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Loneliness in migrants: Are there differences compared to non-migrants? A systematic review and meta-analysis

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ABSTRACT

Background: A migrant is any person who moves across an international border or within a State, away from their habitual place of residence. Migrants may be at greater risk of experiencing loneliness. However, no comprehensive meta-analysis has examined this association. This study aimed to explore the levels of loneliness among migrants compared to non-migrants based on quantitative studies.
Methods: The review followed PRISMA 2020 guidelines. PsycINFO, PubMed, Scopus, and Web of Science databases were searched from inception to March 2025. Methodological quality of studies was assessed using the Joanna Briggs Institute Checklist for cross-sectional and cohort studies. A random-effect model was used to estimate the pooled effect size. Heterogeneity was assessed using the Q and I^2 statistics. Publication bias and potential moderators (sex, age, and loneliness scale used), were also examined.
Results: Initially, the literature search yielded 2196 records. Forty studies were included in the systematic review, of which 30 were eligible for the meta-analysis, comprising 258,387 participants (18.6% migrants). After controlling for moderators, the random-effects model indicated a significant positive association between migration and loneliness ($g = 0.21$; 95% CI [0.13, 0.30], $z = 4.92$, $p < .01$), with migrants reporting higher levels of loneliness than non-migrants. Substantial between-study heterogeneity was observed. Moderator analyses revealed no statistically significant effects.
Conclusion: The present meta-analysis provides evidence of a positive association between migration and loneliness. Understanding how migration processes shape experiences of loneliness is essential for policies that promote social integration and well-being among the migrant population.

1. Introduction

Loneliness affects approximately one in six people worldwide and impacts individuals across all age groups and social backgrounds, representing a significant global public health concern (World Health Organization, 2025). Loneliness is generally conceptualized as a subjective and negative experience resulting from the discrepancy between one's expectations of social connection and one's actual social experiences (Peplau and Perlman, 1982). It is characterized by "feelings of emptiness, worthlessness, lack of control and personal threat" (Cacioppo et al., 2010).

Longitudinal meta-analytic evidence has shown that people who present persistent exposure to loneliness are at higher risk of experiencing negative consequences for physical health (Valtorta et al., 2016),

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mental health (Erzen and Çikrikci, 2018; Luchetti et al., 2024; Lara et al., 2019) and mortality (Rico-Uribe et al., 2018). Individuals from socially vulnerable groups, including persons with disabilities, LGBTIQ + communities, refugees, ethnic minorities, and indigenous groups, often report higher levels of loneliness (Gómez-Zúñiga et al., 2023; Gorczynski and Fasoli, 2022; Organisation for Economic Co-operation and Development (OECD, 2025). This heightened vulnerability is often attributed to structural stigma, which either excludes individuals from participating in society or constrains the opportunities available to them (Visser and El Fakiri, 2016).

One at-risk group is migrants. According to the International Organisation for Migration (United Nations, 2020), a migrant is any person who is moving or has moved across an international border or within a State away from his/her habitual place of residence, regardless of the person's legal status, the voluntary nature of the movement, what the causes for the movement are, and what the length of the stay is. International migration has increased substantially in recent decades, with the global number of migrants reaching approximately 304 million people in 2024, nearly doubling since 1990 (United Nations Department of Economic and Social Affairs, 2025).

The acculturation theory (Berry, 1997) provides insights that help explain why individuals with a migration background may be at increased risk of loneliness. Migrants have to adapt psychologically to a new social and cultural setting, which requires negotiating between maintaining their culture of origin and engaging with the host society. Difficulties during this process, including language barriers, cultural differences, discrimination, or social exclusion, may hinder social integration and increase acculturative stress (Kemppainen et al., 2023). In this line, a recent meta-analysis reported a global loneliness prevalence of 24.7% among older migrants (Salari et al., 2025). Based on this approach, individuals can follow two strategies. The marginalization strategy (rejecting both cultures) produces the worst effects on the mental health of the migrant population, whereas integration (adopting the dominant cultural norm while maintaining one's own culture) yields the most positive effects (Berry, 2005). In addition to the acculturation theory, and as a complement to it, the belongingness theory proposed by Baumeister and Leary (1995) suggests that human-beings possess a fundamental need to form and maintain meaningful interpersonal relationships. Whether migration alters existing social bonds and the creation of new supportive connections are challenging, this need for belonging may remain unmet, thereby increasing vulnerability to loneliness.

Existing research on loneliness in migrant populations is largely concentrated on specific subgroups -particularly children and older-adult migrants and refugees (Ge et al., 2024; Nguyen et al., 2024; Ruan and Cheung, 2024)-, while comparative evidence across the broader migrant population remains limited. Previous research has identified female gender, lower socioeconomic position, unemployment, living alone, widowhood, and limited social support as important correlates of loneliness (Hawkley and Cacioppo, 2010; Ernst et al., 2022; Pinquart and Sorensen, 2001). Regarding age, evidence from previous research indicates that loneliness may follow a U-shaped distribution across the life course, with higher prevalence among young adults and older adults (Hawkley et al., 2022). In migrant populations, these factors may interact with migration-specific challenges such as discrimination, minority status, family separation, and reduced access to social and community resources (Berry, 2005). Focusing on specific risk factors for loneliness in older adult migrants, Ruan and Cheung (2024) carried out a systematic review showing that not having spouses, low perceived financial status, poor self-rated health, low psychological well-being, low quality of kin and non-kin ties, and a weak sense of belonging were linked to higher loneliness reports. Meanwhile, qualitative studies in migrants' adolescents indicated that loneliness is frequently described as an invisible social stigma. Loneliness does not arise from specific individual characteristics but rather depends on the social contexts in which the person is embedded (Rich Madsen et al., 2021). Delaruelle (2023) suggested that the association between migration and loneliness is not explained by age itself, but by the timing of migration. The study found that the highest levels of loneliness among first-generation migrants were reported by those who arrived after the age of 18. Relationships with people from similar ethnic groups may be key to alleviate loneliness. In contrast, racism, insufficient language proficiency, lack of leisure time, economic constraints, and local service centres can exacerbate it (Cela and Fokkema, 2017).

Although previous systematic reviews and meta-analyses have primarily focused on global loneliness prevalence estimates (Surkalim et al., 2022) or on specific populations, such as migrants, refugees or older-adult migrants (Nguyen et al., 2024; Ruan and Cheung, 2024; Salari et al., 2025), important gaps remain. Existing evidence offers limited insight into whether migration status itself is associated with elevated loneliness relative to non-migrant populations. The present systematic review and meta-analysis address this gap by quantitatively synthesizing studies comparing migrants and non-migrants across diverse migration contexts, age groups, and geographic regions. This approach enables estimation of the overall magnitude of differences in loneliness associated with migration background and allows exploration of heterogeneity across studies.

2. Methods

This systematic review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses recommendations (PRISMA, 2020; Page et al., 2021). The protocol for this study was registered at the International Prospective Register of Systematic Reviews (PROSPERO).

2.1. Search strategy and selection criteria

PsycINFO, PubMed, Scopus and Web of Science databases were searched from inception to March 2025 without date restrictions. The key terms "loneliness" and "migration" were used in multiple combinations to construct the search strategy. Synonymous and thesaurus within each conceptual category were combined using the boolean operator OR, while terms from different conceptual categories were connected using AND. These search terms were applied to both the title and abstract fields across all databases. Detailed search strategies for each database can be found in the Supplementary Material.

Studies were included if they met all the following criteria: (a) Studies that included a comparison between migrant and non-migrant populations. A broad and inclusive definition of migrant was applied, covering individuals who had moved from their place of residence either across national borders or within the same country, regardless of age, time since migration, or specific subpopulation (e.g., international students); (b) Studies that used a single-item question or a validated measure of loneliness; (c) Studies that used a quantitative design, both cross-sectional and longitudinal. In the case of analytical studies, loneliness had to be included as the outcome variable; (d) Studies that examined the relationship between migration and loneliness, regardless of whether variables were the primary focus of the study or included as part of a broader analytical strategy; (e) Studies that were published in peer-reviewed journals; (f) Studies published in any language and at any point in time.

Studies were excluded if they met any of the following criteria: (a) Studies that did not include a comparison between migrant and non-migrant populations, or that only compared different types of migrant groups without including a non-migrant reference group; (b) Studies that assessed related constructs of social connection other than loneliness (Holt-Lunstad, 2025); (c) Studies that used a qualitative design, experimental or quasi-experimental designs, single-case studies, or review articles; (d) Grey literature, including theses, preprints, or book chapters.

2.2. Data extraction

The *Rayyan* web-based tool was used to manage and screen all records retrieved from the searches. The study selection process involved three stages. First, NMM conducted the literature searches and removed duplicate records. Second, NMM and LRU independently screened the titles and abstracts of all remaining records using the predefined inclusion and exclusion criteria. Each study was classified as included, excluded, or undecided. Reviewers were blinded to each other's decisions, and discrepancies were discussed and resolved with a third researcher (EL). Third, the full texts of potentially eligible studies were independently assessed by NMM, LRU and EL, with any disagreements resolved through discussion among the three reviewers. For studies meeting the eligibility criteria for the systematic review and meta-analysis, data extraction and coding were conducted independently by three researchers (NMM, LRU, and AP) using a purpose-built Microsoft Excel spreadsheet. Data on study identification, sample characteristics, study setting and design, assessment of migration and loneliness, and main findings were extracted and coded. The operationalization of migration status and loneliness in each study was recorded. Consistent with the definition of migration, participants were considered migrants when they were explicitly identified as having moved from their habitual place of residence, either across a national border or within the same country, regardless of age, time since migration, or migrant subgroup. Studies using broad categories (such as "migration background"), were considered eligible when the migrant and non-migrant groups could be clearly identified according to this definition. For loneliness, we included measures that explicitly assessed subjective feelings of loneliness, whereas measures of related but distinct constructs (e.g., social isolation, social connectedness, or friendship) were not considered. Borderline cases were discussed among reviewers and resolved by consensus. When necessary, corresponding authors of the original articles were contacted via email to obtain unreported data or further details. Finally, AP conducted the statistical analyses, which were independently replicated by EL.

2.3. Quality assessment

Eligible studies were assessed for risk of bias using the Joanna Briggs Institute (JBI) Critical Appraisal Checklist for cross-sectional and cohort studies, as appropriate (Moola et al., 2020). This tool enables the evaluation of study quality and assesses the extent to which potential sources of bias have been considered in the study's design, data collection, and analysis. The checklists include nine items for cross-sectional studies and 11 items for cohort studies. In both cases, the possible responses for each item are Yes, No, Unclear, and Not applicable. Each affirmative response receives one point, with higher scores indicating better study quality and lower risk of bias. No official cut-off points exist for this tool. However, to facilitate comparability across studies, we classified overall risk of bias according to the proportion of "Yes" responses as follows: studies scoring $< 50\%$ were considered high risk of bias (i.e. ≤ 4 out of 9 items for cross-sectional studies and ≤ 5 out of 11 items for longitudinal studies), those scoring between 50% and 70% were regarded as moderate risk of bias (i.e. 5–6 out of 9 items for cross-sectional studies and 6–7 out of 11 items for longitudinal studies), and those scoring $> 70\%$ were deemed low risk of bias (i.e. ≥ 7 out of 9 items for cross-sectional studies and ≥ 8 out of 11 items for longitudinal studies). No study was excluded from our review based on its methodological quality. Detailed information on the domains evaluated in each checklist is provided in the Supplementary Material.

2.4. Data analysis

2.4.1. Inclusion of studies in the meta-analysis

To be included in the meta-analysis, papers had to provide either effect size data for differences in loneliness between migrants and locals or raw scores sufficient to allow for their calculation.

2.4.2. Selection and calculation of effect size

Since most studies reported mean loneliness scores by migration status, the standardized mean difference between groups was used as the effect size (Borenstein, 2009). This is the most appropriate index for measuring differences in continuous variables. Specifically, we used *Hedges' g*, a corrected version of *Cohen's d* (Hedges, 1981), which provides a more accurate estimate of the standardized mean difference, particularly in studies with small sample sizes. A positive *g* indicates higher levels of loneliness among migrants. The pooled standard deviation (SD) was used as the denominator.

For studies reporting loneliness as a categorical outcome, the *Odds Ratio (OR)* was calculated and transformed into *Hedges' g* using the OR2DN function in the *metafor* package (Viechtbauer, 2010). Only total loneliness scores were included in the analysis; when studies reported separate scores for different dimensions of loneliness (e.g., the emotional and social subscales of the De Jong Gierveld Loneliness Scale), the aggregate function from the *metafor* package was used, considering the correlation between factors to estimate a combined score (Viechtbauer, 2010).

For studies reporting separate means and standard deviations for independent groups (e.g., men and women), weighted means were calculated. Similarly, when studies included multiple independent subgroups (e.g., migrants by country of origin), weighted means were again used to aggregate them. If multiple time points were reported (i.e., longitudinal studies), data from the first time point following arrival in the host country were used. Second-generation migrants were treated as non-migrants and combined accordingly (Ramakrishnan Karthick, 2004). Groups for which migration status could not be clearly identified were omitted from the analysis. A more detailed description of the effect size calculations used can be found in the supplementary materials.

2.4.3. Meta-analyses

A meta-analysis was conducted comparing individuals with and without direct migration experience, using a random-effects model (*REML*). This approach was selected because it is more conservative and allows for greater generalizability of results (Borenstein et al., 2010). Effect size heterogeneity was assessed using the Q and I^2 statistics (Huedo-Medina et al., 2006). A significant Q indicates that there is a significant specific heterogeneity between the effect sizes of the studies. As for interpretation, an I^2 value above 75% indicates high heterogeneity (Higgins et al., 2003).

To assess publication bias, we computed Rosenthal's fail-safe number (Rosenthal, 1979). Since fail-safe numbers only consider statistical significance, we also inspected a contour-enhanced funnel plot and conducted *Egger's test* (Egger et al., 1997). A significant result indicates potential publication bias. The *trim-and-fill* method (Duval and Tweedie, 2000) was also used. Lastly, we conducted a *leave-one-out* analysis to test the robustness of the overall effect size by excluding one study at a time.

To explore the influence of potential effect modifiers, moderation analyses were considered. We ran separate meta-regressions for two continuous moderators: the percentage of women and the mean age of the sample. Two categorical moderators were used to conduct additional meta-regression models with dummy coding for each category: age group ($\leq$18, $>$18 and $\leq$ 60, $>$60, and mixed) and type of loneliness scale, categorized separately into the most common instruments (Asher et al., 1984; De Jong Gierveld Loneliness Scale, de Jong-Gierveld and Kamphuis, 1985; UCLA Loneliness Scale, Russell et al., 1980), and others. As shown, age was coded both as a continuous and a categorical variable. Although analyzing it solely as a continuous variable would be ideal, many studies only reported age brackets. Coding it both ways allows for the inclusion of a larger number of articles in the moderator analysis. Due to variability and inconsistency in the reporting of country of origin and host country, these variables were excluded from the

analysis. The coding of the moderator variables is explained in greater detail in the supplementary materials.

All analyses were performed using R (v4.3.2 for Windows) and RStudio (R Core Team, 2022; R Studio Team, 2022), with the "*metafor*" v4.4 package (Viechtbauer, 2010). The graphical representation of origin–destination flows was generated using Python-based visualization tools. The dataset and the code used for the meta-analysis are available in the Open Science Framework (OSF) repository and can be accessed at https://osf.io/uyk4j/overview?view_only=fa27ea3b73794f68b31ee8aa0340687d.

3. Results

3.1. Study flow and interrater agreements

The initial literature search yielded 2196 results. After removing 852 duplicate records, 1344 unique studies were screened by title and abstract. The percentage of agreement between the two independent researchers (NMM and LRU) regarding whether to include or exclude each article was 93.40%. The kappa coefficient was 0.82 [95% CI = (0.68, 0.95)], indicating a good agreement. Seventy-six studies were selected for full-text review, of which 36 studies were excluded as they did not meet the eligibility criteria. Two non-English publications were identified; one in French and another in Dutch. These studies were translated into English to ensure they were evaluated with the identical eligibility criteria. Supplementary Table S1 lists all 36 full-text articles excluded after eligibility assessment, together with the corresponding reasons for exclusion. The most common reasons for exclusion were the absence of an appropriate migrant versus non-migrant comparison group, failure to assess loneliness as a relevant outcome, and ineligible publication type (e.g., conference abstracts, posters, or reviews). No additional studies were identified through manual searching. Finally, 40 studies were included in the systematic review, of which 30 were retained for the meta-analysis (Fig. 1). Ten studies included in the systematic review could not be incorporated into the meta-analysis due to insufficient statistical information to compute standardized effect sizes, including missing group-level descriptive statistics (e.g., sample sizes or standard deviations), non-convertible effect estimates, or unclear migration group definitions.

3.2. Descriptive information about the included studies

Table 1 presents the main descriptive characteristics of the studies included in the systematic review and meta-analysis, including total sample size, country or countries of origin, destination country, length of residence, number of migrants, number of non-migrants, mean age or age range of the full sample, age group, percentage of women in the total sample, and the loneliness measure used. The first rows of Table 1 also summarize the main results of the ten studies that were not included in the meta-analysis.

Table 2 shows the descriptive characteristics of the studies included in the meta-analysis. Participants in the studies included in the present

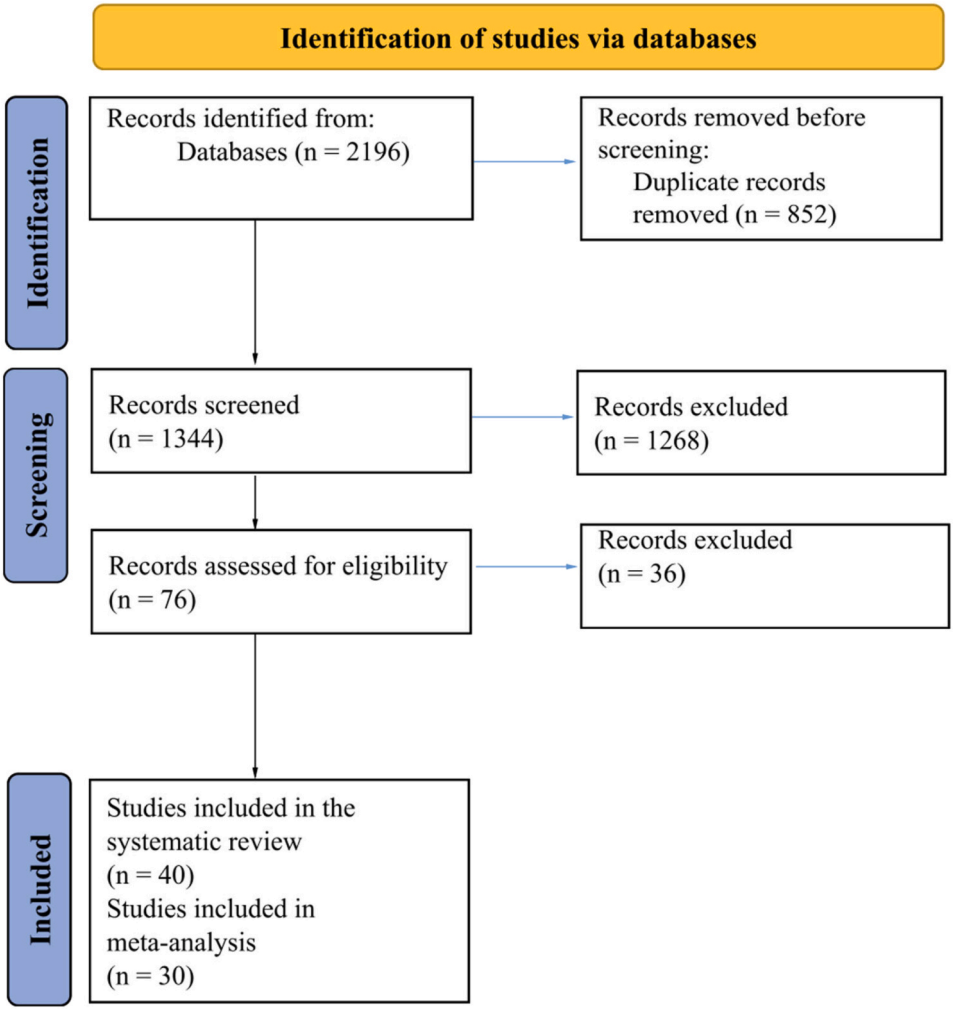

Fig. 1. PRISMA 2020 flowchart of the study selection.

Table 1
Data from the studies included in the systematic review (n = 40) and the meta-analysis (n = 30).

Study	Country of the first author	Total N	Non-migrants, n (%)	Migrants, n (%)	Country/s or region/s of origin	Country/s or region/s of destination	Length of residence [mean years (SD) or range]	Mean or age range of total sample	Age group	Female percentage (total sample)	Loneliness measure	Main results	
Amendola and von Wyl (2025)	Switzerland	128718	-	-	Several European	Several European	-	≥15	-	-	3	Loneliness trends are not decreasing for immigrants	
Devos et al. (2024)	Belgium	17639	14556 (82.5)	3083 (17.5)	Several. Mostly from the Netherlands	Belgium	-	15.4	1	48.0	2	Migrant adolescents show significantly higher loneliness	
Hsu et al. (1987)	USA	216	85 (39.4)	131 (60.6)	China	USA, Taiwan	-	25.2	1	49.5	2	Foreign students reported more social loneliness	
Jerusalem (1988)	Germany	476	324 (68.1)	152 (31.9)	Turkey	Germany	-	17.6	0	0	2	Young foreigners express more intense feelings of loneliness	
Koelet and de Valk (2016)	Belgium	237	-	-	Several European	Belgium	-	-	1	-	1	Migrants with a native partner experience more feelings of social loneliness	
Lam (2022)	Australia	9305	-	-	Not reported	Australia	-	64.8	3	60.0	3	Migrants from non-English-speaking countries report higher levels of loneliness	
Lu and Zhou (2013)	USA	872	246 (28.2)	626 (71.8)	China	China	5 (–)	9.5	0	46.7	0	Greater loneliness among migrant children in migrant schools than migrant students in regular urban public schools	
Nykänen et al. (2024)	Finland	-	-	-	Worldwide	Finland	3 to 12+	18-64	1	-	3	Migrants were significantly more likely to experience increased feelings of loneliness	
Sheftel et al. (2023)	USA	-	-	-	Mostly European; also African, Post-Soviet, and the Middle East	Several European	-	65.9	2	54.7	3	Immigrants 50 and older in Europe are more likely to be lonely. No differences in loneliness between those who migrated before age 18	
Wen et al. (2010)	USA	1065	557 (52.3)	508 (47.7)	China	China	7.0 (–)	-	1	-	3	Migrants reported significantly more feelings of loneliness	
												Hedges' g	**Variance of g**
Achdut and Refaeli (2021)	**Israel**	**1528**	**1138 (74.5)**	**390 (25.5)**	**FSU**	**Israel**	**-**	**-**	**1**	**49.8**	**3**	**0.21**	**0.0051**
Baumbach et al. (2023)	**Germany**	**6542**	**6257 (95.6)**	**285 (4.4)**	**Not reported**	**Germany**	**-**	**66.7**	**2**	**50.0**	**1**	**0.40**	**0.0037**
Bilecen et al. (2025)	**The Netherlands**	**791**	**336 (42.5)**	**455 (57.5)**	**China**	**Germany**	**-**	**-**	**1**	**57.7**	**3**	**0.42**	**0.0053**

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Table 1 (*continued*)

Study	Country of the first author	Total N	Non-migrants, n (%)	Migrants, n (%)	Country/s or region/s of origin	Country/s or region/s of destination	Length of residence [mean years (SD) or range]	Mean or age range of total sample	Age group	Female percentage (total sample)	Loneliness measure	Main results	
Boudouda and Gana (2017)	**France**	**137**	**70 (51.1)**	**67 (48.9)**	**North Africa**	**France**	**51.0 (7.8)**	**72.6**	**2**	**54.7**	**3**	**0.22**	**0.0156**
De Jong Gierveld et al. (2015)	**The Netherlands**	**3692**	**2988 (80.9)**	**704 (19.1)**	**Worldwide. Mostly European**	**Canada**	**-**	**-**	**2**	**55.0**	**1**	**0.22**	**0.0018**
De Witte and Van Regenmortel (2022)	**Belgium**	**4134**	**3800 (91.9)**	**334 (8.1)**	**Mostly European, some African**	**Belgium**	**39.8 (17.7)**	**67.2**	**2**	**54.0**	**2**	**0.14**	**0.0061**
Delaruelle (2023)	**Belgium**	**121835**	**110196 (90.4)**	**11639 (9.6)**	**Not reported**	**Mostly European; also Israel**	**-**	**-**	**3**	**53.8**	**3**	**0.16**	**0.0001**
Diehl et al. (2018)	**Germany**	**689**	**593 (86.1)**	**96 (13.9)**	**Not reported**	**Germany**	**-**	**22.7**	**1**	**69.5**	**1**	**0.24**	**0.0091**
Fandrem et al. (2021)	**Norway**	**1299**	**1142 (87.9)**	**157 (12.1)**	**Worldwide. Mostly Asian, European, African**	**Norway**	**-**	**16.5**	**0**	**47.7**	**0**	**0.24**	**0.0073**
Fierloos et al. (2021)	**The Netherlands**	**2251**	**185 (8.2)**	**2066 (91.8)**	**Not reported**	**UK, Greece, Croatia, The Netherland, Spain**	**-**	**79.7**	**2**	**60.4**	**1**	**0.19**	**0.0073**
Fokkema and Naderi (2013)	**The Netherlands**	**3742**	**3248 (86.8)**	**494 (13.2)**	**Turkey**	**Germany**	**-**	**62.6**	**2**	**51.4**	**1**	**0.17**	**0.0023**
Islam and Gilmour (2023)	**Canada**	**38942**	**28934 (74.3)**	**10008 (25.7)**	**Worldwide**	**Canada**	**0 to 20+**	**73.7**	**2**	**57.6**	**2**	**0.15**	**0.0003**
Jones et al. (2019)	**UK**	**222**	**88 (39.6)**	**134 (60.4)**	**Not reported**	**UK**	**-**	**30.3**	**3**	**70.0**	**2**	**0.01**	**0.0188**
Leondari (2001)	**Greece**	**92**	**46 (50.0)**	**46 (50.0)**	**FSU, Albania**	**Greece**	**1.4 to 3.3**	**-**	**0**	**59.8**	**0**	**0.20**	**0.0437**
Lin (2023)	**Canada**	**3772**	**3122 (82.8)**	**650 (17.2)**	**Not reported**	**Canada**	**-**	**-**	**3**	**54.5**	**2**	**0.10**	**0.0029**
Liu et al. (2025)	**China**	**1205**	**592 (49.1)**	**613 (50.9)**	**Not reported**	**China**	**-**	**-**	**2**	**73.4**	**2**	**0.20**	**0.0033**
Löbel et al. (2022)	**Germany**	**25171**	**16658 (66.2)**	**8513 (33.8)**	**Mostly European; also Middle Eastern, Asian, Latin American**	**Germany**	**-**	**46.8**	**3**	**51.0**	**2**	**0.52**	**0.0002**
Lu et al. (2023)	**Canada**	**2671**	**1703 (63.8)**	**968 (36.2)**	**Worldwide. Mostly European; also North American, Asian**	**Canada**	**43.7 (28.0)**	**74.4**	**2**	**56.0**	**2**	**0.00**	**0.0016**
Pan et al. (2023)	**Belgium**	**2164**	**1084 (50.1)**	**1080 (49.9)**	**Worldwide**	**UK, Northern Island**	**-**	**63.4**	**2**	**74.0**	**2**	**0.06**	**0.0018**
Polo and Lopez (2009)	**USA**	**161**	**83 (51.5)**	**78 (48.5)**	**Mexico**	**USA**	**-**	**13.2**	**0**	**50.3**	**0**	**0.37**	**0.0253**
Refaeli and Achdut (2024)	**Israel**	**2092**	**1256 (60.0)**	**836 (40.0)**	**FSU**	**Israel**	**-**	**-**	**3**	**100.0**	**3**	**0.11**	**0.0029**
Madsen et al. (2016)	**Denmark**	**4383**	**4226 (96.4)**	**157 (3.6)**	**Mostly from Poland, Turkey, Germany**	**Denmark**	**-**	**13.8**	**0**	**51.0**	**3**	**0.00**	**0.0373**
Strohmeier and Dogan (2012)	**Austria**	**2154**	**1571 (72.9)**	**583 (27.1)**	**Turkey**	**Austria, Turkey**	**6.6 (4.1)**	**13.2**	**0**	**55.0**	**0**	**0.26**	**0.0024**
Tani et al. (2022)	**Australia**	**5828**	**4148 (71.2)**	**1680 (28.8)**	**Mostly European and Asian**	**Australia**	**46.4 (13.9)**	**72.7**	**2**	**51.1**	**3**	**0.07**	**0.0008**

(*continued on next page*)

Table 1 (*continued*)

Study	Country of the first author	Total N	Non-migrants, n (%)	Migrants, n (%)	Country/s or region/s of origin	Country/s or region/s of destination	Length of residence [mean years (SD) or range]	Mean or age range of total sample	Age group	Female percentage (total sample)	Loneliness measure	Main results	
Tartakovsky (2009)	**Israel**	**700**	**489 (69.9)**	**211 (30.1)**	**Russia, Ukraine**	**Israel**	**2.5***	**-**	**0**	**59.6**	**2**	**−0.26**	**0.0068**
Ten Kate et al. (2020)	**The Netherlands**	**7920**	**6658 (84.1)**	**1262 (15.9)**	**Mostly Suriname, Turkey, Morocco**	**The Netherlands**	**-**	**59.8**	**1**	**57.0**	**1**	**0.41**	**0.0010**
van Tilburg and Fokkema (2021)	**The Netherlands**	**703**	**292 (41.5)**	**411 (58.5)**	**Morocco, Turkey**	**The Netherlands**	**-**	**60.7**	**2**	**46.9**	**1**	**1.14**	**0.0068**
Wu and Penning (2015)	**Canada**	**10553**	**8541 (80.9)**	**2012 (19.1)**	**Mostly European, also Asian**	**Canada**	**44.1 (16.3)**	**-**	**2**	**55.0**	**1**	**0.17**	**0.0006**
Wu et al. (2022)	**Japan**	**326**	**154 (47.2)**	**172 (52.8)**	**Mostly Southeast Asian; also Brazilian**	**Japan**	**-**	**35.1**	**1**	**67.9**	**2**	**−0.10**	**0.0123**
Zheng et al. (2024)	**China**	**2738**	**771 (28.2)**	**1967 (71.8)**	**China**	**China**	**-**	**34.1**	**1**	**47.0**	**3**	**0.27**	**0.0033**

Note. The names of the countries and/or regions of origin and destination are derived from the original articles. Studies in bold were included in the meta-analysis. Age group: 0 = children and adolescents (≤18 years), 1 = adults (>18 and ≤ 60 years), 2 = older adults (>60 years), 3 = mixed age groups. Loneliness measure: 0 = Asher Loneliness Scale, 1 = De Jong Gierveld Loneliness Scale, 2 = UCLA Loneliness Scale, 3 = other instruments or single item. USA: United States of America. FSU: Former Soviet Union. UK: United Kingdom. SD: Standard Deviation. *This study covered the period from six months before immigration to two and a half years after immigration.

Table 2
Descriptive characteristics of the studies included in the meta-analysis (n = 30).

Characteristics	
Sample size: n (%)	258437 (100.0)
Men	108781 (42.1)
Women	149606 (57.9)
Migrant	48068 (18.6)
Local	210369 (81.4)
Age group	
Children and adolescents (≤18 years)	6 (20.0)
Adults (>18 and ≤ 60 years)	8 (26.7)
Older adults (>60 years)	13 (43.3)
Mixed age groups	3 (10.0)
Type of study	
Cross-sectional	28 (93.3)
Longitudinal	2 (6.7)
Loneliness measure	
Asher Loneliness Scale	4 (13.3)
De Jong Gierveld Loneliness Scale	8 (26.7)
UCLA Loneliness Scale	10 (33.3)
Other instruments or single item	8 (26.7)
Relation between migration and loneliness	
Positive	20 (66.7)
Negative	1 (3.3)
No evidence	9 (30.0)

work originated from several regions of the world and migrated to a wide range of destinations, highlighting a marked concentration of evidence in high-income countries, particularly in Western Europe and North America. The table also collects the heterogeneity of migration contexts included in the systematic review and meta-analysis, involving intra-European migration as well as long-distance migration from Asia, North Africa, and the Middle East. Not all studies reported country of origin or destination with precision, the regions indicated by the authors in each article were reproduced as faithfully as possible. Only one study examined loneliness and migration specifically in women (Refaeli and Achdut, 2024), whereas the remaining studies (96.7%) reported the association for both sexes.

The relationship between migration and loneliness was evaluated in 258,437 participants (median 2207.5). The majority were local residents (81.4%) and 57.9% of the total sample were women. Almost half of the studies were focused on older adults (43.3%), followed by adults (26.7%) and children/adolescents (20.0%). The mean age across the nineteen studies reporting this information was 47.7 years (range 13.2-79.7). Nine studies (30.0%) included information on length of residence, but only six of them reported specific mean years (Boudouda and Kamel, 2016; De Witte & Van Regenmortel, 202; Lu et al., 2023; Strohmeier and Dogan, 2012; Tani et al., 2022; Wu and Penning, 2015) and standard deviations were not consistently provided. The maximum length of residence was 51 years (Boudouda and Gana, 2017), whereas the minimum was 2.5 years (Tartakovsky, 2009). Only two studies (6.7%) employed a longitudinal design (Tani et al., 2022; Tartakovsky, 2009). The UCLA Loneliness Scale was the most frequently used instrument (33.3% of the studies), followed by De Jong Gierveld Scale and single-item and other measures (26.7% each). The Asher Scale was used in four (Fandrem et al., 2021; Leondari, 2001; Polo and Lopez, 2009; Madsen et al., 2016) studies (13.3%). Finally, two thirds of the studies informed about a positive relationship between migration and loneliness, while 30% found no evidence of this association. Only one study (3.3%) reported a negative association between migration and loneliness -a longitudinal study showing that loneliness decreased during the first year after immigration and remained below pre-migration levels across the three-year follow-up (Tartakovsky, 2009).

3.3. Quality assessment

Supplementary Tables S2 and S3 present the quality appraisal of the studies, including item-level responses, overall risk scores and quality

rating. Among cross-sectional studies included in the systematic review (n = 35), total scores ranged from 5 to 8, and most studies were rated as high-quality studies (low risk of bias). Major methodological flaws involved the inclusion criteria defined for the sample and the measurement of migration (i.e., studies where migration was solely described as natives vs migrants, including or not data on the region/country of origin). For studies of longitudinal design (n = 5), total scores varied from 9 to 11. All studies were classified as having a low risk of bias.

3.4. Differences in loneliness between migrants and non-migrants

Given the scarce data provided within the studies concerning first- or second-generation migrant status, the category of 'migrant' was limited to first-generation individuals. Second-generation migrants were categorized as locals because they fall outside the United Nations definition (see introduction). Table 1 displays the effect sizes for each study along with relevant moderator variables. The random-effects model ($k = 30$) revealed a small to medium average effect size ($g = 0.21$; 95% CI [0.13, 0.30], $z = 4.92$, $p < .0001$). This indicates that first-generation migrants experience slightly higher levels of loneliness than non-migrants. The forest plot is presented in Fig. 2.

3.5. Heterogeneity evaluation

Heterogeneity was significant ($Q = 851.737$, $p < .0001$; $I^2 = 97.53\%$), suggesting that 97.53% of the observed variance in effect sizes is attributable to true heterogeneity rather than sampling error. This finding implies substantial variability across studies.

3.6. Moderator exploration

Moderator analyses revealed no statistically significant effects. Among the quantitative moderators, neither the percentage of women in the sample ($k = 30$; $Q_m = 3.390$, $b = -0.0070$, $p = .066$) nor the sample mean age ($k = 20$; $Q_m = 0.0092$, $b = 0.0003$, $p = .923$) were statistically significant. Regarding the categorical moderators, neither the participant age group ($Q_m = 0.861$, $p = .835$) nor the loneliness instrument type ($Q_m = 7.03$, $p = .070$) significantly reduced between-study heterogeneity. Full details of the categorical moderator analyses appear in Supplementary Table S4.

3.7. Publication bias

Publication bias results were as follows: Rosenthal's fail-safe number was 8544. According to Rosenthal, a number greater than $5k + 10$ (160 in this case) suggests that results are robust against publication bias. The contour-enhanced funnel plot (Fig. 3) showed no clear asymmetry. *Egger's test* was not significant ($z = -0.39$, $p = .70$), suggesting no evidence of publication bias. The *leave-one-out* analysis confirmed a robust effect, with effect sizes ranging from 0.18 to 0.23 (*Mean* = 0.21, *SD* = 0.008). Taken together, these results suggest no significant bias that would obscure the observed effect.

Regarding the *trim-and-fill* method, 10 missing studies were imputed on the right side of the funnel plot. When these were included ($k = 40$), the effect size increased slightly and remained significant ($g = 0.31$; 95% CI [0.22, 0.39], $z = 7.18$, $p < .0001$) and heterogeneity remained high ($Q = 1216.14$, $p < .0001$; $I^2 = 97.88\%$). However, given the extremely high heterogeneity previously noted, these results must be interpreted with caution, as they may solely reflect data variability rather than a true or generalizable effect (Idris, 2012). The adjusted funnel plot is shown in Fig. S1 in the Supplementary Materials.

4. Discussion

This study aimed to synthesise the evidence on the relationship

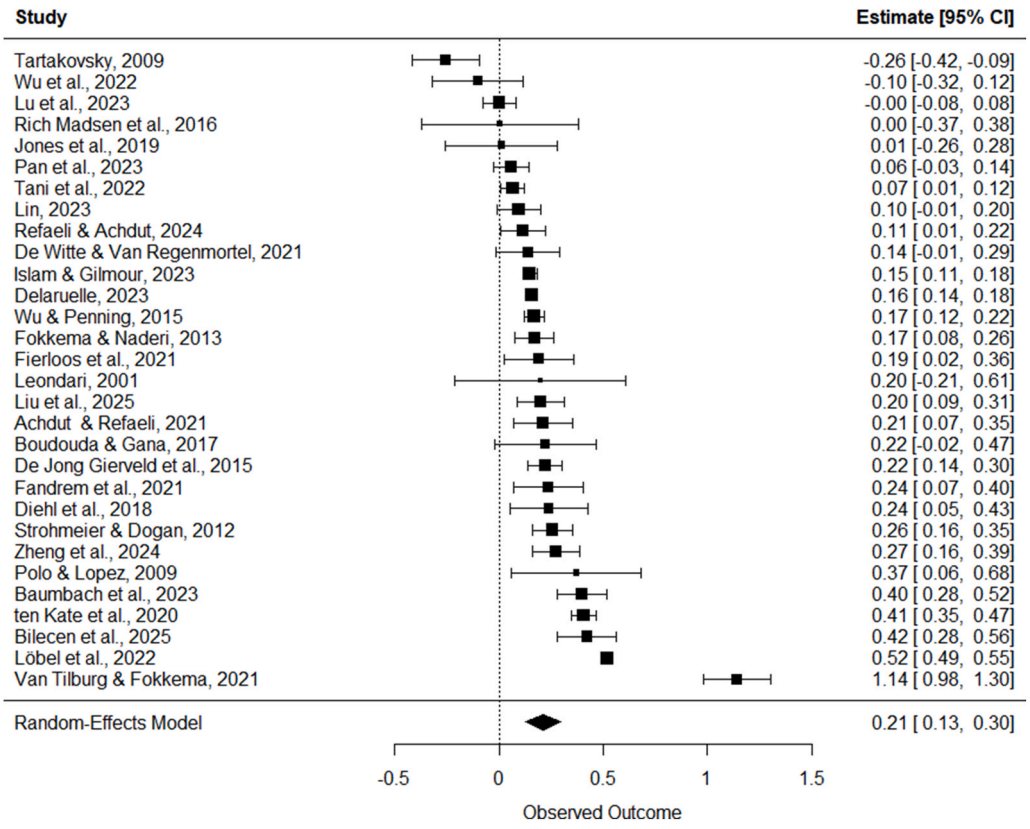

Fig. 2. Forest plot.

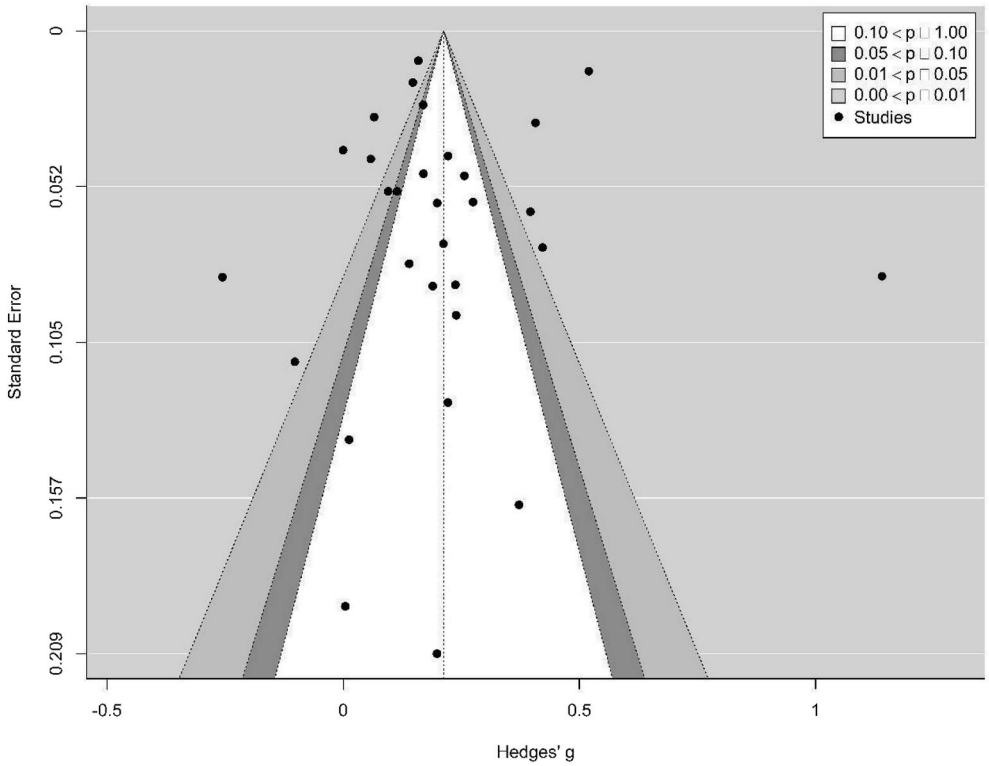

Fig. 3. Funnel plot.

between migration and loneliness. The meta-analysis found a positive association between these variables, with first-generation migrants experiencing higher levels of loneliness than non-migrants with a small to medium average effect size. This association was robust to publication bias. However, substantial heterogeneity was observed across studies, which was somewhat expected given the considerable variability among the primary studies. In addition, the moderator analyses did not significantly explain this variability. This finding may also point to the diverse individual and social contexts in which migration occurs. Also, across the ten studies not included in the meta-analysis, migrants consistently reported higher levels of loneliness than non-migrants, particularly among adolescents, older adults, and individuals from culturally or linguistically different backgrounds.

Our results are consistent with an emerging body of research reporting that migrants tend to report higher levels of loneliness than native-born populations (Barjaková et al., 2023; Nguyen et al., 2024; Gallardo-Peralta et al., 2025; Salari et al., 2025), although some studies have reported findings in the opposite direction (e.g., Luthra et al., 2025). It should be noted that although our review adopted a broad definition of migration (please see the methods section), the meta-analysis ultimately included only first-generation migrants. In addition, the systematic review by Gallardo-Peralta et al. (2025), which examined 14 studies on loneliness among older migrants in Europe, reported heterogeneous findings on the prevalence of loneliness, with around half of studies reporting rates above 40%. Additional support to the observed heterogeneity comes from a systematic review focused on refugees in high-income countries, that reported estimates of loneliness ranging from 15.9% to 47.7%, with these estimates being attributed to pre- and post-migration challenges faced by migrants (Nguyen et al., 2024). Forced migration is often associated with a greater accumulation of risk factors, including stress, uncertainty, and more adverse conditions upon arrival, which may help explain why loneliness tends to be higher among forced migrants than among voluntary migrants (Löbel et al., 2022).

It is also worth noting that moderators (sex, age, and used loneliness scale) were selected based on the information available in primary studies. The lack of significant moderator effects may reflect substantial variability across studies, suggesting that important variables may have been overlooked or interact in more complex ways. In addition, limited reporting in many studies prevented their inclusion in the moderator analyses. These findings highlight the need for greater methodological consistency and the consideration of additional variables in future research. Despite this, experiences of loneliness seem to differ across diverse migrant profiles. In this regard, the revised work of Delaruelle (2023), a large European study including 26 countries, found that first-generation immigrants who arrived after the age of 18 were more vulnerable to loneliness than those who migrated at a younger age. Importantly, cross-sectional findings may conflate age at migration, migration cohort, and length of time spent in the host country, so that observed associations may not accurately reflect underlying individual trajectories (Brunori, 2024). The included study of Lu et al. (2023) showed that longer time in the host country has been associated with lower odds of loneliness, as it allows these individuals to obtain key resources and build the social networks and support they need. Similarly, longitudinal data from the Health and Retirement Study suggested that individuals who migrated to the United States at age 45 or older reported significantly higher feelings of loneliness than those who migrated at younger ages (Jang and Tang, 2022). In this regard, Delaruelle (2023) suggested that younger migrants may constitute a vulnerable group, not because of their age, but due to their high expectations for social relationships. Family structure and migration circumstances may further contribute to experiences of loneliness. Devos et al. (2025) found that newly arrived migrant adolescents who migrated alone (without their parents) reported substantially higher levels of loneliness than those who migrated with both parents. The authors also observed that frequent contact with family members in the country of origin was protective against loneliness, whereas frequent contact with friends from the country of origin was associated with increased loneliness.

Migration often involves profound changes in individuals' social

environments. Social networks may weaken or disappear, and migrants may find themselves in situations of social isolation in which previous relationships are lost or transformed and new relationships must be built under different conditions. Although transnational and digital ties may provide valuable initial support, they may not be sufficient on their own to mitigate feelings of loneliness. Over time, local non-kin ties become increasingly important, as certain forms of support (e.g., childcare) necessarily require physical proximity (De Miguel-Luken, 2022). Interestingly, Koelet and De Valk (2016) found that migrants with a native partner reported higher levels of social loneliness than the native population. The authors suggested that migrants may need to develop new forms of social capital beyond their intimate relationship. In other words, building larger and more heterogeneous local social networks may foster a greater sense of belonging and trust within the host society (Wang et al., 2025). At older ages, these challenges may be intensified by the ageing process, when opportunities to rebuild or maintain social networks and access support resources are limited (Pérez-Caramés et al., 2025). Ruan and Cheung (2024), in a synthesis of 35 quantitative studies, emphasized that migration may amplify the effect of other well-established loneliness risk factors by introducing additional acculturation-related stress and challenges related to belongingness. Further, previous evidence underscore that loneliness extends beyond the individual who migrates, as the disruption of social and family networks may affect both migrants and those with whom they maintain transnational ties.

Loneliness among migrants may also be linked to socio-economical inequalities. Luthra et al. (2025), argued that loneliness among individuals with a migration background is less a consequence of migration and is more closely related to occupying a minoritised social position. Migration is frequently accompanied by vulnerabilities across multiple domains. For example, migrants often face higher unemployment and precarious employment, leading to financial insecurity (Pérez-Caramés et al., 2025). In addition, our findings revealed that cultural distance between the country of origin and the host society may further increase these challenges through language barriers and experiences of discrimination (Pan et al., 2023). The cultural expectations regarding social relationships might also play a role. Fokkema (2024) posited that collectivist cultures are typically characterised by high expectations regarding interpersonal relationships. When such expectations are elevated, the likelihood that these may not or hardly be met increases, potentially leading to feelings of disappointment and rejection, and ultimately contributing to loneliness. Overall, these factors may place migrants at greater risk of experiencing loneliness and contribute to their heightened social vulnerability.

Our results suggest that loneliness may emerge across the life course. Experiences of loneliness appear to be shaped by the interplay among individual, social, and structural factors, highlighting the multifaceted and complex nature of the phenomenon. Migrants may seek to maintain meaningful ties with their place of origin while simultaneously attempting to establish a sense of belonging in the host society. These dual and sometimes competing demands may lead to experiences of (persistent) loneliness despite the presence of social ties. Given that loneliness has been shown to contribute to the development of both mental and physical health problems (Erzen and Çikrikci, 2018; Longo et al., 2026), failing to address the impact of migration on loneliness may lead to important long-term consequences. In particular, the absence of effective interventions could increase the social and economic burden associated with these health outcomes for states and public health systems over time.

4.1. Strengths and limitations

To our knowledge, this is the first meta-analysis to synthesise empirical evidence on loneliness across the migration process, without geographic, temporal, or participant origin limitations, or age-group restrictions. In addition, the review was based on a comprehensive search strategy that included publications in all languages and from all years. Nevertheless, our findings should be interpreted considering several limitations. First, due to the limited and inconsistent reporting of migration-generation status across the included studies, only first-generation migrants were considered as migrants in the meta-analyses. While second generation migrants were considered as locals given, they did not fit in the United Nations definition of migrant (please see introduction section). However, in future studies, specific analyses for second-generation migrants are needed given this population might have revealed even higher levels of loneliness compared with non-migrant populations (Delaruelle, 2023). Second, for some eligible reports, we could not extract the required data for inclusion despite attempts to contact the original authors (i.e. some did not respond; others were unable to provide the requested data). Third, grey literature was not considered for the present review. However, publication bias analyses indicated that this did not significantly affect the observed results. Fourth, most primary studies were cross-sectional, which precluded conclusions regarding the causal nature of the observed associations, focused on older adults, limiting the generalizability of the findings to other migrant populations, and/or used frequency-based measures of loneliness, which did not allow us to capture qualitative dimensions of loneliness (e.g., intensity, duration, emotional vs social vs existential loneliness). Fifth, the substantial variability in the reporting of moderator variables significantly limited the moderator analyses. This forced the selection of those variables that were most frequently reported, rather than necessarily those that were most ideal. Furthermore, we were unable to include a life-course perspective of migration or reliably assess variables such as time since migration, migration type (e.g., voluntary vs. forced; international vs. internal), generation (e.g., first-vs. second-generation migrants), or other potentially relevant variables, limiting our ability to identify specific migration-related characteristics that may influence experiences of loneliness, as discussed earlier. The use of diverse instruments to measure loneliness also posed a challenge. Despite this, cross-national studies such as those conducted by Mund et al. (2023) or Newmyer et al. (2021) suggest that the various existing instruments, including single-item measures, contribute similar information with reliable and consistent measurement properties. Moreover, it could be found that when the instrument type was included in the moderator analysis, no significant effect was detected, suggesting that this methodological variation did not systematically bias our findings. Sixth, the thresholds we used to evaluate methodological quality were somewhat arbitrary. Although they derived from a widely used appraisal tool that enabled comparability across studies, they may oversimplify underlying differences in methodological rigor. Finally, the substantial heterogeneity of the included studies should be considered when interpreting the results.

In sum, these limitations suggest that the results of the present study should be interpreted with caution and highlight the need for studies with higher conceptual and methodological rigor. Specifically, longitudinal designs and more comprehensive, multidimensional assessments of loneliness are needed to better capture the temporal and qualitative aspects of the phenomenon. Studies should investigate differences in loneliness across distinct migrant groups (e.g., migration generation, time since migration) and underrepresented geographical contexts (e.g., low and middle income countries) while accounting for individual and relational variables. Greater attention should also be placed on contextual moderators that are rarely reported but are likely to play a significant role. These may include experiences of discrimination, socioeconomic position, access to community support, and host-country migration policies.

5. Conclusions

The present meta-analysis provides quantitative evidence of a small-to-moderate positive association between migration and loneliness, indicating that first-generation migrants report higher levels of

loneliness than non-migrants. Nevertheless, the heterogeneity observed across studies suggests that this relationship is likely influenced by a range of individual, relational, contextual and migration-related factors that remain insufficiently examined in the current literature. Migration often entails disruptions in social networks, difficulties with social integration, and administrative barriers, which may leave individuals in situations of heightened social vulnerability. Understanding how these processes relate to experiences of loneliness is therefore essential for policies that promote social integration and well-being among the migrant population.

CRediT authorship contribution statement

Natalia Martín-María: Writing – review & editing, Writing – original draft, Methodology, Conceptualization. **Andrés Pemau:** Writing – review & editing, Methodology, Formal analysis, Data curation. **Laura Alejandra Rico-Uribe:** Writing – review & editing, Methodology, Conceptualization. **Alejandro De la Torre-Luque:** Writing – review & editing. **Andrés Losada-Baltar:** Writing – review & editing. **Elvira Lara:** Writing – review & editing, Writing – original draft, Methodology, Conceptualization.

Protocol registration

The protocol for this study was registered at the International Prospective Register of Systematic Reviews (PROSPERO CRD42024520676).

Declaration of generative AI and AI-assisted technologies in the manuscript preparation process

Artificial intelligence (AI) tools were used during the preparation of this manuscript solely for English language editing. These tools assisted with reference formatting according to the journal's style and with the refinement of English grammar, spelling, and style. No AI tools were used to generate the research questions, design the study, analyse or interpret the data, or develop the theoretical content. The authors take full responsibility for the accuracy, integrity, and originality of the manuscript.

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Declaration of competing interests

The authors declare no conflicts of interest.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.socscimed.2026.119868.

Data availability

I have shared the link to my data at the manuscript file.

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