher collectivism were, across the board, related to lower loneliness, although only collectivism as descriptive norms, $\beta = -.14$, $b = -0.13$, $SE = 0.06$, 95% CI [–0.26, –0.00], $t = -2.03$, $F(1, 201) = 4.10$, $p = .044$, $R_{adj}^2 = .02$, and family embeddedness, $\beta = -.16$, $b = -0.81$, $SE = 0.36$, 95% CI [–1.52, –0.09], $t = -2.23$, $F(1, 201) = 4.97$, $p = .027$, $R_{adj}^2 = .02$, were significant predictors of loneliness. For internalized IC, $\beta = -.12$, $b = -0.10$, $SE = 0.06$, 95% CI [–0.22, 0.02], $t = -1.68$, $F(1, 201) = 2.81$, $p = .095$, $R_{adj}^2 = .01$, and injunctive relational norms, $\beta = -.09$, $b = -0.59$, $SE = 0.47$, 95% CI [–1.52, 0.33], $t = -1.26$, $F(1, 201) = 1.59$, $p = .209$, $R_{adj}^2 = .00$, we found nonsignificant trends in the same direction, thus indicating lower loneliness if collectivism was higher.

Portuguese sample. Similar to results for the Italian sample, collectivism as descriptive norms was significantly related to lower loneliness, $\beta = -.18$, $b = -0.16$, $SE = 0.06$,

95% CI [–0.27, –0.05], $t = -2.82$, $F(1, 235) = 7.93$, $p = .005$, $R_{adj}^2 = .03$. Again there were trends in the same direction for higher family embeddedness relating to lower loneliness, $\beta = -.12$, $b = -0.57$, $SE = 0.32$, 95% CI [–1.19, 0.06], $t = -1.79$, $F(1, 235) = 3.19$, $p = .075$, $R_{adj}^2 = .01$, and for higher internalized IC, $\beta = -.13$, $b = -0.10$, $SE = 0.05$, 95% CI [–0.21, 0.00], $t = -1.93$, $F(1, 235) = 3.71$, $p = .055$, $R_{adj}^2 = .01$. The norms index was unrelated to loneliness, $\beta = -.02$, $b = -0.11$, $SE = 0.42$, 95% CI [–0.93, 0.71], $t = -0.27$, $F(1, 235) = 0.07$, $p = .788$, $R_{adj}^2 = -.00$.

Swedish sample. Higher collectivism as descriptive norms was significantly related to lower loneliness, $\beta = -.22$, $b = -0.28$, $SE = 0.08$, 95% CI [–0.44, –0.11], $t = -3.28$, $F(1, 209) = 10.77$, $p = .001$, $R_{adj}^2 = .05$, whereas both family embeddedness, $\beta = -.07$, $b = -0.31$, $SE = 0.29$, 95% CI [–0.88, 0.26], $t = -1.08$, $F(1, 209) = 1.16$, $p = .283$, $R_{adj}^2 < .01$, and internalized IC, $\beta = .02$, $b = 0.02$, $SE = 0.07$, 95% CI [–0.13, 0.16], $t = 0.25$, $F(1, 209) = 0.06$, $p = .804$, $R_{adj}^2 = -.01$, were hardly associated with loneliness. The Swedish sample deviated from the other three samples in that higher injunctive relational norms were clearly related to *higher* loneliness, $\beta = .16$, $b = 0.98$, $SE = 0.42$, 95% CI [0.15, 1.81], $t = 2.34$, $F(1, 209) = 5.46$, $p = .020$, $R_{adj}^2 = .02$.

Dutch sample. In line with the Italian and Portuguese samples, higher collectivism as descriptive norms, $\beta = -.20$, $b = -0.23$, $SE = 0.08$, 95% CI [–0.38, –0.08], $t = -2.96$, $F(1, 207) = 8.77$, $p = .003$, $R_{adj}^2 = .04$, and family embeddedness, $\beta = -.17$, $b = -0.66$, $SE = 0.27$, 95% CI [–1.20, –0.12], $t = -2.42$, $F(1, 207) = 5.83$, $p = .017$, $R_{adj}^2 = .02$, were significantly related to lower loneliness. A similar trend emerged for internalized collectivism, although not significant, $\beta = -.13$, $b = -0.14$, $SE = 0.07$, 95% CI [–0.29, 0.00], $t = -1.94$, $F(1, 207) = 3.74$, $p = .054$, $R_{adj}^2 = .01$. Injunctive relational norms were, again, quite unrelated to loneliness, $\beta = .03$, $b = 0.19$, $SE = 0.54$, 95% CI [–0.88, 1.26], $t = 0.35$, $F(1, 207) = 0.13$, $p = .725$, $R_{adj}^2 = -.00$.

Taken together, a clear individual-level pattern of higher collectivism as related to *lower* loneliness emerges (strongly so for IC as descriptive norms, and less strongly for family embeddedness and internalized IC). This finding is at odds with Hypothesis 1 that collectivism relates to lower loneliness, but in line with results from Study 1. Furthermore, this pattern suggests quite opposite conclusions when examining individual-level IC rather than country-level IC (Lykes & Kemmelmeier, 2014).

IC, social embeddedness, and loneliness. To test Hypothesis 2 (i.e., that individualism would imply the risk of lower *actual* social embeddedness), we investigated correlations of loneliness with social embeddedness, and social embeddedness with IC indicators (see Tables 3 and 4). As predicted, higher collectivism was generally associated with higher social embeddedness, and social embeddedness was indeed related to lower loneliness.

Table 3. Correlations of Social Embeddedness and Discrepancies With Loneliness (Study 2).

Sample	Italian	Portuguese	Swedish	Dutch
Quality	−.54***	−.46***	−.47***	−.35***
Contact	−.26***	−.12	−.22**	−.23***
Number of relationships	−.25***	−.24***	−.17**	−.16*
Discrepancies				
Ideal–actual quality	.41***	.49***	.45***	.44***
Ideal–actual contact	.19**	.18**	.22**	.24***
Desired–actual discrepancy	.47***	.29***	.39***	.39***
Socially expected–actual discrepancy	.51***	.23***	.31***	.33***
Desired–actual closeness	.24***	.30***	.27***	.11
Socially expected–actual closeness	.34***	.24***	.23***	.21**
Desired–actual number	.32***	.26***	.21**	.27***
Socially expected–actual number	.16*	.29***	.29***	.14*

Note. Sample sizes as indicated in Table 2.
*$p < .05$. **$p < .01$. ***$p < .001$.

Furthermore, we expected that higher ideal–actual discrepancies might be a risk factor for loneliness implied in higher collectivism (Hypothesis 3). Accordingly, we examined correlations of loneliness with ideal–actual discrepancies, and ideal–actual discrepancies with IC indices (see Tables 3 and 5). Indeed, higher ideal–actual discrepancies were, across the board, related to higher loneliness as expected. However, contrary to Hypothesis 3 (but in line with Study 1), IC indices were widely related to *lower* (i.e., more favorable) discrepancies or quite unrelated. The only exception was the injunctive relational norms index, which somewhat isolates the normative aspect of IC, and which was tendentiously related to *higher* discrepancies, as hypothesized.

Also, following up on these findings, we found that higher collectivism was indeed associated with higher ideal social embeddedness (see Table 4) and that higher ideals were related to higher ideal–actual discrepancies (see Table 6). However, discrepancies were more strongly negatively related to actual than positively related to ideal social embeddedness. Findings thus suggest that higher collectivism (vs. individualism) might imply the risk of higher ideals and thus higher ideal–actual discrepancies but that higher *actual* social embeddedness accompanying such ideals might reduce this risk.

General Discussion

Across samples from five European countries, higher collectivism was related to *lower* loneliness (Hypothesis 1). Higher individualism implied lower actual social embeddedness (Hypothesis 2) but higher collectivism was quite unrelated to ideal–actual discrepancies (Hypothesis 3). Both lower actual social embeddedness and higher ideal–actual discrepancies were associated with higher loneliness (in line with Johnson & Mullins, 1987; Perlman & Peplau, 1981, 1984). Thus, collectivism might be a buffer for loneliness.

However, higher ideals implied in collectivism might still present a potential risk, as they were related to *higher* ideal–actual discrepancies. Notwithstanding, it seems that, within a European context, higher actual embeddedness implied in collectivism balanced out such a risk.

One striking implication of this pattern is that, although loneliness may be higher on average in collectivistic than individualistic countries (Lykes & Kemmelmeier, 2014), this relationship might be opposite at the individual (psychological) level, with lower loneliness for collectivists than for individualists (in line with Jylhä & Jokela, 1990). This is important because interventions typically target individuals. Furthermore, our results suggest that, despite certain consistencies across countries, the usefulness of interventions should widely depend on the identification of contextually relevant cultural-psychological aspects.

Theoretical Implications

Our findings indicate that the answer to whether individualism or collectivism implies a higher risk for loneliness may depend on the level of analysis. Past studies usually found higher average loneliness in allegedly collectivistic *countries* (Lykes & Kemmelmeier, 2014), but our findings revealed lower loneliness for individuals who described themselves or their immediate environment as collectivistic. This emerging picture is in line with findings from the only study that used both regional (i.e., culture-level) and individual-level indicators (Jylhä & Jokela, 1990): Although loneliness was higher among individuals who lived alone and had weaker community bonds, *average* loneliness was higher in regions with *low* shares of individuals living alone and *stronger* community bonds.

These findings suggest that both low embeddedness and high expectations about social relationships may set at risk for loneliness (Johnson & Mullins, 1987; Jylhä & Jokela,

Table 4. Correlations Between IC Indicators and (Ideal) Social Embeddedness (Study 2).

Sample	Italian	Portuguese	Swedish	Dutch
IC as descriptive norms				
Actual				
Quality	.13	.03	.18*	.05
Contact	.03	−.03	.11	.06
Ideal				
Quality	.09	−.03	.01	.02
Contact	.02	−.05	.09	.01
Internalized IC				
Actual				
Quality	.15*	.16*	.12	.06
Contact	.20**	.14*	.20**	.03
Ideal				
Quality	.02	.20**	.10	.11
Contact	.11	.18**	.19**	.00
Injunctive relational norms				
Actual				
Quality	.24***	.16*	.01	.13
Contact	.43***	.41***	.36***	.43***
Ideal				
Quality	.32***	.28***	.13	.22**
Contact	.63***	.57***	.59***	.67***
Family embeddedness				
Actual				
Quality	.16*	.13	.19**	.07
Contact	.42***	.36***	.43***	.45***
Ideal				
Quality	.13	.09	.15*	−.01
Contact	33***	.28***	.38***	.39***

Note. Some associations with injunctive relational norms and family embeddedness are inflated because these indices include either ideal or actual frequency of contact with closest family member and best friend. Sample sizes as indicated in Table 2. IC = individualism–collectivism.
*p < .05. **p < .01. ***p < .001.

1990). Similarly, yet more aligned with a discrepancy perspective on loneliness (Perlman & Peplau, 1981, 1984); we reasoned that lower actual social embeddedness might be a risk for loneliness implied in individualism, while higher ideal–actual discrepancies might be a risk implied in collectivism. However, different from past work (Jylhä & Jokela, 1990), our studies included direct measures of IC across samples from five European countries.

We found general support for an association between higher individual-level individualism and lower actual embeddedness, which, in turn, clearly related to higher loneliness (in line with, e.g., Jylhä & Jokela, 1990; Shiovitz-Ezra & Leitsch, 2010; Stickley et al., 2013; van Tilburg, 1990).[7] Higher ideal–actual discrepancies were also associated with lower loneliness (supporting a discrepancy perspective on loneliness; e.g., Perlman & Peplau, 1981, 1984), but while collectivism was indeed related to higher ideals of social embeddedness and these ideals were related to higher

discrepancies, most IC indices were quite unrelated or even negatively related to discrepancies (i.e., lower discrepancies if collectivism was higher). It thus seems that higher actual embeddedness successfully counteracted a potential discrepancy-enhancing effect of higher ideal social embeddedness implied by collectivism. This is consistent with the finding that higher collectivism was related to lower loneliness and the idea that individualism implies a risk for loneliness.

Practical Implications

Due to high associations with (mental) health, reducing harmful levels of loneliness is vital for preventing disorder and disease. Our findings suggest that lower collectivism, low social embeddedness (in line with, e.g., Jylhä & Jokela, 1990; Shiovitz-Ezra & Leitsch, 2010; Stickley et al., 2013; van Tilburg, 1990), and a mismatch with desired or normative levels of social embeddedness (Perlman & Peplau, 1981, 1984) are—at least within a European context—consistent risk factors for loneliness and might thus be fruitful starting points for interventions. However, within this general pattern, we also found some interesting variance. Indeed, the relevance of IC indices for loneliness and their implications for social relationship characteristics varied considerably between countries.

For one, results in the Austrian sample of Study 1 deviated from those in Study 2 in that only internalized IC was significantly related to lower loneliness, whereas in all samples of Study 2, IC as descriptive norms was more strongly associated with loneliness. Accordingly, IC as descriptive norms was related to more favorable ideal–actual discrepancies in all samples except for the Austrian one. Furthermore, in Study 2 the injunctive relational norms index differed from the other three in that it was related to *higher* loneliness in the Swedish sample and to some *higher* (i.e., less favorable) ideal–actual discrepancies. Indeed, this supported our notion that the normative component of IC might entail a risk for loneliness. Thus, what sets at risk for or buffers from loneliness at an individual level might not necessarily be transferrable from one larger cultural context to another. This means that the usefulness of an intervention is likely to depend on the identification of contextually relevant risk factors for loneliness.

Irrespective of these contextual differences, our investigations of the link between IC and loneliness suggest that, within a European context, establishing (the perception of) an overall considerate and helpful social context that is aware of the needs of its individual members (i.e., high collectivism as descriptive norms) might generally help to diminish loneliness. Interventions could consequently be addressed at individuals (i.e., to raise embeddedness or foster its perception/recognition) or entire communities (e.g., creating structural opportunities for more collectivistic living or fostering corresponding values in education). One example of how collectivism might be fostered at the level of the community

Table 5. Correlations Between IC Indicators and Discrepancies (Study 2).

Sample	Italian	Portuguese	Swedish	Dutch
IC as descriptive Norms				
Ideal–actual quality	−.08	−.06	−.24***	−.04
Ideal–actual contact	−.01	−.00	−.05	−.09
Desired–actual discrepancy	−.11	−.07	−.15*	.03
Socially expected–actual discrepancy	−.15*	−.00	−.16*	.06
Desired–actual closeness	−.10	−.12	−.14*	−.24***
Socially expected–actual closeness	−.12	−.15*	−.20**	−.27***
Desired–actual number	−.12	−.11	−.17*	−.22**
Socially expected–actual number	−.16*	−.19**	−.23***	−.26***
Internalized IC				
Ideal–actual quality	−.18*	.00	−.07	.02
Ideal–actual contact	−.15*	.00	−.03	−.05
Desired–actual discrepancy	−.06	.12	−.01	.04
Socially expected–actual discrepancy	−.11	−.01	−.08	−.05
Desired–actual closeness	−.20**	−.03	−.01	.13
Socially expected–actual closeness	−.14*	−.09	−.05	−.05
Desired–actual number	−.07	−.06	−.03	.01
Socially expected–actual number	−.17*	−.08	−.06	−.07
Injunctive relational norms				
Ideal–actual quality	.02	.08	.13	.05
Ideal–actual contact	.12	.05	.25***	.25***
Desired–actual discrepancy	.11	.12	.17*	.08
Socially expected–actual discrepancy	.01	.19**	.13	.08
Desired–actual closeness	−.14	−.06	.11	−.02
Socially expected–actual closeness	−.09	−.05	.05	−.10
Desired–actual number	−.05	−.19**	−.04	−.05
Socially expected–actual number	.01	−.02	.00	−.02
Family embeddedness				
Ideal–actual quality	−.08	−.07	−.11	−.11
Ideal–actual contact	−.21**	−.21**	−.12	−.19**
Desired–actual discrepancy	−.08	−.04	−.08	−.12
Socially expected–actual discrepancy	−.05	−.07	−.04	−.14*
Desired–actual closeness	−.02	−.07	−.01	.08
Socially expected–actual closeness	−.04	−.15*	−.04	.04
Desired–actual number	.02	−.11	−.04	−.04
Socially expected–actual number	.05	−.10	.00	.05

Note. Sample sizes as indicated in Table 2. IC = individualism–collectivism.
*p < .05. **p < .01. ***p < .001.

Table 6. Correlations Between (Ideal) Social Embeddedness and Corresponding Discrepancies (Study 2).

Sample	Italian	Portuguese	Swedish	Dutch
Actual				
Quality	−.65	−.62	−.65	−.64
Contact	−.60	−.64	−.47	−.50
Ideal				
Quality	.16	.20	.09	.13
Contact	.14	.07	.25	.10

Note. Sample sizes as indicated in Table 2.

is cooperative living arrangements (i.e., co-housing), where independent dwelling units are complemented by shared facilities (e.g., communal kitchens or gardens) that allow for communally shared activities and responsibilities (McCamant & Durrett, 2011).

Limitations and Future Directions

The current set of studies is not without limitations. First, although we aimed at pinpointing what makes individuals lonely, both studies examined correlational data that do not allow for conclusions about causality. As loneliness is difficult to study in an experimental setting, longitudinal follow-up studies could better investigate the specific direction of the causal path. Nevertheless, given that internalized IC should be a socialized cultural orientation and reflect differences in personality (e.g., Triandis, 2001), we believe

that it is more likely to be a predictor of, rather than a response to, loneliness.

In addition, sample drop-out rates were rather high, which is hardly surprising for online surveys, but might imply selection bias. As loneliness was not mentioned in the informed consent and participants were assured of their anonymity, we do not believe that this was a conscious self-selection process. Furthermore, the range of values on the loneliness scale was satisfactory, and complete and dropped-out cases revealed no consistent differences in loneliness.

One of two measurement challenges we encountered was failure to achieve measurement invariance across samples. As measurement invariance implies that comparisons across cultures would be invalid, we analyzed data for each country separately. The second challenge was multidimensionality of the IC measure, which we dealt with by identifying those facets of IC that we perceived as particularly relevant for loneliness. Although these issues do not invalidate the interpretation of our findings, we do believe that they signal a need for better measures of constructs such as IC, especially given that measurement invariance is, in practice, a common issue in cross-cultural research (e.g., Chen, 2008). Therefore, we strongly recommend future research to invest in the development of measurement invariant instruments to assess IC.

Finally, our focus on European countries offered us considerable variation in IC, but this may also have restricted this variance to the more individualistic pole of IC. Future research should try to replicate our findings in more collectivistic contexts. If our line of thought holds, then we would expect that the risk potential of ideals for loneliness will become more visible in such contexts, such that ideals become too demanding to be realizable by individuals.

Conclusion

Across samples from five European countries, our findings show that individual-level collectivism is consistently related to *lower* loneliness. Higher collectivism implied both higher ideal and actual social embeddedness, which resulted in similar or lower ideal–actual discrepancies (with higher discrepancies setting at risk for loneliness). Furthermore, associations with loneliness varied for different facets of IC and between countries, which suggests that potential interventions addressing loneliness need to pinpoint which aspects of individual-level IC are relevant in a specific cultural setting. Our findings in different European countries thus hint at the possibility that loneliness may be attenuated by aspects of collectivism that foster actual social embeddedness.

Declaration of Conflicting Interests

Funding

Notes

1. Different social structures in villages and cities form the basis of Tönnies's (1887) distinction between *Gemeinschaft* and *Gesellschaft*, which underlies IC. According to this reasoning, villages imply higher importance assigned to social roles and group memberships, whereas cities allow individuals to detach from their primary in-groups. This is also in line with the ecocultural framework (e.g., Berry, 1979), which proposes that ecological and sociopolitical surroundings influence culture. Indeed, indications of higher individualism were found in more urban (versus more rural) areas in Sri Lanka (Freeman, 1997), Greece (Georgas, 1989), Japan and Australia (Kashima et al., 2004), and India (Mishra, 1994).
2. Indicators included values (e.g., valuing modesty and not drawing attention, making own decisions and be free, behaving properly, following rules and doing what is told), descriptive norms (e.g., perceptions that others are trustworthy, fair, or helpful), and more objective characteristics (e.g., cohabitation with spouse, divorce rates).
3. Answer categories were *big city, suburbs, a small or middle-sized town, a village*, or *a single house outside a village*. Due to few responses for suburbs and houses outside villages, the first two as well as the last two categories were collapsed, resulting in the three categories *city, town*, and *village*.
4. For preliminary analyses for both studies such as missing data analysis, assumption checks, balance tests, factor analyses for construct validity, and measurement invariance testing, see Online Appendix.
5. To obtain comparable anchors for the ULS scale and single-item measures, ULS items were assessed on a 5-point scale from 1 (*I never feel that way*) to 5 (*I always feel that way*) in Study 2 instead of the 4-point scale from Study 1.
6. As mentioned, ULS scores were computed using five items from the ULS-6 and one item from the ULS-8 scale.
7. Interestingly, the number of social relationships was hardly associated with loneliness in Study 1, but, in Study 2, higher numbers of relationships were significantly related to lower loneliness in all samples. As this observation might, however, be incidental, we do not want to overinterpret it.

Supplemental Material

Supplemental material is available online with this article.

References

Anderson, C. A. (1999). Attributional style, depression, and loneliness: A cross-cultural comparison of American and Chinese students. *Personality and Social Psychology Bulletin*, *25*, 482-499.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*, 497-529.

Berry, J. W. (1979). A cultural ecology of social behaviour. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 12, pp. 177-206). New York, NY: Academic Press.

Cacioppo, J. T., Hawkley, L. C., Ernst, J. M., Burleson, M. H., Berntson, G. G., Nouriani, B., & Spiegel, D. (2006). Loneliness with a nomological net: An evolutionary perspective. *Journal of Research in Personality*, 40, 1054-1085.

Cacioppo, S., Grippo, A. J., London, S., Goossens, L., & Cacioppo, J. T. (2015). Loneliness: Clinical import and interventions. *Perspectives on Psychological Science*, 10, 238-249.

Chen, F. F. (2008). What happens if we compare chopsticks with forks? The impact of making inappropriate comparisons in cross-cultural research. *Journal of Personality and Social Psychology*, 95, 1005-1018.

Chiu, C. Y., Gelfand, M. J., Yamagishi, T., Shteynberg, G., & Wan, C. (2010). Intersubjective culture: The role of intersubjective perceptions in cross-cultural research. *Perspectives on Psychological Science*, 5, 482-493.

Chiu, C. Y., Leung, A. K. Y., & Hong, Y. Y. (2011). Cultural processes: An overview. In A. K. Y. Leung, C. Y. Chiu, & Y. Y. Hong (Eds.), *Cultural processes: A social psychological perspective* (pp. 3-22). New York, NY: Cambridge University Press.

Cialdini, R. B., Kallgren, C. A., & Reno, R. R. (1991). A focus theory of normative conduct: A theoretical refinement and reevaluation of the role of norms in human behavior. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 24, pp. 201-234). New York, NY: Academic Press.

Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112, 155-159.

de Jong Gierveld, J., & van Tilburg, T. (1995). Social relationships, integration, and loneliness. In C. P. M. Knipscheer, J. de Jong Gierveld, T. G. van Tilburg, & P. A. Dykstra (Eds.), *Living arrangements and social networks of older adults* (pp. 155-172). Amsterdam, The Netherlands: VU University Press.

Dykstra, P. A. (2009). Older adult loneliness: Myths and realities. *European Journal of Ageing*, 6, 91-100.

Fischer, R., Ferreira, M. C., Assmar, E., Redford, P., Harb, C., Glazer, S., . . . Kärtner, J. (2009). Individualism-collectivism as descriptive norms. Development of a subjective norm approach to culture measurement. *Journal of Cross-Cultural Psychology*, 40, 187-213.

Fokkema, T., de Jong Gierveld, J., & Dykstra, P. A. (2012). Cross-national differences in older adult loneliness. *The Journal of Psychology: Interdisciplinary and Applied*, 146, 201-228.

Freeman, M. A. (1997). Demographic correlates of individualism and collectivism: A study of social values in Sri Lanka. *Journal of Cross-Cultural Psychology*, 28, 321-341.

Georgas, J. (1989). Changing family values in Greece from collectivist to individualist. *Journal of Cross-Cultural Psychology*, 20, 80-91.

Hays, R. D., & DiMatteo, M. R. (1987). A short-form measure of loneliness. *Journal of Personality Assessment*, 51, 69-81.

Hendrix, M. (2018, March 29). *Lonely America*. Retrieved from https://www.nationalreview.com/magazine/2018/04/16/lonely-america/

Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software of the mind* (3rd ed.). New York, NY: McGraw-Hill.

Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: A meta-analytic review. *Perspectives on Psychological Science*, 10, 227-237.

Imamoğlu, E. O., & Karakitapoğlu-Aygün, Z. (2006). Actual, ideal, and expected relatedness with parents across and within cultures. *European Journal of Social Psychology*, 36, 721-745.

Johnson, D. P., & Mullins, L. C. (1987). Growing old and lonely in different societies: Toward a comparative perspective. *Journal of Cross-Cultural Gerontology*, 2, 257-275.

Jylhä, M., & Jokela, J. (1990). Individual experiences as cultural: A cross-cultural study on loneliness among the elderly. *Ageing and Society*, 10, 295-315.

Kashima, Y., Kokubo, T., Kashima, E. S., Boxall, D., Yamaguchi, S., & Macrae, K. (2004). Culture and self: Are there within-culture differences in self between metropolitan areas and regional cities? *Personality and Social Psychology Bulletin*, 30, 816-823.

Lykes, V. A., & Kemmelmeier, M. (2014). What predicts loneliness? Cultural difference between individualistic and collectivistic societies in Europe. *Journal of Cross-Cultural Psychology*, 45, 468-490.

McCamant, K., & Durrett, C. (2011). *Creating cohousing: Building sustainable communities*. Gabriola Island, BC, Canada: New Society Publishers.

Mishra, R. C. (1994). Individualist and collectivist orientations across generations. In U. Kim, H. C. Triandis, Ç. Kâğitçibaşi, S.-C. Choi, & G. Yoon (Eds.), *Cross-Cultural Research and Methodology Series: Vol. 18. Individualism and collectivism—Theory, method, and applications* (pp. 225-238). Thousand Oaks, CA: SAGE.

Neto, F. (2014). Psychometric analysis of the short-form UCLA Loneliness Scale (ULS-6) in older adults. *European Journal of Ageing*, 11, 313-319.

Norwegian Centre for Research Data. (2012). *ESS Round 6: European Social Survey* (Round 6 Data) [Data file edition 2.3. NSD]. Available from http://www.europeansocialsurvey.org

Norwegian Centre for Research Data. (2014). *ESS Round 7: European Social Survey* (Round 7 Data) [Data file edition 2.1. NSD]. Available from http://www.europeansocialsurvey.org

Oyserman, D., Coon, H. M., & Kemmelmeier, M. (2002). Rethinking individualism and collectivism: Evaluation of theoretical assumptions and meta-analyses. *Psychological Bulletin*, 128, 3-72.

Perlman, D., & Peplau, L. A. (1981). Toward a social psychology of loneliness. *Personal Relationships*, 3, 31-56.

Perlman, D., & Peplau, L. A. (1984). Loneliness research: A survey of empirical findings. In L. A. Peplau & S. Goldston (Eds.), *Preventing the harmful consequences of severe and persistent loneliness* (pp. 13-46). Washington, DC: Government Printing Office.

Sanders, P.(n. d.). Does individualism make you lonely? [Blog post]. Retrieved from https://getthefriendsyouwant.com/individualism-make-you-lonely/

Shiovitz-Ezra, S., & Leitsch, S. A. (2010). The role of social relationships in predicting loneliness: The national social life, health, and aging project. *Social Work Research*, 34, 157-167.

Stickley, A., Koyanagi, A., Roberts, B., Richardson, E., Abbott, P., Tumanov, S., & McKee, M. (2013). Loneliness: its correlates

and association with health behaviours and outcomes in nine countries of the former Soviet Union. *PLoS ONE*, *8*(7), e67978.

Tönnies, F. (1887). *Gemeinschaft und Gesellschaft*. Leipzig, Germany: Fues's Verlag (R. Reisland).

Triandis, H. C. (1995). *Individualism & collectivism*. Boulder, CO: Westview Press.

Triandis, H. C. (2001). Individualism-collectivism and personality. *Journal of Personality*, *69*, 907-924.

VanderWeele, T. J., Hawkley, L. C., & Cacioppo, J. T. (2012). On the reciprocal association between loneliness and subjective well-being. *American Journal of Epidemiology*, *176*, 777-784.

van Tilburg, T., de Jong Gierveld, J., Lecchini, L., & Marsiglia, D. (1998). Social integration and loneliness: A comparative study among older adults in the Netherlands and Tuscany, Italy. *Journal of Social and Personal Relationships*, *15*, 740-754.

van Tilburg, T. G. (1990). The size of the supportive network in association with the degree of loneliness. In C. P. M. Knipscheer & T. C. Antonucci (Eds.), *Social network research: Substantive issues and methodological questions* (pp. 137-150). Lisse, The Netherlands: Swets & Zeitlinger.

van Zomeren, M. (2016). *From self to social relationships: An essentially relational perspective on social motivation*. Cambridge, UK: Cambridge University Press.

World Values Survey Association. (2016). World Values Survey (Wave 6 2010-2014) [Official Aggregate v.20150418]. Available from www.worldvaluessurvey.org