**Method Pilot Study**

Our questionnaire was programmed into the online platform Qualtrics and we collected data from **mTurk (N = 143)** and **Prolific Academic (N = 148)**. Participants (all from US and UK; *Mage* = 49.45 (*SDage* = 7.01; 37.9% male, 61.3% female)..

Because the sample was relatively small, we **excluded** all those participants that did not adhere to these guidelines **(mTurk *N* = 3; PA *N* = 48)**.[[1]](#footnote-1) The total remaining N for the pilot study was 240.

**Survey details.** In order to assess the importance of complex social integration and distance from the equator, we measured known correlates of core body temperature or behavior in response to temperature fluctuations, like self-reported stress (“**stress**” in the forest plot; Cohen & Wills, 1985), **nostalgia** (“nostalgia”; Routledge et al., 2008), attachment to homes (“attachhome”; Harris et al., 1996), daily sugary drinks consumption (“**gluctot**”; Henriksen et al., 2014) and diet drinks consumption (“**artgluctot**”; Henriksen et al., 2014), known benchmarks of core body temperature, like sex (“sex”), height (“height”), weight (“**weightkg**”), and whether they used medication (“meds”; Hills & Rahimtulla, 1965; Peters, 1986).

We also included variables that potentially influence core body temperature and quality of the social network in other ways, like feelings of agency, measured through self-control (“selfcontrol”; Tangney et al., 2004), attachment (“avoidance” and “anxiety”; Fraley et al., 2000), and access to one’s own feelings and bodily states (alexithymia subscales “EOT” and “DIDF”; Kooiman et al., 2002). Importantly, we included measures on people’s social networks (“networksize”, “socialembedded”, and a measure on complex social integration, “CSI”; Cohen et al., 1997). CSI includes an inventory of the following ties: Relationships with spouse, parents, parents-in-law, children, other close family members, neighbors, friends, workmates, schoolmates, fellow volunteers (e.g., charity or community work), members of groups without religious affiliations (e.g., social, recreational, professional), and members of religious groups. One point was assigned for participation in each kind of relationship for which respondents reported that they spoke (in person or on the phone) to someone in that relationship at least once every 2 weeks. At the end of the survey, participants were thanked for their participation and debriefed.

The complete scales, reliabilities, and averages per scale per site can be accessed on our project page. Finally, we looked up the minimum temperature (“mintemp”) and average humidity of the day (“avghumidity”) participants completed the survey based on their IP address by using a weather history site (http://www.wunderground.com/history/), which bases weather on the nearest airport.

**Method Cross-National Study**

**Samples.** We collected data via University of Oxford (UK; *N* = 137, 56.2% female, *M*birthyear = 1985.43; *SD*birthyear = 13.51), University of Belgrade (Serbia; *N* = 164, 80.5% female, *M*birthyear = 1993.73; *SD*birthyear = 4.91), Singapore Management University (*N* = 135, 56.2% female, *M*birthyear = 1993.80; *SD*birthyear = 1.54), Tsinghua University (China; *N* = 174, 62.2% female, *M*birthyear = 1993.68; *SD*birthyear = 6.41), University of Zürich (Switzerland; *N* = 37, 72.5% female, *M*birthyear = 1987.57; *SD*birthyear = 8.72), Virginia Commonwealth University (United States; *N* = 150, 78.8% female, *M*birthyear = 1992.62; *SD*birthyear = 4.70), University of Kassel (Germany; *N* = 105, 69.8% female, *M*birthyear = 1990.31; *SD*birthyear = 7.82), University of California, Santa Barbara (United States; *N* = 108, 63.8% female, *M*birthyear = 1995.82; *SD*birthyear = 1.71), University of Lusófona (Portugal; *N* = 18, 33.3% female, *M*birthyear = 1984.12; *SD*birthyear = 11.92), University of Chile (Chile; *N* = 34, 62.9% female, *M*birthyear = 1979.33; *SD*birthyear = 13.16), University of Southampton (United Kingdom; *N* = 6, 50.0% female, *M*birthyear = 1992.17; *SD*birthyear = 1.60), Otto-Friedrichs-Universität Bamberg (Germany; *N* = 40, 69.0% female, *M*birthyear = 1982.11; *SD*birthyear = 14.67), Middle East Technical University (Turkey; *N* = 181, 65.7% female, *M*birthyear = 1992.42; *SD*birthyear = 5.00), University of Oslo (Norway; *N* = 85, 69.4% female, *M*birthyear = 1992.31; *SD*birthyear = 6.42), and SWPS University of Social Sciences and Humanities (Poland; *N* = 133, 86.6% female, *M*birthyear = 1986.18; *SD*birthyear = 8.89). Our total sample (after data exclusions) consisted of *N* = 1507 *(*68.9% female, *M*birthyear = 1990.95; *SD*birthyear = 8.45).

**Procedure.** To be sure, we again asked whether they did eat or drink anything warm or cold 10 minutes before the study (“eatdrink”) or whether they had exercised an hour preceding the study (“exercise”).

**Survey details.** We used the same questionnaires as our pilot study, but now added a few questions that may also bear relevance for CSI and core body temperature that pertain to the nature and structure of their relationships, like whether people are in a romantic relationship or not (“romantic”), how monogamous they perceive themselves to be (“monogamous”), and questions that pertain to the size of their online social networks (“onlineid” and “attachphone”), while we also recorded participants’ longitude and latitude via a standard option available in Qualtrics (“longitude”; we calculated latitude into equator distance “DEQ”). Finally, as the number of social contexts in which people are socially engaged may differ widely between cultures and language coding for “warm” and “cold” (Koptjevskaja-Tamm, 2015), we also included proxies for cultural influences with dummies for “language family” (Indo-European, Sino-Tibetan, and Uralic). Because cultural influences may be similarly large within a language family when the same language is spoken in highly different longitudinal locations (such as English spoken in the US versus that spoken in Singapore), we also included degrees longitude. At the end of the survey, participants were thanked for their participation and debriefed. We again looked up minimum temperature of that day and average humidity of that day through their IP address and the weather history site.

**Data Handling.** Before analyzing the data, for each scale variable, we checked the questionnaire’s reliability, and corrected labeling differences between sites where necessary (a complete file with all alterations can be requested from the first author). We then created a final "raw" dataset. Next, we reviewed all pictures that participants uploaded to our Qualtrics platform. We made 193 (mostly small) corrections to the CBT values, based on the picture participants uploaded. We also deleted 13 participants, as these participants uploaded either generic pictures or pictures that were irrelevant for our study. When no picture was uploaded, we kept the participant in our dataset. We also deleted participants from our dataset that reported core temperature values ("CBT" variable in the dataset) lower than 34.99 degrees Celsius, and participants that reported very unlikely core temperature values (e.g., 100 degrees Celsius). Our final sample consisted of 1507 participants. Because we had a far larger N than our pilot study, we were somewhat more liberal with our inclusion on the basis of time of day, and left participants in even when they were not within our requested time frame. Instead, we included the time of day at which they ended the survey (“endtime”) as control in the random forest and then in our mediation analyses.

1. When we used mTurk and Prolific Academic, mTurk had parameters that could be set to control the quality of participants (so called “qualification requirements”) which Prolific Academic did not have at the time that we ran our study. We had many more participants at Prolific Academic than mTurk that did not follow our instructions, which can likely be explained by the qualification requirements we could set a priori for mTurk. [↑](#footnote-ref-1)