

Loneliness and socio-occupational functioning in psychosis: A systematic review

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ABSTRACT

Loneliness is highly prevalent in psychosis and is associated with poorer clinical and quality-of-life outcomes. In nonclinical populations, loneliness is linked to a range of social and occupational difficulties. Difficulties with socio-occupational functioning (SOF) are common in psychosis and are consistently identified as a key recovery priority. However, the relationship between loneliness and SOF in psychosis remains unclear. A PROSPERO-registered systematic review was conducted. Database searches (PubMed, Scopus, PsycINFO and CINAHL) identified 1118 records, of which 15 met inclusion criteria and were synthesised narratively. Studies examined a range of SOF domains, including global, social, community and everyday functioning across various designs. Greater loneliness was generally associated with poorer SOF, although several studies reported non-significant relationships. Associations were clearest for social participation and community integration, while evidence for everyday functioning was more limited. Qualitative findings described reciprocal relationships between withdrawal, barriers to participation and feeling disconnected. Several psychosocial factors, including internalised stigma and social support, appeared to influence the loneliness-SOF relationship. Overall, the findings suggest that loneliness is associated with social and community aspects of functioning, although the relationship varies across measures and samples. Clarifying directionality and testing whether changes in loneliness and SOF influence one another should be priorities for future longitudinal and intervention research.

1. Introduction

Loneliness affects around 80% of those with psychosis (Stain et al., 2012), and is associated with greater symptom severity, poorer quality of life, and reduced cognitive functioning (Badcock et al., 2015; Świtaj et al., 2018; Lee et al., 2025). People living with psychosis describe a self-reinforcing cycle, whereby experiences of rejection, stigma, and fear lead to social withdrawal, whilst acute psychotic episodes and psychological and structural barriers further deepen loneliness (Lee et al., 2025). In psychosis populations, social interventions relevant to loneliness, such as befriending, have been linked to symptom reduction and improvements in functioning (Jackson et al., 2008). However, increases in quantity of contact alone may not reduce loneliness if social pleasure is blunted or negative cognitions persist (Badcock et al., 2015; Michalska da Rocha et al., 2018).

There is converging evidence that loneliness relates to socio-

occupational functioning (SOF) in nonclinical and, more tentatively, psychosis populations. SOF is defined as the extent to which a person can engage in 'self-care and activities of daily living, communication and interpersonal relations, instrumental living skills and work' (Saraswat et al., 2006). In nonclinical samples, loneliness has been linked to occupational difficulties, poorer relationship quality, lower social competence and broader adjustment problems (Heinrich and Gullone, 2006; Bowers et al., 2022; Mokros et al., 2022; McCarthy et al., 2026). Loneliness has also been linked to processes that may exacerbate psychotic experiences and undermine functioning, such as depression, anxiety and low self-esteem (Freeman et al., 2002; Heinrich and Gullone, 2006).

Psychosis is characterised by impairments in social and occupational functioning (Grant et al., 2001; Addington et al., 2008; Velthorst et al., 2017). In psychosis, poorer functioning is associated with lower quality of life (Nevárez-Flores et al., 2019) and greater social functioning and

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functional capacity are associated with living independently in the community (Dickerson et al., 1999; Mautsbaeh et al., 2008). Moreover, clinical guidelines note SOF as a treatment priority (National Institute for Health and Care Excellence, 2014), highlighting the importance of clarifying factors contributing to SOF impairments.

Several reviews amalgamate findings on loneliness and psychosis more broadly (Lim et al., 2018; Michalska da Rocha et al., 2018; Badcock et al., 2020; Lee et al., 2025); however, to our knowledge, this is the first to synthesise findings on loneliness and SOF in psychosis. The primary aim of this review was therefore to describe the relationship between loneliness and SOF in psychosis. A secondary aim was to identify relevant factors linked to loneliness and SOF in psychosis. If loneliness is consistently linked with poorer SOF, then addressing loneliness may offer a route to protect, rebuild or improve functioning alongside symptom management, reflecting the recovery priorities of people living with psychosis (Lloyd et al., 2017; Douglas et al., 2022).

2. Methods

This systematic review was pre-registered in PROSPERO (registration number: CRD42025645383) and followed the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines (Page et al., 2021).

2.1. Eligibility criteria

Table 1 outlines study inclusion and exclusion criteria for the review using a PECO framework (Morgan et al., 2018).

Case studies were excluded due to their limited evidential value for examining associations between loneliness and SOF, and grey literature because it had not necessarily undergone peer review. Studies not published in English were excluded due to lack of translation resources. Results were not restricted to a publication period.

2.2. Search strategy

Searches were conducted in PubMed, Scopus, PsycINFO and CINAHL in May 2025 and updated in June 2026. Search terms for SOF were based on a similar systematic review (Stafford et al., 2024), which used a scoping search to establish terms. A subject librarian was consulted on the search. Search terms are presented in Appendix A.

Once searches were conducted, duplicates were removed, and titles and abstracts were screened, followed by a full-text review to select studies meeting inclusion criteria. Fig. 1 illustrates this process. Where multiple articles used the same dataset, the most comprehensive or relevant analysis was retained, following guidance on duplicate data sources (Mayo-Wilson et al., 2018).

References of included studies were hand-searched, and forward citation searching was conducted; however, no additional articles were identified.

To ensure the quality of the review process, a second researcher (WH) independently screened 25% of the articles at the full-text review

stage. Inter-rater reliability was high (Cohen's $\kappa = 0.90$), indicating a substantial agreement (Landis and Koch, 1977), and the single disagreement was resolved through discussion.

2.3. Data collection and synthesis

For each included study, the primary researcher (EJ) extracted data on country, sample characteristics, design, loneliness and SOF measures, and any findings relevant to the review questions. Where reported, ethnicity data were harmonised under “race/ethnicity” for consistency across studies, with original category labels standardised (e.g., “Caucasian” as “White”).

The included studies used various designs (e.g., cross-sectional, longitudinal, thematic analysis), measures (e.g., validated versus ad-hoc) and analytical approaches, introducing considerable methodological heterogeneity. Given this variation, meta-analysis was not considered appropriate to provide a meaningful summary (Choi and Kang, 2025; Lensen, 2023). Therefore, a narrative synthesis was conducted drawing on Popay et al.'s (2006) framework. Studies were organised into broad SOF categories by outcomes, which structured the results. Within each category, we compared the direction and size of associations between loneliness and functioning. We then examined patterns across studies in relation to population, setting, reporter, and measurement choices, noting psychosocial, clinical and contextual factors that studies reported as influencing loneliness and SOF. Finally, we considered these patterns alongside quality assessment to inform our interpretation of the strength and consistency of the findings.

2.4. Risk of bias assessment

The methodological quality of the studies was assessed using the Mixed Methods Appraisal Tool (MMAT; Hong et al., 2018). Each study was appraised according to the criteria for its design, with individual criterion ratings reported rather than an overall score, in line with author guidance. The quality of all included studies was rated by EJ, and five studies (33%) were also independently rated by a second reviewer (WH). Disagreements were resolved through discussion and consensus. Agreement between reviewers was high (89%); however, because the second reviewer answered “Yes” to all criteria, Cohen's κ was not meaningful and is not reported.

3. Results

3.1. Study characteristics

Of the 15 included studies, all except one (Ludwig et al., 2022) were quantitative. Eleven were cross-sectional, three included longitudinal components, and one was a qualitative study using thematic analysis. Samples covered a range of diagnoses and stages within psychosis; nine focused on schizophrenia-spectrum disorders, two on psychotic disorders, two on non-affective psychotic disorders, one on first-episode psychosis and one on ultra-high-risk. Ten studies used clinical diagnoses or medical linkage, four conducted diagnostic interviews to confirm psychiatric diagnoses, and one administered the Structured Interview for Prodromal States to identify psychosis. Nine studies used clinical samples (e.g., recruited from inpatient or outpatient clinics), five used community samples (e.g., local support centres, support residences), and one used mixed clinical and community recruitment.

Sample sizes ranged from 16 (Ludwig et al., 2022) to 1642 (Nevárez-Flores et al., 2022), with a mean of 232 ($SD = 399.66$). Average participant ages ranged from 19.2 to 52.8 years, and the proportion of male participants ranged from 37% to 76%. The proportion of White participants ranged from 35% to 75%. Studies were conducted across eight countries, including the USA, Australia, Taiwan, Japan, Poland, the UK, China and Israel.

Table 1
Inclusion and exclusion criteria.

	Inclusion	Exclusion
Population	Individuals with a diagnosis of a psychotic disorder or an at-risk mental state for psychosis	Individuals who do not meet criteria for a psychotic disorder or at-risk mental state
Exposure	Studies that measure loneliness and SOF	No measure of loneliness and/or SOF reported
Comparison	N/A	N/A
Outcomes	A quantitative or qualitative focus on the association between loneliness and SOF, regardless of the direction of analysis	No analysis or qualitative exploration of the relationship between loneliness and SOF

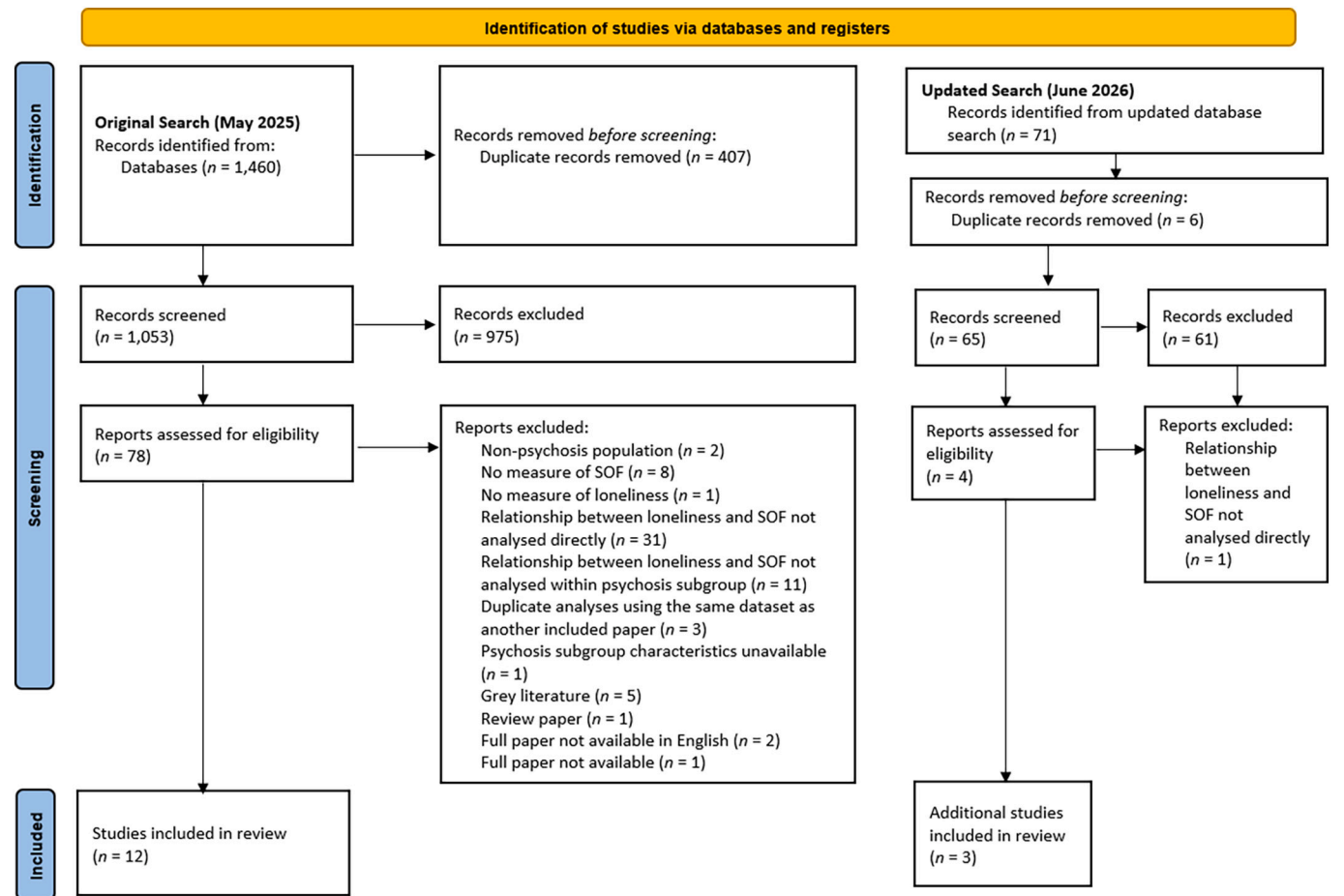


Fig. 1. Study selection process.

3.2. Quality assessment

Methodological quality across studies was generally good (see Table 2), with eight of the 15 studies assessed as having low risk of bias across all criteria. For representativeness (criterion 3.1), almost all studies were rated “yes”; only Schwartz and Gronemann (2009) received a “can't tell” rating because inclusion and exclusion criteria were not

clearly specified.

Most studies used validated measures of loneliness, symptoms and functioning (criterion 3.2). For example, nine studies used the University of California Los Angeles Loneliness Scale (UCLA-LS), two used the De Jong Gierveld Loneliness Scale (DJGLS), and one used the Three-Item Loneliness Scale (TILS). However, in two studies, loneliness was assessed using a single item: Sündermann et al. (2014) used an unvalidated item,

Table 2
MMAT quality assessment.

Study	Qualitative criterion					Quantitative criterion				
	1.1	1.2	1.3	1.4	1.5	3.1	3.2	3.3	3.4	3.5
Schwartz and Gronemann (2009)						CT	Y	Y	CT	Y
Sündermann et al. (2014)						Y	CT	Y	Y	Y
Świtaj et al. (2014)						Y	Y	Y	Y	Y
Chrostek et al. (2016)						Y	Y	Y	Y	Y
Shioda et al. (2016)						Y	Y	CT	Y	Y
Robustelli et al. (2017)						Y	Y	Y	Y	Y
Ludwig et al. (2020)						Y	Y	Y	Y	Y
Culbreth et al. (2021)						Y	Y	Y	Y	Y
Nevárez-Flores et al. (2022)						Y	CT	Y	Y	Y
Chen et al. (2024)						Y	Y	Y	Y	Y
Chi et al. (2024)						Y	Y	Y	Y	Y
McKenna et al. (2025)						Y	Y	CT	Y	Y
Randolph et al. (2025)						Y	CT	Y	Y	Y
Hoshino et al. (2026)						Y	CT	Y	Y	Y
Ludwig et al. (2022)	Y	Y	Y	Y	Y					

Y = yes; CT = can't tell. MMAT qualitative criteria: 1.1 appropriateness of qualitative approach; 1.2 adequacy of data collection; 1.3 adequacy of findings derived from the data; 1.4 substantiation of interpretations; 1.5 coherence between data sources, collection, analysis and interpretation. MMAT quantitative non-randomised criteria: 3.1 representativeness of participants; 3.2 appropriateness of measurements; 3.3 completeness of outcome data; 3.4 accounting for confounding; 3.5 intervention/exposure occurred as intended during the study period.

and Nevárez-Flores et al. (2022) used a single item with a 12-month recall period. Although there is evidence supporting single-item loneliness questions, using the word ‘lonely’ may influence responding (Russell, 1982), introducing measurement bias. Randolph et al. (2025) assessed momentary loneliness using Ecological Momentary Assessment (EMA); however, the loneliness item, response scale and psychometric properties were not reported, resulting in a “can’t tell” rating. Hoshino et al. (2026) used an unvalidated Japanese translation of the General Mattering Scale; however, this variable was not relevant to this review.

Outcome data were generally complete (criterion 3.3). An 80% completion threshold was agreed a priori (Thomas et al., 2004; Zaza et al., 2000). All but two studies met this threshold, resulting in “can’t tell” ratings. Shioda et al. (2016) had a usable response rate below 80% (264/560). McKenna et al. (2025) had highly complete baseline data (97%), from which the data included in this review were drawn, but only 68% contributed 1-year follow-up data.

Most studies adequately controlled for relevant confounders (criterion 3.4), including demographic and clinical variables such as age, sex and symptom severity. One study (Schwartz and Gronemann, 2009) did not adjust for key clinical confounders.

All studies were rated “yes” for criterion 3.5: data were collected as intended, with no major protocol deviations or measurement inconsistencies reported.

3.3. Assessment tools

All studies used self-report loneliness measures, most commonly variants of the University of California, Los Angeles Loneliness Scale (UCLA LS; $n = 9$). The UCLA LS produces a global loneliness score and is widely considered the gold standard measure of loneliness (Lim and Gleeson, 2014).

A range of tools were used to measure SOF, including self-report questionnaires, semi-structured interviews, researcher or informant ratings, performance-based assessments, objective indicators and time-use measures. Most SOF measures appeared in a single study, with only the Global Assessment of Functioning (GAF; Piersma and Boes, 1997) appearing in two studies and the Specific Level of Functioning Scale (SLOF; Schneider and Struening, 1983) appearing in three studies. The GAF is a clinician-rated scale measuring psychological, interpersonal and occupational functioning, whilst the SLOF is a behavioural rating scale assessing everyday social, interpersonal and community-living skills and can be completed by clinicians, informants, or participants.

3.4. Primary findings

The results of the 15 included studies are presented in Table 3. Overall, eight of the 14 quantitative studies reported at least one significant association between loneliness and an SOF domain. Where findings were non-significant, effect directions were generally similar: higher loneliness was associated with poorer functioning. All four studies comparing participants with psychosis to healthy controls found that the psychosis group was significantly lonelier than the control group (Robustelli et al., 2017; Ludwig et al., 2020; Culbreth et al., 2021; McKenna et al., 2025). The narrative synthesis is presented according to the type of functioning assessed, and studies that examined more than one SOF outcome appear in multiple categories.

3.4.1. Loneliness and global functioning

Three quantitative cross-sectional studies examined loneliness using standard self-report scales and clinician-rated global functioning using the GAF or SOFAS (Robustelli et al., 2017; Chrostek et al., 2016; Świtaj et al., 2014).

Robustelli et al. (2017) found that higher loneliness was associated with lower functioning in UHR young adults. Chrostek et al. (2016) reported a similar bivariate association in adults with non-affective

psychosis, although this became non-significant after adjustment for covariates. Świtaj et al. (2014) found no significant association in adults with non-affective psychotic disorders, although this may reflect restricted variability in GAF scores, as ratings were based on the highest level of functioning during the past year.

Taken together, these studies suggest a modest association between loneliness and poorer clinician-rated global functioning, although this association can attenuate once broader psychosocial context is accounted for.

3.4.2. Loneliness and social participation, communication and community integration

Ten quantitative studies examined social participation, communication, or community integration as aspects of SOF in UHR and psychosis-spectrum samples (Schwartz and Gronemann, 2009; Shioda et al., 2016; Robustelli et al., 2017; Ludwig et al., 2020; Culbreth et al., 2021; Nevárez-Flores et al., 2022; Chi et al., 2024; McKenna et al., 2025; Randolph et al., 2025; Hoshino et al., 2026). Most used multi-domain community functioning scales (e.g., SLOF, CIM); others used interviewer-rated social dysfunction or structural indicators, such as how often participants saw friends, the number of close friends or social contacts, social network size, or broader isolation indices. Loneliness was typically assessed with self-report scales, with two studies using EMA to capture momentary loneliness (Culbreth et al., 2021; Randolph et al., 2025).

Greater loneliness was generally linked with poorer social participation and weaker community integration, although effect sizes and significance varied by reporter and measure. For example, community-dwelling adults with schizophrenia who reported lower community integration tended to report higher loneliness (Shioda et al., 2016). A similar pattern emerged in supported housing, where more frequent participation in community and leisure activities predicted lower loneliness (Schwartz and Gronemann, 2009). Among stable outpatients, trait loneliness strongly predicted participant-rated community functioning, whereas momentary loneliness was unrelated to functioning (Culbreth et al., 2021). In a national survey, interviewer-rated social dysfunction and reduced friend contact (but not family contact) showed graded associations with loneliness (Nevárez-Flores et al., 2022). In UHR young adults, fewer close friends were associated with higher loneliness (Robustelli et al., 2017) and in chronic schizophrenia, higher loneliness co-occurred with greater structural isolation, such as less frequent participation in activities and social contact (Chi et al., 2024). Qualitative findings echoed these patterns, with participants describing practical barriers (e.g., transport, finances), limited work or routine, and difficulties connecting with others as factors restricting community engagement (Ludwig et al., 2022).

However, findings were less consistent in several studies. In adults with psychotic disorders, loneliness was not significantly associated with the number of social contacts over the previous two weeks (McKenna et al., 2025). Similarly, loneliness was unrelated to social network size in adults with schizophrenia attending a psychiatric day-service centre (Hoshino et al., 2026), and SLOF interpersonal functioning was not significantly associated with momentary loneliness during community participation in adults with schizophrenia or schizoaffective disorder (Randolph et al., 2025). Associations in Ludwig et al. (2020) were small and either non-significant or became non-significant after statistical correction.

Overall, the studies suggest an association between loneliness and reduced social participation or community integration, although findings were less consistent for structural indicators of social contact and interpersonal functioning.

3.4.3. Loneliness and everyday functioning, capacity and time use

Six quantitative studies examined everyday functioning (IADL, SFS), performance-based functional capacity (UPSA-B) and time-use or role indicators (TBM, employment status) as aspects of SOF (Schwartz and

Table 3
Results.

Reference	Country	Participant characteristics	N	Study design	Loneliness measure(s)	SOF measure(s)	Relevant findings	Is loneliness associated with SOF?	Effect size
Ludwig et al. (2020)	USA	Sample = outpatients with schizophrenia spectrum disorders (SSD). Age (mean and SD) = 39.35 (11.18) in SSD group and 41.67 (12.75) in control group. Male (n and %) = 53 (71.6%) in SSD sample and 40 (69%) in HC group. Race/ethnicity (n and %) in SSD group: White 48 (64.9%), Black 23 (31.1%), Asian 1 (1.4%), Other 2 (2.8%); HC group: White 32 (55.2%), Black 23 (39.7%), Asian 1 (1.7%), Other 2 (3.4%).	132	Cross-sectional	UCLA LS 20 item	SLOF (informant completed), SLOF (research assistant completed) and UPSA-B	Greater loneliness in the clinical group was associated with lower social functioning on the researcher-completed SLOF ($p < .05$). However, this did not meet the corrected significance threshold of $p < .01$, and the trend-level association was eliminated when controlling for depression. Loneliness was not significantly associated with the informant-completed SLOF ($p > .05$) or functional capacity on the UPSA-B ($p > .05$). Loneliness was not significantly related to any measures of functional outcome in the control group.	No ($ps \geq .01$, corrected threshold)	$r = -0.252$ to 0.044
Robustelli et al. (2017)	USA	Sample = UHR young adults. Age (mean and SD) = 19.17 (1.73) in UHR sample and 19.20 (2.56) in control group. Male (n and %) = 26 (59%) in UHR sample and 15 (37%) in HC group. Race/ethnicity (% whole sample) = White (65%); Central/South American (18%); Asian (10%); Interracial (5%); Black (2%); Native American (1%).	85	Cross-sectional	UCLA LS 20 item (revised)	GAF, Number of close friends (SNI single item; “How many friends do you see or talk to at least once every 2 weeks?”)	In the UHR group, poorer functioning ($b = -0.39$, $p < .01$) and engaging with fewer close friends ($B = -3.94$, $SE = 0.87$, $p < .001$) were associated with higher loneliness.	Yes ($p < .01$)	$r = 0.43$
Culbreth et al. (2021)	USA	Sample = 35 stable outpatients with schizophrenia or schizoaffective disorder (SZ). Age (mean and SD) = 37.8 (11.8) in SZ group and 36.2 (11.3) in HC group. Male (n and %) = 24 (69.0%) in SZ group and 28 (76.0%) in HC group. Race/ethnicity (n and %) in SZ group: White 16 (45.7%), Black 17 (48.6%), Other 2 (5.7%); HC: White 8 (21.6%), Black 24 (64.9%), Other 5 (13.5%).	72	Cross-sectional	UCLA LS 20 item (revised), EMA Loneliness (“How lonely do you feel right now?”) on a five-point Likert scale (1 = not at all to 5 = extremely)	SLOF (participant rated)	In the SZ group, trait loneliness was negatively correlated with participant-rated functioning ($r = -0.65$, $p < .001$). This association remained significant (standardised β coefficient = -0.40 , $p = .006$) after covarying for the severity of depressive and negative symptoms. However, SLOF was not a significant predictor of EMA loneliness (standardised β coefficient = -0.01 , $p = .25$)	Partially (significant $ps < .001-.006$)	$r = -0.65$; $\beta = -0.40$ to -0.01
Nevárez-Flores et al. (2022)	Australia	Sample = interviewees in the 2010 Australian National Survey of Psychosis (Morgan et al., 2012) with a psychotic disorder. Age (mean and SD) = 38.24 (11.09). Male (n and %) = 1008 (61.4%).	1642	Cross-sectional	Single five-level item ‘In the last 12 months, have you felt lonely?’ with a choice of five responses: I have (1) plenty of friends, not lonely, (2) friends, lonely occasionally, (3) some friends but lonely for company, (4) socially isolated and lonely and (5) not known.	Interviewer rated social dysfunction (based on participant descriptions of the extent of their involvement in social activities, relationships and contact with friends and family and frequency of time spent alone) and frequency of contact with friends/relatives in the last 12 months.	Tests of univariate associations showed that contact with relatives (ORs = 1.11–1.34, $ps = .14-.40$) did not have a significant association with loneliness. Social dysfunction and contact with friends, among other clinical variables, were tested as independent contributors to loneliness in a composite model	Partially (significant $ps < .001-.029$)	ORs = 1.11–4.86

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Table 3 (continued)

Reference	Country	Participant characteristics	N	Study design	Loneliness measure(s)	SOF measure(s)	Relevant findings	Is loneliness associated with SOF?	Effect size
							using ordinal logistic regression. Obvious social dysfunction (OR 2.09, CI 1.69–2.59, $p < .001$), severe social dysfunction (OR 4.86, CI 3.38–6.99, $p < .001$) and contact with friends: at least weekly (OR 1.35, CI 1.07–1.69, $p = .01$), at least monthly (OR 1.44, CI 1.06–1.96, $p = .021$). Less than once a month (OR 2.29, CI 1.56–3.37, $p < .001$). Not at all in the last 12 months (OR 2.78, CI 1.11–6.99, $p = .029$) and No friends (OR 3.95, CI 2.57–6.09, $p < .001$) were, along with other clinical outcomes, significant predictors of loneliness.		
Chen et al. (2024)	Taiwan	Sample = psychiatric inpatients with schizophrenia. Age (mean and <i>SD</i>) = 52.12 (8.42). Male (<i>n</i> and %) = 110 (60.4%).	182	Longitudinal	Three-item UCLA LS (Chinese version)	IADL	Associations were found between loneliness and IADL at baseline ($r = 0.151$, $p < .05$) and at the two-year follow-up ($r = 0.246$, $p < .01$). Higher loneliness at baseline was also significantly associated with greater IADL impairment at follow-up ($B = 0.148$, CI 0.031–0.264, $p = .013$).	Yes ($ps < .01$ –.05)	$r = 0.151$ –0.246
Shioda et al. (2016)	Japan	Sample = community-dwelling people diagnosed with schizophrenia. Age (mean and <i>SD</i>) = 46.1 (9.6). Male (<i>n</i> and %) = 183 (69.3).	264	Cross-sectional	UCLA LS V3 20 item (Japanese Version)	CIM (Japanese version), Employment status	Loneliness was significantly correlated with employment status ($r = 0.182$, $p = .003$) and community integration ($r = 0.573$, $p < .001$). Lower community integration was associated with higher loneliness ($\beta = -0.220$, $p < .001$).	Yes ($ps < .001$ –.003)	$r = 0.182$ –0.573, $\beta = -0.22$
Świtaj et al. (2014)	Poland	Sample = adults with non-affective psychotic disorders. Age (mean and <i>SD</i>) = 38.4 (11.4). Male (<i>n</i> and %) = 43 (39.1%).	110	Cross-sectional	DJGLS (short version)	GAF	Loneliness was not significantly associated with global functioning ($r = -0.07$, $p > .05$).	No ($p > .05$)	$r = -0.07$
Sündermann et al. (2014)	UK	Sample = individuals with first-episode psychosis. Age (mean and <i>SD</i>) = 32.3 (9.6). Male (<i>n</i> and %) = 23 (60.5%). Race/ethnicity (<i>n</i> and %): White 20 (52.6%), Black 13 (34.2%), Other 5 (13.3%).	38	Cross-sectional	Single-item self-report: number of lonely days in the past week	TBM	Loneliness was not significantly associated with functioning ($r = -0.30$, $p > .05$).	No ($p > .05$)	$r = -0.30$
Chi et al. (2024)	China	Sample = adults with chronic schizophrenia. Age (mean and <i>SD</i>) = 46.4 (11.2). Male (<i>n</i> and %) = 136 (42.1%). Race/ethnicity: Han Chinese (100%).	323	Cross-sectional	UCLA-LS V3 20 item	SII (objective: unmarried status; < monthly contact with children, relatives, or friends; non-participation in social activities)	Higher loneliness scores were significantly associated with greater social isolation in both males ($p = .046$) and females ($p = .006$).	Yes (males $p = .046$; females $p = .006$)	Unavailable
Schwartz and Gronemann (2009)	Israel	Sample = adults with schizophrenia living in supported residences. Age	97	Cross-sectional	UCLA LS V3 20 item	Participation and Use of Services in the Community	Greater community participation predicted lower loneliness ($\beta = -0.57$, $p < .01$). Employment	Partially (significant $p < .01$)	$\beta = -0.57$ to 0.06 (model $R^2 = 0.458$)

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Table 3 (continued)

Reference	Country	Participant characteristics	N	Study design	Loneliness measure(s)	SOF measure(s)	Relevant findings	Is loneliness associated with SOF?	Effect size
Chrostek et al. (2016)	Poland	(mean and SD) = 43.0 (10.1). Male (n and %) = 65 (67%). Sample = adults with non-affective psychotic disorders. Age (mean and SD) = 39.6 (12.0). Male (n and %) = 127 (61.4%).	207	Cross-sectional	DJGLS	Questionnaire and employment status SOFAS and Independence-Performance subscale of the SFS	status was not significantly associated with loneliness ($\beta = 0.06, p > .05$). Loneliness was significantly associated with lower global functioning (SOFAS; $r = -0.21, p < .001$) and poorer independent living skills ($r = -0.25, p < .001$). However, in multivariate regression, these associations were no longer significant after adjusting for sociodemographic, psychosocial and clinical variables. In the psychotic disorder group, loneliness was negatively but non-significantly associated with social activity (SNI; $r = -0.242, p = .143$).	Partially (significant bivariate $ps < .001$; not significant after adjustment)	$r = -0.25$ to -0.21
McKenna et al. (2025)	USA	Sample = adults with psychotic disorders (PD) and healthy controls (HC). Age (mean and SD) = 27.81 (6.24) in PD group and 26.12 (5.53) in control group. Male (%) = 70.3% in PD group and 65.0% in HC group. Race (n and %) in PD group: White 24 (64.9%), Asian 8 (21.6%), Black 5 (13.5%); HC group: White 35 (58.3%), Asian 12 (20.0%), Black 6 (10.0%), no response 7 (11.7%).	97	Longitudinal (relevant analysis cross-sectional)	UCLA LS V3 20 item	SNI (number of social contacts during the previous 2 weeks)	In the SSD group, SLOF interpersonal functioning was negatively but non-significantly associated with momentary loneliness during community participation (standardised coefficient = -0.05 , 95% CI $[-0.36, 0.26]$, $p = .75$).	No ($p = .143$)	$r = -0.242$
Randolph et al. (2025)	USA	Sample = adults with schizophrenia or schizoaffective disorder (SSD), bipolar disorder (BD), major depressive disorder (MDD), and healthy controls. Age (mean and SD) = 34 (8) in SSD group, 37 (8) in BD group, 33 (8) in MDD group and 36 (8) in control group. Male (n and %) = 20 (50%) in SSD group, 16 (36%) in BD group, 16 (35%) in MDD group and 27 (51%) in control group. Race (n and %) in SSD group: Black 26 (65%), White 14 (35%); BD group: Black 10 (23%), White 29 (66%), Other 5 (11%); MDD group: Black 17 (39%), White 27 (61%), Other 2 (5%); control group: Black 23 (43%), White 27 (51%), Other 3 (6%).	183	Longitudinal	EMA survey asking participants how much loneliness they were experiencing	SLOF interpersonal relationships domain (self-report)	In the SSD group, SLOF interpersonal functioning was negatively but non-significantly associated with momentary loneliness during community participation (standardised coefficient = -0.05 , 95% CI $[-0.36, 0.26]$, $p = .75$).	No ($p = .75$)	Standardised coefficient = -0.05 [95% CI $-0.36, 0.26$]
Hoshino et al. (2026)	Japan	Sample = adults with schizophrenia attending a psychiatric day-service centre. Age (mean and SD) = 52.8	31	Cross-sectional	Japanese version of the Three-Item Loneliness Scale	Name Generator (total number of alters/social network size)	Loneliness was positively but non-significantly associated with social network size (standardised coefficient = $0.028, p = .4960$).	No ($p = .4960$)	Standardised coefficient = 0.028

(continued on next page)

Table 3 (continued)

Reference	Country	Participant characteristics	N	Study design	Loneliness measure(s)	SOF measure(s)	Relevant findings	Is loneliness associated with SOF?	Effect size
Ludwig et al. (2022)	USA	(8.59). Male (n and %) = 21 (67.7%) Sample = community outpatients with schizophrenia spectrum disorders. Age (mean and SD) = 39 (7.15). Male (n and %) = 10 (62.5%). Race/ethnicity (n and %): White 12 (75.0%), Black 3 (18.7%), Other 1 (6.3%)	16	Thematic Analysis	Three-item UCLA LS (screening) and semi-structured interviews on lived experience of loneliness	Employment status; community participation (work, recreation, social activities); relationship quality and stability (friendships, family, romantic partners)	Loneliness was linked to unemployment, financial hardship and lack of transport, limiting community participation. Disrupted friendships and absence of romantic partners also heightened loneliness. Structured activities (work and recreation) and social contact were described as protective.	Yes (qualitative)	Unavailable

CIM, Community Integration Measure; DJGLS, De Jong Gierveld Loneliness Scale; EMA, Ecological Momentary Assessment; HC, Healthy Control; IADL, Instrumental Activities of Daily Living; GAF, Global Assessment of Functioning; SFS, Social Functioning Scale; SII, Social Isolation Index; SLOF, Specific Level of Functioning Scale; SNI, Social Network Index; SOFAS, Social and Occupational Functioning Assessment Scale; TBM, Time Budget Measure; UCLA LS, UCLA Loneliness Scale; UCLA LS V3, UCLA Loneliness Scale Version 3; UPSA-B, UCSD Performance-Based Skills Assessment-Brief.

Gronemann, 2009; Sündermann et al., 2014; Chrostek et al., 2016; Shioda et al., 2016; Ludwig et al., 2020; Chen et al., 2024). Loneliness was measured using standard or single-item self-report measures.

Overall, higher loneliness was generally associated with greater difficulty in everyday functioning, whereas associations with capacity measures and time-use indicators were smaller or non-significant. Chen et al. (2024) reported the clearest temporal relationship. In inpatients with schizophrenia, higher loneliness was associated with more IADL difficulty at baseline and follow-up, and baseline loneliness predicted worsening IADL over two years, even after accounting for baseline functioning. Chrostek et al. (2016) also observed cross-sectional associations between greater loneliness and poorer independence in everyday tasks, although these fell below significance after adjustment for covariates. Ludwig et al. (2020) found no significant associations between loneliness and functional capacity on the UPSA-B, and loneliness was also unrelated to total time-use on the TBM (Sündermann et al., 2014). Employment findings were mixed, with no association with loneliness in supported residences (Schwartz and Gronemann, 2009) but an association in a community-dwelling sample (Shioda et al., 2016).

Taken together, these studies suggest loneliness is more consistently associated with self-reported difficulties in everyday functioning than with performance-based capacity or time-use.

3.4.4. Factors influencing the loneliness-SOF association

Thirteen quantitative studies provided findings that helped explain variability in the loneliness-SOF association (Robustelli et al., 2017; Chrostek et al., 2016; Świtaj et al., 2014; Culbreth et al., 2021; Ludwig et al., 2020; Nevárez-Flores et al., 2022; Shioda et al., 2016; Chi et al., 2024; Sündermann et al., 2014; Chen et al., 2024; McKenna et al., 2025; Randolph et al., 2025; Hoshino et al., 2026), and one qualitative study described potential pathways (Ludwig et al., 2022). Most were cross-sectional, although Chen et al. (2024), McKenna et al. (2025) and Randolph et al. (2025) included longitudinal components.

In some studies, adjustment for symptoms and psychosocial context reduced the size of associations. In Chrostek et al. (2016), associations with global and everyday functioning were no longer significant once internalised stigma, perceived support, network size and interpersonal competence were taken into account, and in Ludwig et al. (2020), small correlations disappeared once depression was controlled for. In contrast, in Culbreth et al. (2021), trait loneliness remained associated with participant-rated community functioning after controlling for depressive and negative symptoms. Similarly, Chen et al. (2024) showed that baseline loneliness predicted worsening instrumental daily functioning two years later, even after adjusting for confounders, suggesting that cross-sectional confounding does not fully explain the relationship.

A range of psychosocial and contextual factors were also associated with loneliness and may shape its relationship with functioning. Across studies, loneliness was associated with internalised stigma and reduced social support (Chrostek et al., 2016; Schwartz and Gronemann, 2009; Shioda et al., 2016). Several studies highlighted the role of self-concept and coping resources: lower self-esteem, reduced self-efficacy in community life and guilt were all associated with higher loneliness (Ludwig et al., 2020; Shioda et al., 2016). In Randolph et al. (2025), defeatist beliefs were associated with greater momentary loneliness during community participation, while depressive symptoms showed a similar trend. In Świtaj et al. (2014), loneliness partly explained how internalised stigma related to depression. Nevárez-Flores et al. (2022) reported that loneliness partially mediated the relationships between social dysfunction, reduced friend contact, clinical symptoms, physical and trauma-related factors and health-related quality of life. In early psychosis, anxiety partly mediated the association between loneliness and paranoia (Sündermann et al., 2014). Qualitative accounts described avoidance, low motivation and energy, practical barriers and relationship strain as limiting social roles and daily activities (Ludwig et al., 2022).

Measurement differences also appeared to influence effect sizes.

Associations varied even across similar types of functioning measures. While some studies reported larger associations using self-reported functioning or structural indicators such as friend contact or composite isolation indices (Culbreth et al., 2021; Nevárez-Flores et al., 2022; Chi et al., 2024), other studies found non-significant associations using self-reported interpersonal functioning (Randolph et al., 2025), number of social contacts (McKenna et al., 2025) or social network size (Hoshino et al., 2026). Smaller or non-significant findings were also reported for researcher or informant ratings and for performance-based measures (Sündermann et al., 2014; Ludwig et al., 2020).

Findings also varied by population and setting. In UHR young adults, higher loneliness was associated with poorer global functioning and smaller social networks (Robustelli et al., 2017). In chronic schizophrenia, greater loneliness co-occurred with greater structural isolation, with some sex-specific patterns (Chi et al., 2024). In mixed-diagnosis adult samples recruited from inpatient, day-ward or community services, associations were often reduced or non-significant once symptoms and psychosocial factors were accounted for (Świtaj et al., 2014; Chrostek et al., 2016; Ludwig et al., 2020). Context may also be important; Hoshino et al. (2026) observed very small social networks alongside relatively low loneliness scores in Japanese day-service users and suggested that cultural context, stigma or normalisation of limited social contact may contribute to divergence between subjective loneliness and objective isolation.

Associations sometimes weakened following adjustment for psychosocial or clinical covariates or correction for multiple comparisons (e.g., Chrostek et al., 2016; Ludwig et al., 2020). However, null findings were also reported when the loneliness-SOF relationship was examined directly (e.g., Randolph et al., 2025; Hoshino et al., 2026).

Overall, variability in the strength of the loneliness-SOF association appears to reflect both genuine differences across samples and settings and methodological differences, including how loneliness and SOF are measured, which confounders are included and the analytic approach used.

4. Discussion

The primary aim of this review was to describe the relationship between loneliness and SOF in psychosis populations. Most studies reported at least one significant association between loneliness and an SOF domain, although effect sizes and consistency varied. One qualitative study further illustrated the relevance of loneliness for daily life and functioning. Overall, the findings suggest that loneliness is related to SOF in psychosis, although this relationship is not consistent across studies or domains. This aligns with broader loneliness research, which shows that loneliness predicts poorer occupational functioning, relationship difficulties and social withdrawal (Cacioppo and Hawkley, 2009; Fulford and Holt, 2023; Hawkley and Cacioppo, 2010). However, variation in SOF measurement across studies likely contributed to inconsistency in findings and reflects the absence of a widely agreed gold standard (Cowman et al., 2024). Regarding the secondary aim, several psychosocial, clinical and contextual factors also appeared to shape the strength and consistency of the loneliness-SOF relationship.

With respect to the primary research question, most studies examined specific elements within functioning rather than global SOF, and effects were typically domain-specific. This is unsurprising, given that social and occupational functioning can vary independently of one another (Niv et al., 2007; Wood and Alsawy, 2018). The largest effects were reported for loneliness and community functioning (Culbreth et al., 2021), community participation and integration (Schwartz and Gronemann, 2009; Shioda et al., 2016), consistent with qualitative accounts of people with psychosis, who describe social withdrawal, loneliness and psychotic experiences as mutually reinforcing (Lee et al., 2025). In Nevárez-Flores et al. (2022), loneliness gradually increased with greater social dysfunction and less frequent contact with friends, with the strongest associations in obvious or severe social dysfunction or

minimal friend contact. These patterns align with evidence that people with psychosis typically experience smaller social networks, lower social support and reduced social contact, which are associated with greater loneliness (Lim et al., 2018; Giacco et al., 2016). However, associations with social contact, social network size and interpersonal functioning were non-significant in McKenna et al. (2025), Hoshino et al. (2026) and Randolph et al. (2025), respectively. Together, these findings suggest that loneliness is often related to social and community-based aspects of functioning, but this relationship is not uniform across measures or samples.

Regarding other domains of SOF, evidence for links between loneliness and everyday functioning was more limited. Loneliness was sometimes associated with greater self-reported difficulty in daily functioning, though effect sizes were small and sometimes attenuated after adjusting for psychosocial and clinical factors. Although evidence in psychosis populations is limited, research in older adults suggests reduced independence in daily tasks is associated with greater loneliness (Hacıhasanoğlu et al., 2012; Masoudi et al., 2024). Performance-based capacity and time-use measures showed little evidence of association, suggesting that loneliness may relate more strongly to perceived functioning than to objective task performance.

Addressing the secondary aim, this review also identified several factors that appeared to shape whether loneliness and SOF were related. Associations varied depending on the inclusion of covariates, measure, reporter of functioning, clinical stage and setting. The heterogeneity mirrors findings from broader loneliness models, in which the impact of loneliness depends on cognitive style, social expectations and available social resources (Cacioppo and Hawkley, 2009; Lim et al., 2018). Associations tended to weaken when internalised stigma, social support and interpersonal competence were controlled (Chrostek et al., 2016), although findings remained significant after adjustment in some studies (e.g., Culbreth et al., 2021). This supports models situating loneliness within a network of mood, cognition and social context rather than as a standalone determinant (Freeman et al., 2002; Gayer-Anderson and Morgan, 2013).

4.1. Clinical implications

Several implications for clinical practice follow from these findings. Loneliness was often associated with reduced social participation and community integration, which are factors that can be considered within psychosis intervention. There is evidence that loneliness and SOF are associated with poorer recovery from psychosis (Ma et al., 2021; Velthorst et al., 2017), supporting consideration of loneliness in screening alongside more traditional assessments of symptoms and functioning, which may provide clinically useful information about risk and recovery potential. This is particularly relevant given the high prevalence of loneliness across the psychosis continuum (Stain et al., 2012; Meltzer et al., 2013) and its links to distress, suicidality and poorer quality of life (Heinrich and Gullone, 2006; Michalska da Rocha et al., 2018).

However, the variability in associations after controlling for clinical and psychosocial factors suggests addressing loneliness in isolation is unlikely to be sufficient. In some samples, the loneliness-SOF relationship weakened after adjusting for depression, internalised stigma and social support (Chrostek et al., 2016; Ludwig et al., 2020), suggesting that interventions may need to target these domains together. Approaches that integrate work on mood, self-concept and social networks, alongside opportunities for meaningful activity and high-quality social contact, may have the greatest potential to improve loneliness and functioning (Badcock et al., 2015; Michalska da Rocha et al., 2018).

4.2. Strengths and limitations

This review has several strengths. The protocol was pre-registered, eligibility criteria were clearly defined using a PECO framework, and

a comprehensive search strategy was applied across four databases, informed by existing SOF literature. Screening and quality appraisal were conducted by two reviewers for a subset of studies, with high inter-rater agreement suggesting that eligibility criteria were clearly defined and consistently applied. Both quantitative and qualitative designs were included and synthesised using Popay's narrative approach, allowing a richer understanding of how loneliness and SOF intersect across clinical stages of psychosis.

However, limitations should be considered when interpreting the findings. Screening, data extraction and quality appraisal were primarily conducted by one reviewer, which may have increased the risk of selection or assessment error. The review is based on only 15 papers, with variation in sample size, setting, diagnostic composition and psychosis stage. This heterogeneity precluded meta-analysis, limiting the precision with which the loneliness-SOF association can be estimated. Although three studies included longitudinal components, most evidence was cross-sectional, constraining inferences about directionality – no intervention studies were identified. In many studies, loneliness was examined as one of many correlates rather than a primary outcome, limiting the specificity of conclusions.

Additionally, measures predominantly utilised participant-derived data (e.g., self-report scales, interview-based ratings, structural indicators such as contact frequency). These indices are valuable because they reflect lived experience, but are susceptible to shared-method variance and may reflect psychological factors. For instance, self-efficacy predicts self-reported, but not clinician-rated or performance-based functioning in schizophrenia (Wright et al., 2021), raising the possibility that measurement approach may contribute to variation in loneliness-SOF associations.

Finally, as is common in psychosis research, most studies recruited patients already engaged with services, often using convenience sampling. This bias may have been compounded by the exclusion of grey literature and studies not in English. Recruiting individuals engaged with services may result in samples with higher levels of functioning, given evidence that people who access psychosis services earlier tend to have higher global functioning than those who present later (Hagler et al., 2023). Furthermore, only eight of the 15 studies reported participants' ethnicity, limiting generalisability. Some studies adjusted for key confounders (e.g., age, sex, symptom severity); others did not, and several used extensive covariate sets that may have introduced statistical over-adjustment, masking genuine associations. More consistent reporting, proactive recruitment of underrepresented groups and appropriate statistical adjustment would strengthen the inclusivity and generalisability of this evidence base.

4.3. Directions for future research

Longitudinal research is needed to clarify whether loneliness leads to poorer SOF, or whether SOF difficulties increase loneliness, or whether shared underlying factors drive both. Cohort studies in early psychosis and UHR groups would be informative, given evidence that social dysfunction and loneliness can emerge prior to established psychosis (Cornblatt et al., 2003; Stefanidou et al., 2021). Although there is currently limited evidence for loneliness interventions for psychosis populations (Olsson et al., 2025), established interventions targeting aspects of SOF, including social recovery approaches (Fowler et al., 2019), may provide an opportunity to examine whether improvements in SOF are associated with reductions in loneliness.

Mechanistic research is another priority. Qualitative findings and existing models suggest loneliness may influence functioning through withdrawal, reduced motivation and energy, negative social expectations and practical barriers to participation (Cacioppo and Hawkley, 2009; Ludwig et al., 2022), while psychotic symptoms and stigma may, in turn, maintain loneliness (Gayer-Anderson and Morgan, 2013; Michalska da Rocha et al., 2018). Evidence suggests that multi-level interventions targeting individual, interpersonal and structural factors

may be required to meaningfully reduce loneliness in psychosis (Olsson et al., 2025). Intervention studies could test pathways directly, for example, by examining whether social recovery interventions reduce loneliness via increased activity engagement, or whether loneliness-focused approaches improve SOF through changes in social expectations or participation. Testing these pathways may help identify causal processes and clarify which mechanisms are most responsive to intervention.

Future research would also benefit from greater clarity and consistency in measurement. Building on existing critiques of functional assessment in psychosis (Cowman et al., 2024; Niv et al., 2007), studies should justify their use of global or domain-specific tools and, where possible, separate social and occupational functioning. Measures distinguishing social participation, community integration, instrumental living skills and occupational role performance, combined with validated loneliness scales, would allow more precise tests of which aspects of SOF are most closely linked to loneliness and facilitate future meta-analyses. Comparisons between subjective and objective measures and between self-report and observer-rated functioning would help clarify how measurement approach influences the loneliness-SOF association.

5. Conclusion

Overall, the studies included in this review suggest that loneliness is associated with SOF in with psychosis, particularly in domains of social participation, community integration and everyday functioning. While findings were not uniform across all measures and samples, higher loneliness was generally associated with poorer functioning, although several studies reported non-significant relationships. The review also identified psychosocial and contextual factors, including internalised stigma, social support and depressive symptoms, that appear to shape the strength and consistency of this relationship. These findings highlight the need for longitudinal and intervention research to clarify the directionality of the loneliness-SOF relationship.

CRediT authorship contribution statement

Emma Jimenez: Writing – review & editing, Writing – original draft, Visualization, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **William Hinton:** Writing – review & editing, Validation. **Sarah Reeve:** Writing – review & editing, Supervision. **Sherifat Oduola:** Writing – review & editing, Supervision, Methodology, Conceptualization.

Role of the funding source

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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None.

Appendix A. Search strategy

The search strategy is presented below by database, and aligns with the thesaurus of each database. The terms 'dementia' and 'Parkinson*' were excluded, which otherwise contributed many irrelevant results.

PubMed

((("Schizophrenia Spectrum and Other Psychotic Disorders"[Mesh] OR "Hallucinations"[Mesh] OR "Delusions"[Mesh] OR "Prodromal Symptoms"[Mesh] OR schiz*[Title/Abstract] OR halluc*[Title/Abstract] OR paran*[Title/Abstract] OR delus*[Title/Abstract] OR psychotic[Title/Abstract] OR "at risk"[Title/Abstract] OR "ultra high risk"[Title/Abstract] OR "clinical high risk"[Title/Abstract] OR UHR [Title/Abstract] OR CHR[Title/Abstract] OR prodrom*[Title/Abstract] OR "psychosis risk"[Title/Abstract] OR "psychosis transition"[Title/Abstract] OR "psychosis onset"[Title/Abstract])) AND ((("Quality of Life"[Mesh] OR "Activities of Daily Living"[Mesh] OR "Social Adjustment"[Mesh] OR "activity leve*[Title/Abstract] OR "quality of life"[Title/Abstract] OR HRQoL[Title/Abstract] OR "The Personal Social Performance"[Title/Abstract] OR "Adult Social Relationships Scales"[Title/Abstract] OR "Specific Levels of Functioning Scale"[Title/Abstract] OR "UCSD Performance-Based Skills Assessment"[Title/Abstract] OR "UPSA-B"[Title/Abstract] OR "Work Productivity and Activity Impairment Questionnaire"[Title/Abstract] OR WPAI[Title/Abstract] OR "Work and Social Adjustment Scale"[Title/Abstract] OR "International Physical Activity Questionnaire"[Title/Abstract] OR IPAQ[Title/Abstract] OR "Sheehan Disability Scale"[Title/Abstract] OR "social occupational functio*[Title/Abstract] OR "social functio*[Title/Abstract] OR "occupational functio*[Title/Abstract] OR "functioning [Title/Abstract] OR "work productivity"[Title/Abstract] OR "Time Use Survey"[Title/Abstract] OR "Social and Occupational Functioning Assessment Scale"[Title/Abstract] OR "Occupational Functioning Scale"[Title/Abstract] OR "Social functioning questionnaire"[Title/Abstract] OR "Social functioning schedule"[Title/Abstract] OR "Social functioning scale"[Title/Abstract] OR "Social Adjustment Scale Self-Report"[Title/Abstract] OR "SAS-SR"[Title/Abstract] OR "Social Adjustment Scale"[Title/Abstract] OR "The Structured and Scaled Interview to Assess Maladjustment"[Title/Abstract] OR SSIAM[Title/Abstract] OR "Social Behaviour Assessment Schedule"[Title/Abstract] OR "Interview Schedule for Social Interaction"[Title/Abstract] OR "Katz Adjustment Scale"[Title/Abstract] OR "EQ-5D"[Title/Abstract] OR "Health of the Nation Outcome Scales"[Title/Abstract] OR HoNOS [Title/Abstract] OR "Assessment of Occupational Functioning"[Title/Abstract] OR "Global Assessment of Functioning"[Title/Abstract] OR "Functioning Assessment Short Test"[Title/Abstract] OR "Range of Impaired Functioning Tool"[Title/Abstract] OR "Longitudinal Interval Follow-up Evaluation"[Title/Abstract] OR LIFE-RIFT[Title/Abstract] OR "Personal and Social Performance scale"[Title/Abstract] OR "Specific Level of Functioning Scale"[Title/Abstract] OR "psychological wellbeing"[Title/Abstract])) AND ("Loneliness"[Mesh] OR lonel*[Title/Abstract]) NOT ("Dementia"[Mesh] OR dement*[Title/Abstract] OR "Parkinson Disease"[Mesh] OR parkinso*[Title/Abstract])

PsycINFO

(((MH "Schizophrenia Spectrum and Other Psychotic Disorders"+ OR MH Hallucinations+ OR MH Delusions+ OR TI schiz* OR AB schiz* OR TI halluc* OR AB halluc* OR TI paran* OR AB paran* OR TI delus* OR AB delus* OR TI psychotic OR AB psychotic OR TI "at risk" OR AB "at risk" OR TI "ultra high risk" OR AB "ultra high risk" OR TI "clinical high risk" OR AB "clinical high risk" OR TI UHR OR AB UHR OR TI CHR OR AB CHR OR TI prodrom* OR AB prodrom* OR TI "psychosis risk" OR AB "psychosis risk" OR TI "psychosis transition" OR AB "psychosis transition" OR TI "psychosis onset" OR AB "psychosis onset")) AND ((MH "Quality of Life"+ OR MH "Activities of Daily Living"+ OR MH "Social Interaction"+ OR MH "Social Functioning"+ OR TI functioning OR AB functioning OR TI GAF OR AB GAF OR TI HoNOS OR AB HoNOS OR TI UPSA OR AB UPSA OR TI "UPSA-B" OR AB "UPSA-B" OR TI "Sheehan Disability Scale" OR AB "Sheehan Disability Scale" OR TI "Work and Social Adjustment Scale" OR AB "Work and Social Adjustment Scale" OR TI "Personal Social Performance" OR AB "Personal Social Performance" OR

TI "Specific Levels of Functioning Scale" OR AB "Specific Levels of Functioning Scale" OR TI "UCSD Performance-Based Skills Assessment" OR AB "UCSD Performance-Based Skills Assessment" OR TI "LIFE-RIFT" OR AB "LIFE-RIFT" OR TI "Global Assessment of Functioning" OR AB "Global Assessment of Functioning")) AND ((TI lonel* OR AB lonel*)) NOT ((MH Dementia+ OR TI dementia OR AB dementia OR MH "Parkinson's Disease"+ OR TI parkinso* OR AB parkinso*)))

CINAHL

(((MH "Schizophrenia Spectrum and Other Psychotic Disorders"+ OR MH Hallucinations+ OR MH Delusions+ OR TI schiz* OR AB schiz* OR TI halluc* OR AB halluc* OR TI paran* OR AB paran* OR TI delus* OR AB delus* OR TI psychotic OR AB psychotic OR TI "at risk" OR AB "at risk" OR TI "ultra high risk" OR AB "ultra high risk" OR TI "clinical high risk" OR AB "clinical high risk" OR TI UHR OR AB UHR OR TI CHR OR AB CHR OR TI prodrom* OR AB prodrom* OR TI "psychosis risk" OR AB "psychosis risk" OR TI "psychosis transition" OR AB "psychosis transition" OR TI "psychosis onset" OR AB "psychosis onset")) AND ((MH "Quality of Life"+ OR MH "Activities of Daily Living"+ OR MH "Social Interaction"+ OR MH "Social Functioning"+ OR TI functioning OR AB functioning OR TI GAF OR AB GAF OR TI HoNOS OR AB HoNOS OR TI UPSA OR AB UPSA OR TI "UPSA-B" OR AB "UPSA-B" OR TI "Sheehan Disability Scale" OR AB "Sheehan Disability Scale" OR TI "Work and Social Adjustment Scale" OR AB "Work and Social Adjustment Scale" OR TI "Personal Social Performance" OR AB "Personal Social Performance" OR TI "Specific Levels of Functioning Scale" OR AB "Specific Levels of Functioning Scale" OR TI "UCSD Performance-Based Skills Assessment" OR AB "UCSD Performance-Based Skills Assessment" OR TI "LIFE-RIFT" OR AB "LIFE-RIFT" OR TI "Global Assessment of Functioning" OR AB "Global Assessment of Functioning")) AND ((TI lonel* OR AB lonel*)) NOT ((MH Dementia+ OR TI dementia OR AB dementia OR MH "Parkinson's Disease"+ OR TI parkinso* OR AB parkinso*)))

Scopus

TITLE-ABS-KEY (schiz* OR halluc* OR paran* OR delus* OR psychosis OR psychotic OR "at risk" OR "ultra high risk" OR "clinical high risk" OR uhr OR chr OR prodrom* OR "psychosis risk" OR "psychosis transition" OR "psychosis onset") AND TITLE-ABS-KEY ("quality of life" OR "activities of daily living" OR "social adjustment" OR "activity leve*" OR hrqol OR ipaq OR wpai OR honos OR gaf OR upsa OR "UPSA-B" OR "LIFE-RIFT" OR "Sheehan Disability Scale" OR "Work and Social Adjustment Scale" OR "Personal Social Performance" OR "Specific Levels of Functioning Scale" OR "UCSD Performance-Based Skills Assessment" OR "International Physical Activity Questionnaire" OR "Social and Occupational Functioning Assessment Scale" OR "Occupational Functioning Scale" OR "Social functioning questionnaire" OR "Social functioning schedule" OR "Social functioning scale" OR "Social Adjustment Scale Self-Report" OR "SAS-SR" OR "The Structured and Scaled Interview to Assess Maladjustment" OR ssiam OR "Social Behaviour Assessment Schedule" OR "Interview Schedule for Social Interaction" OR "Katz Adjustment Scale" OR "EQ-5D" OR "Health of the Nation Outcome Scales" OR "Assessment of Occupational Functioning" OR "Global Assessment of Functioning" OR "Functioning Assessment Short Test" OR "Range of Impaired Functioning Tool" OR "Longitudinal Interval Follow-up Evaluation" OR "Personal and Social Performance scale" OR "Specific Level of Functioning Scale" OR "psychological wellbeing") AND TITLE-ABS-KEY (lonel*) AND NOT TITLE-ABS-KEY (dementia OR parkinso*)

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