



What works to improve social capital?

A rapid review of the effectiveness of interventions aimed at improving social capital outcomes (neighbourhood belonging, social support network and community cohesion)

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The research outlined in this report was conducted by Centre for Thriving Places during Spring and Summer 2022 in response to a brief from What Works Centre for Wellbeing(WWCW). The What Works Centre for Wellbeing Team acted as partners for the research and created and coordinated a project consultation group for the research to ensure quality.

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Executive Summary

What Works Centre for Wellbeing wants to understand what types of interventions have improved three key social capital outcomes:

- neighbourhood belonging – “I feel like I belong to this neighbourhood’
- social network support – “I believe that someone would be there for me if I needed help”
- community cohesion – “I believe that my neighbourhood is a place where people from different backgrounds get on well’

This report summarises the work undertaken and provides a summary of the findings of a rapid review regarding these outcomes, as well as what was observed through the process of searches, analysis and narrative summarisation.

The research was commissioned as a rapid review following interim Cochrane guidance (Garrity et al (2021)); full details of the focus of the study is outlined in the Population, Intervention, Comparator, Outcome, Study design (PICOS), [Table 2](#). The identified studies and their results are described separately for each of the three social capital outcomes. Results of individual studies are described in relation to similar studies where relevant, and with reference to the measure used and the level of confidence in the results indicated by our assessment. The characteristics and results of each included study are summarised in [Table 6](#), with more detail to be found in the full extraction table accompanying this report.

What emerged from the process of undertaking the review, as well as in the narrative summary of included studies, was that there were 27 studies that met this research question (the effects of wellbeing programmes on the three outcomes of social capital). Studies that were returned in the searches and were excluded fell into the following categories: wrong outcome, particularly social capital outcomes being intermediary outcomes; wrong measurement; wrong methodology (particularly where there was only one measurement point). Those studies that do exist are hard to meaningfully summarise because of the heterogeneity of measures, intervention types and populations. Interventions included in the review were comprised of youth skills programmes, health interventions of multiple types - for older people, substance abuse treatment patients and deprived communities, social capital interventions from facilitated group activities to policy targets, and finally urban renewal infrastructure programmes. We were not able to draw out any conclusions about what types of interventions are contributing to changes within individuals in communities.

There were two types of intervention for which more than one high quality study found significant increases in cohesion and/or social support. The first was regular group tai chi practice. In both cases the tai chi intervention groups had higher social support scores at follow up than the control groups. The second was the National Citizen Service (NCS) youth skills programmes; the six NCS evaluations included in the review, being relatively

homogenous in terms of intervention, target population, quality and study design, offered more scope than the rest of the studies for drawing more robust conclusions. All five that measured the cohesion outcome reported a significantly higher increase in cohesion scores for the standard summer interventions compared to the comparison groups, suggesting these summer youth skills programmes are effective at improving cohesion among participants. Most of the NCS evaluations also reported a significantly higher increase in social support scores for the summer test and standard interventions compared to their respective comparison groups, although there were a couple of exceptions.

Additional insights from the research process, whilst not forming part of the results of the research, highlighted where more work may be needed (see Appendix 6). In the scoping phase we found that there was a consistent conceptualisation of belonging and cohesion in studies. However, social support, which was often found in health and social care literature, did not have the same conceptualisation that is used by WWCW in this rapid review, whose focus was on the Office of National Statistics (ONS) [harmonised social capital measures](#), that is a general sense of having people around to help you. In addition, there were multiple measurement tools used within studies: in relation to social support, questions focused on specific examples of tangible and emotional support and were often measured in relation to a specific support group. In terms of belonging, measures tended to focus on general psychological components of belonging, rather than to a particular community.

The number of studies we were able to identify for inclusion and the broad range of measures used across different fields of practice highlights the overall need for social capital interventions to be evaluated using more consistent conceptualisations of these key social capital outcomes, with more consistent measures and results reporting.

Introduction

What Works Centre for Wellbeing is seeking to understand what types of interventions have improved three key social capital outcomes: neighbourhood belonging, social network support and community cohesion using set measures.

After responding to an [Invitation to Tender](#) by What Works Centre for Wellbeing, Centre for Thriving Places were commissioned to deliver a rapid review to answer the following:

- What quantitative evaluation research, using a pre-post design, has been carried out to assess the effects of wellbeing programmes and interventions on neighbourhood belonging, the strength of social support networks and community cohesion?
- What is the strength of evidence of the evaluation research?
- What are the key findings from the research?

Table 1 shows the three key social capital outcomes, identified by What Works Centre for Wellbeing, that are the focus of this review.

Social capital domain	Outcome	Indicator
Where we live: Relationships	Neighbourhood belonging	Agree with the statement 'I feel like I belong to this neighbourhood'
Social support network	Having someone (or some people) to rely on	Believe that someone would be there for you if you needed help Agree that if you needed help there are people who would be there for you
Community cohesion	Community cohesion	Believe that your neighbourhood is a place where people from different backgrounds get on well

Table 1: The three social capital outcomes that are the focus of this report

Methods and approach

Overview

The study was designed using a Rapid Review approach (Garrity et al, 2021) to provide insights into the density and quality of the evidence available, provide key evidence, and highlight where further research is needed.

PICOS

The following table sets out the PICOS that was used for this review.

Type	Criteria
Population	No restriction
Intervention	<p>Any intervention that aims to improve one or more target areas of social capital: neighbourhood belonging; having someone to rely on; community cohesion.</p> <p>[Examples of intervention topic areas could include but not be limited to:</p> <ul style="list-style-type: none"> • Community interventions (e.g. social cohesion, social isolation) • Health interventions (e.g. diet, sports) • Social care/services interventions • Education/skills-based interventions • Environmental interventions (e.g. safety, urban planning) • Workplace interventions • Social relationship interventions (e.g. loneliness, social integration)]
Comparator	Before-and-after studies i.e. all studies must assess pre-intervention scores.
Outcome	Reporting a within-person change or a between-person difference in one or more of the target outcome measures (and measures with similar wording) ¹ .
Study design	<p>Formative or summative impact evaluations using one of the following study designs:</p> <ul style="list-style-type: none"> ➤ Comparative observational studies including cohort studies, before and after studies and surveys ➤ Controlled trials (randomised, cluster randomised, quasi- randomised or non-randomised) <p>Exclusions: narrative reviews, uncontrolled observational studies, case series, case reports, commentaries, letters, conference abstracts, publications only available as an abstract or summary and posters.</p>

¹ Indicators include “To what extent do you agree or disagree with the statement ‘I feel like I belong to this neighbourhood’?; Belief or agreement that someone would be there for you if you needed help; Belief that the neighbourhood is a place where people from different backgrounds get on well.

Geographical reference	OECD.
Language restrictions	Published in English
Date restrictions	Published after 31/12/1999

Table 2: PICOS

Search strategy

Searches for peer-reviewed literature were conducted across the following databases:

- Scopus
- Medline / PubMed
- ERIC, ASSIA, Sociological Abstracts, and Dissertations and Theses (via ProQuest)

A summary of the insights from the scoping can be found in Appendix 5. Search terms were updated following the scoping exercise to include synonyms for social capital (examples provided in Appendix 2 of this document), evaluations that incorporate a comparison (including before and after design) and filters for location (OECD), language (English), subject area (psychology, social science and public health), date (>1999) and to remove terms identified in the scoping searches as producing high numbers of irrelevant results (disaster, disease, illness, nursing students).

In addition to the database search, grey literature was sourced via Google Scholar (further details provided in Appendix 2) and a [call for evidence](#) hosted on the What Works Centre for Wellbeing website and supplemented by hand searching (full details in Appendix 3).

Study selection

Screening of abstracts against the PICOS was undertaken by two people, with a process of dual review for those that were ambiguous. [Rayyan systematic review software](#) was used to facilitate the process. A shortlist of potential studies was created, and the full papers were downloaded². Reasons for exclusion were documented for those documents reviewed in full.

² One peer reviewed paper could not be sourced; the author was contacted but did not reply.

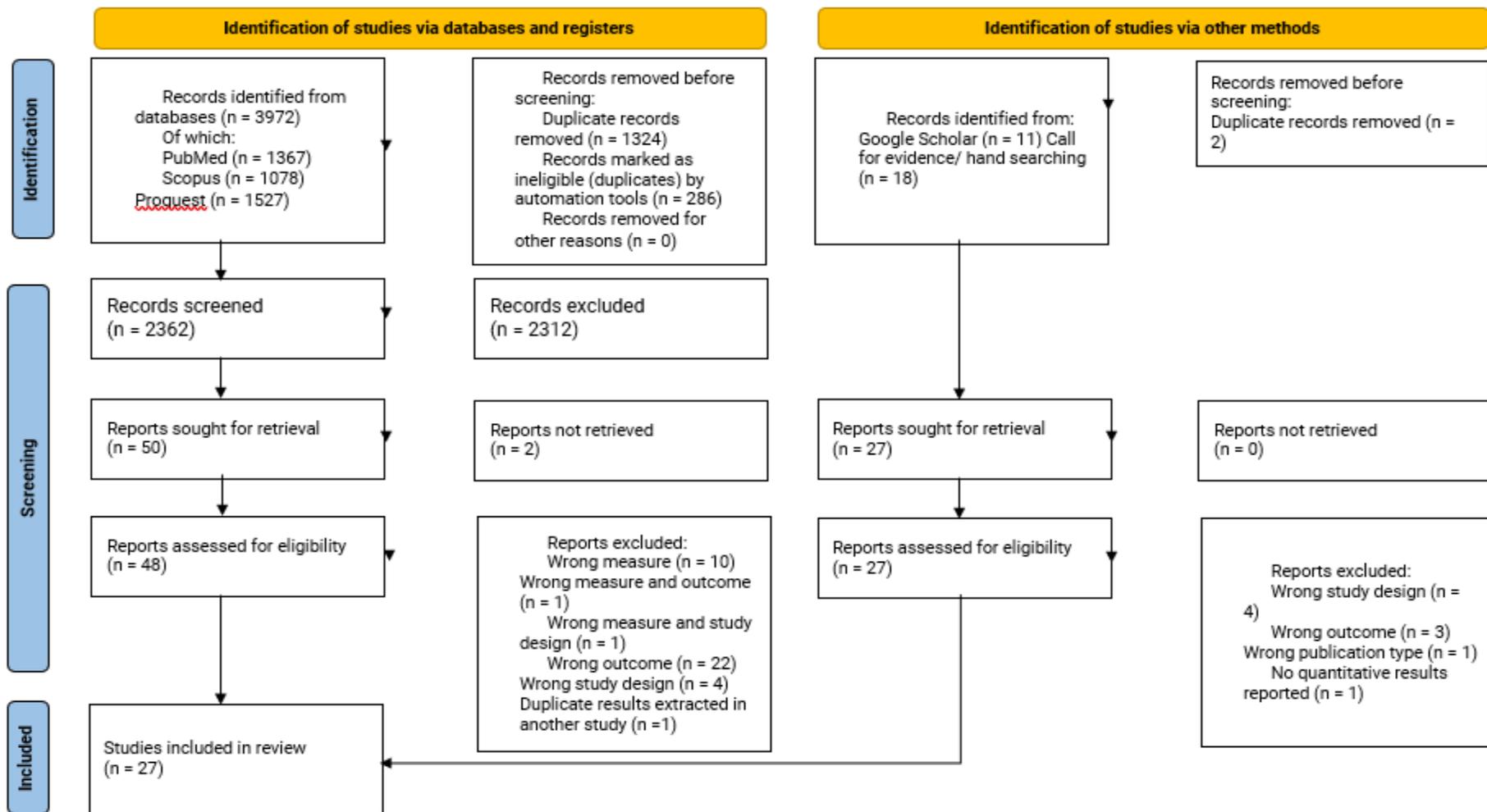


Figure 1: PRISMA 2020 flow diagram for new systematic reviews (Page et al., 2021)

Data extraction and critical appraisal

We extracted the information required, including the data that enabled filtering by theme and outcome, into the extraction template (Excel), referring to the [WWCW quality criteria](#) (Snape et al., 2019) to assess strength of evidence. The full quality criteria is provided in Appendix 3. Key aspects of the framework were built into the data extraction template (**Design**: fidelity, measurement, counterfactual; **Appropriateness**: representation, sample size, attrition, equivalence, measures; **Analysis; Consistency**). Each criteria was given a 0/1 score and qualitative details to support the decision were recorded. Two members of staff conducted the extraction, with a third undertaking quality assurance checks on a sample of 10% of the papers.

Reporting

The extraction template contained multiple filters to classify the evidence by social capital domain, intervention theme and type, and demographic groups.

This report has been produced to summarise the process and evidence - including any causal inferences, gaps, implications and recommendations.

Description of findings

In this section the characteristics of the evidence relating to each of the three social capital outcomes will be summarised in turn. An overview of the 27 included studies by outcome is shown in Figure 2. None of the included studies measured both social support and belonging without cohesion.

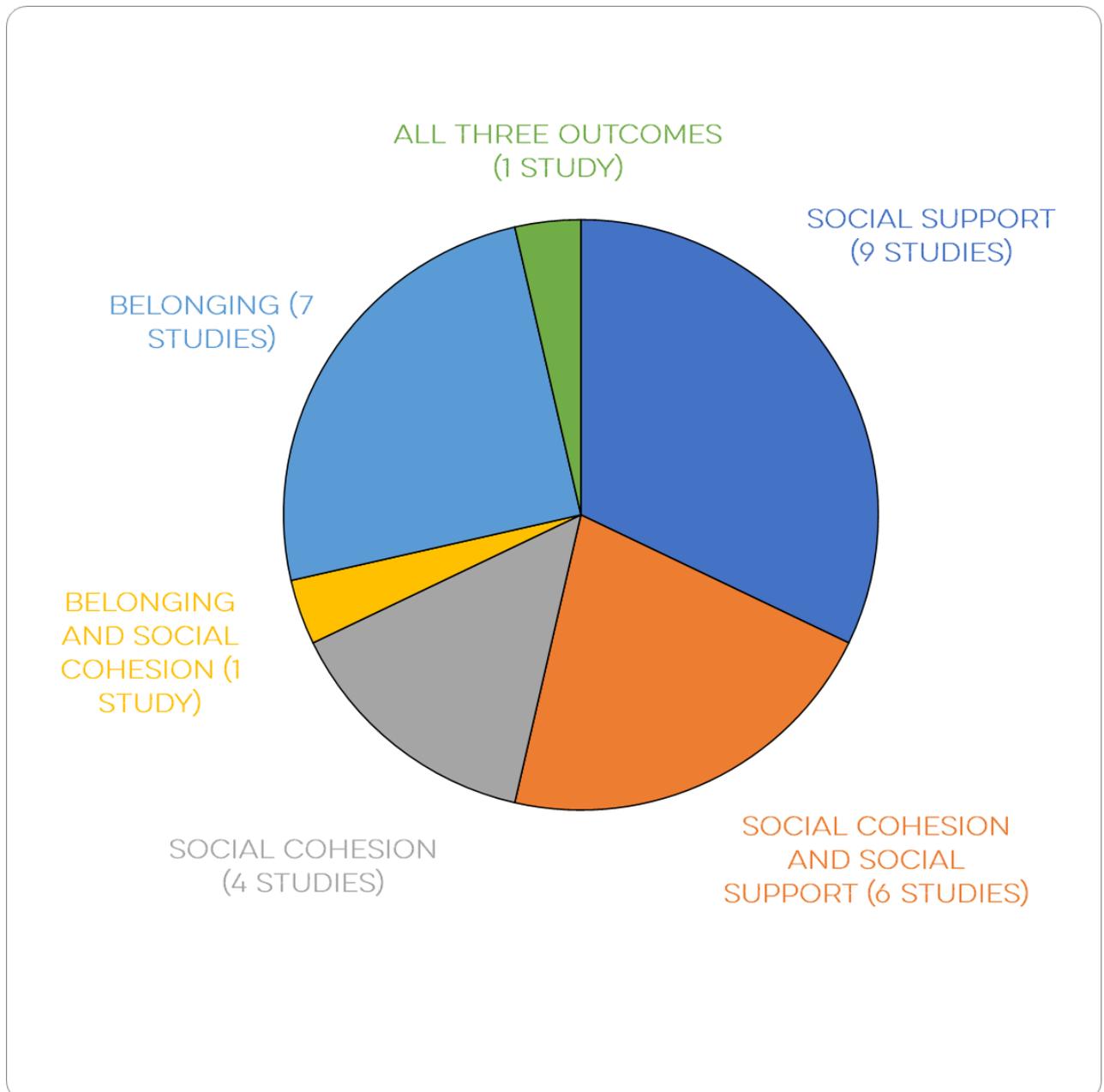


Figure 2: Included studies by social capital outcome

The number of studies reviewed for each outcome, by level of confidence in the results is shown in Figure 3. More information about the level of confidence in results assessment is given in the results sections for each outcome below.

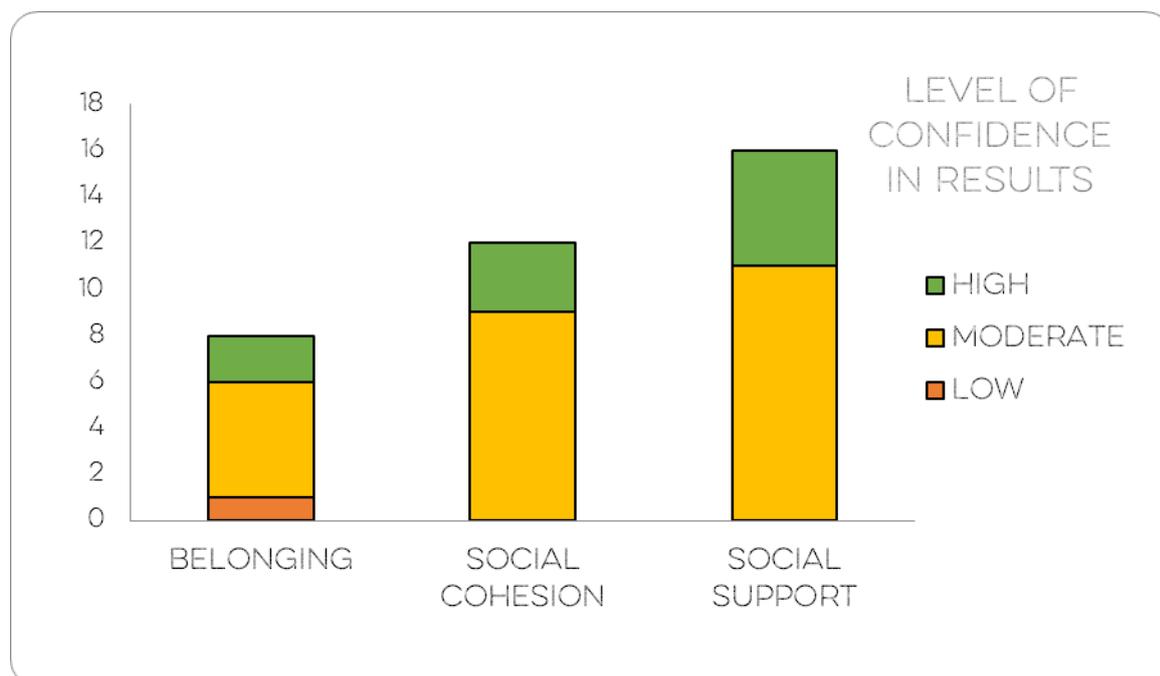


Figure 3: Number of included studies reviewed for each outcome, by level of confidence in the results (see Appendix 4 for how these confidence levels were calculated)

A discussion of results by more detailed intervention themes and types is in the results section for each outcome. An overview of the included studies by primary theme is shown in Figure 4. The intervention types were derived from the extraction template and for each study the theme that was most prominent for the study was classified as “primary” to provide the following overview.

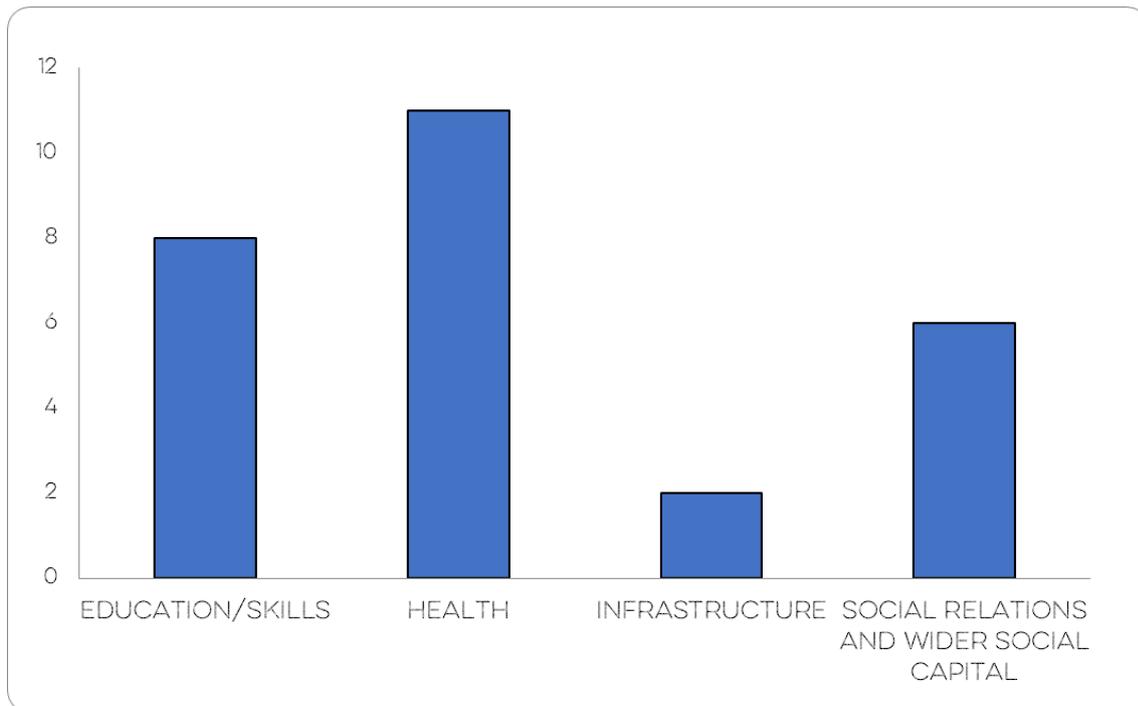


Figure 4: Included studies by primary intervention theme

A full list of included studies, some of their characteristics and more detailed results reporting, follows in Table 6 below.

1. Social capital outcome: community cohesion

12 studies were identified that measured the impact of interventions on community cohesion, conceptualised as agreement that your neighbourhood is a place where people from different backgrounds get on well. They were published between 2011 and 2020, three of them in peer-reviewed journals (Shen et al., 2017; Phillips et al., 2014; Andrews et al., 2014) and the rest published as grey literature, five of which were evaluations of different phases of the National Citizen Service (NCS)³. Eleven related to UK interventions, mostly in England, and the remaining intervention took place in Hong Kong (Shen et al., 2017).

1.1 Study design

Seven studies used mixed methods with quantitative elements comprising repeated measures in a non-experimental design (Platts-Fowler and Robinson, 2011; Andrews et al., 2014; Kantar, 2020; Kantar and London Economics, 2020; Kantar Public and London Economics, 2017; Ipsos Mori, 2017; Ipsos Mori, 2015). There was one longitudinal study (Mason et al., 2012) one non-randomised controlled trial (Phillips et al., 2014), a cohort study (Bertotti et al., 2020) and two quasi-experimental studies (Kerr et al., 2011; Shen et al., 2017), one of which was two-stage (Kerr et al., 2011).

All studies had baseline and follow up measurements and nine studies had some form of comparison or control group (Andrews et al., 2014; Kantar, 2020; Kantar and London Economics, 2020; Kantar Public and London Economics, 2017; Ipsos Mori 2017; Ipsos Mori, 2015; Phillips et al., 2014; Shen et al., 2017; Kerr et al., 2011).

Length of follow up varied from three months to two years, with three studies having a three month follow up period (Kantar, 2020; Kantar and London Economics, 2020; Kantar Public and London Economics, 2017) and two more having three to five months follow up (Ipsos Mori 2017; Ipsos Mori, 2015). One study had a six month follow up (Platts-Fowler and Robinson, 2011), two had one year (Bertotti et al., 2020; Shen et al., 2017) and one had two years (Mason et al., 2012). For the remaining three, the timescale was unclear to the reviewers (Kerr et al., 2011; Phillips et al., 2014; Andrews et al., 2014).

1.2 Population

The most common population categories among the included studies were:

- Children and young people (n=6: Kantar, 2020; Kantar and London Economics, 2020; Kantar Public and London Economics, 2017; Ipsos Mori 2017; Ipsos Mori, 2015; Kerr et al., 2011)

³ The NCS evaluations are separate studies and reports of the same intervention, which took place multiple times per year over a period of five years. Each study was extracted and appraised separately and the methodological information is set out as per the other studies. The findings are reported collectively as per other similar intervention types.

- General population (n=5: Mason et al., 2012; Andrews et al., 2014; Bertotti et al., 2020; Phillips et al., 2014; Shen et al., 2017)
 - Of those targeting the general population, three interventions were specifically aimed at those living in material deprivation and/or a deprived or disadvantaged area/background (n= 3: Bertotti et al., 2020; Phillips et al., 2014; Shen et al., 2017)

More specifically, individual studies targeted the following particular groups:

- Refugees (Platts-Fowler and Robinson, 2011)
- Residents of social housing estates (Shen et al., 2017)
- Secondary school pupils (Kerr et al., 2011)

1.3 Intervention theme and type

We identified four **intervention themes** among the identified studies. The NCS programme cut across the first three themes:

- Social relationships (n=9: Andrews et al., 2014; Kantar, 2020; Kantar and London Economics, 2020; Kantar Public and London Economics, 2017; Ipsos Mori 2017; Ipsos Mori, 2015; Kerr et al., 2011; Platts-Fowler and Robinson, 2011; Shen et al., 2017)
- Community (n=7: Andrews et al., 2014; Kantar, 2020; Kantar and London Economics, 2020; Kantar Public and London Economics, 2017; Ipsos Mori 2017; Ipsos Mori, 2015; Shen et al., 2017)
- Education and skills (n=6: Kantar, 2020; Kantar and London Economics, 2020; Kantar Public and London Economics, 2017; Ipsos Mori 2017; Ipsos Mori, 2015; Shen et al., 2017)
- Health (n=3: Bertotti et al., 2020; Phillips et al., 2014; Platts-Fowler and Robinson, 2011)

Apart from the multiple papers evaluating the NCS, the **intervention types** were quite varied. A few loose groupings emerged:

- Various waves of the NCS programmes of outdoor residentials, life skills training and social volunteering (n=5: Kantar, 2020; Kantar and London Economics, 2020; Kantar Public and London Economics, 2017; Ipsos Mori 2017; Ipsos Mori, 2015)
- Health: A programme of physical activity promotion and activities (Bertotti et al., 2020) and a multi-project community intervention programme targeting physical activity, healthy eating, mental health and wellbeing (Phillips et al., 2014).

The remainder of the interventions were heterogeneous and included:

- Regeneration of the local area including both demolition and improvement works (Mason et al., 2012)
- A programme of support for refugees (Platts-Fowler and Robinson, 2011)
- The setting of specific community cohesion targets at the local authority level (Andrews et al., 2014)
- Participation in a school linking network (Kerr et al., 2011)

- Resident learning programmes including camps, talks and activities designed to increase family health, happiness and harmony through learning (Shen et al., 2017)

In addition, seven of these interventions took a community-centred approach (Kantar, 2020; Kantar and London Economics, 2020; Kantar Public and London Economics, 2017; Ipsos Mori 2017; Ipsos Mori, 2015; Phillips et al., 2014; Shen et al., 2017).

1.4 Measures of neighbourhood cohesion

Ten of the 12 studies used similar measures of cohesion, based on the level of agreement with “My local area is a place where people from different backgrounds get on well together”. However, there was slight variation in the response scales. Commonly, a four-point scale was used comprising:

1. Definitely Agree
2. Tend to Agree
3. Tend to Disagree
4. Definitely Disagree

It was not always clear from the paper what precise response scale was being used, but at least one study (Mason et al., 2012) had an additional option about everyone in the neighbourhood being from the same background, and respondents who gave this answer were excluded from the analysis.

There were two studies that used alternative measures of cohesion. Firstly, Shen et al. (2017) used a 5-item neighbourhood cohesion scale adapted from Sampson et al. (1997) in which participants were asked how strongly they agreed that “people around here are willing to help their neighbors”, “this is a close-knit neighborhood”, “people in this neighborhood can be trusted”, “people in this neighborhood generally do not get along with each other”, “people in this neighborhood do not share the same values”. Response choices included “strongly disagree”, “disagree”, “neutral”, “agree”, and “strongly agree”, scored from one to five (the last two statements were reverse coded). The scale was translated into Chinese.

Secondly, Kerr et al. (2011) developed a neighbourhood openness to diversity scale asking: Where I live, people get on well in my neighbourhood even if they are: a) from different parts of the city/town/village; b) from different racial or ethnic groups; c) from different religions; d) better off or worse off (financially) than each other. The response scale ranged from ‘strongly disagree’ to ‘strongly agree’.

1.5 Results for neighbourhood cohesion

Confidence in the results for the cohesion outcome was high for three studies and moderate for the remaining nine (see below for details). This assessment of confidence in the results was conducted using What Works Centre’s Quality Checklist for quantitative evidence of

intervention effectiveness (Snape et al., 2019). A copy of the checklist is available at Appendix 3.

The findings relating to the impact of the NCS programme on the community cohesion outcome are reported first, given the larger number of included studies relating to these interventions. Then the findings from the two health programme evaluations will be discussed, before finally the remaining five different types of intervention.

Youth skills programmes (NCS)

The five studies covering this type of intervention (Kantar, 2020; Kantar and London Economics, 2020; Kantar Public and London Economics, 2017; Ipsos Mori 2017; Ipsos Mori, 2015) were of moderate quality, or high for Kantar (2020), with no strong concerns about any aspects of design, appropriateness, analysis or consistency.

In total, across the five studies, five summer standard programmes were evaluated, two summer test programmes (Ipsos Mori 2017; Ipsos Mori, 2015), two spring programmes (Ipsos Mori 2017; Ipsos Mori, 2015) and five autumn programmes (Kantar, 2020; Kantar and London Economics, 2020; Kantar Public and London Economics, 2017; Ipsos Mori 2017; Ipsos Mori, 2015). All of these studies reported that, apart from for the two summer test programmes and one of the autumn programmes, there was a positive change in cohesion post-intervention, when either the opposite was true of the comparison groups, or the increase was not as great.

The difference in differences (DiD) were significant ($p < 0.05$) for all but one of the summer standard programmes (Kantar and London Economics, 2020). They were also significant for one of the two spring programmes (Ipsos Mori, 2015) and two of the five autumn programmes (Kantar Public and London Economics, 2017; Ipsos Mori, 2017). Of the significant results, the DiD was 15 percentage points increase for the spring programme (Ipsos Mori, 2015), ranged from 6 to 9 percentage points increase for the summer standard programmes (Kantar, 2020; Kantar Public and London Economics, 2017; Ipsos Mori 2017; Ipsos Mori, 2015) and from 7 to 12 percentage points for the autumn programmes (Kantar Public and London Economics, 2017; Ipsos Mori 2017).

The consistency in the results, supported by the quality of the studies, suggests that these programmes offering outdoor residentials, life skills training and social volunteering do increase the participants' perceptions of cohesion in their local areas, particularly the summer standard programme (which takes place over four weeks in the summer holidays, compared to the autumn programmes which were two-week programmes around the October half term).

Physical activity and other public health interventions

Two studies covered health interventions, one primarily focused on physical activity (Bertotti et al., 2020) and one offering healthy eating, mental health and wellbeing as well (Phillips et al., 2014). One study was assessed as high quality (Phillips et al., 2014) and the second was moderate, due to the lack of comparison group and factors such as small sample size and high attrition (Bertotti et al., 2020).

The study targeting physical activity only (Bertotti et al., 2020) reported purely descriptive results based on a sample size of <20, with no comparison group. The strength of agreement with the cohesion statement reduced at follow-up compared to baseline, from 1.71 to 2 (on a scale where 1 = definitely agree and 4 = definitely disagree). This was not significance tested.

The more holistic health intervention programme (Phillips et al., 2014) reported at both the individual level and the neighbourhood level. At the individual level, of those self-reporting participation in the programme, there was a mean difference in cohesion score of + 0.6 between the intervention and comparison groups. This was not significant. Similarly, at the neighbourhood level, the mean cohesion score was higher among respondents living in areas with a higher rate of participation (1.3 per 10 percentage point increase in participation) but this was also not significant. However, for respondents living in neighbourhoods with higher project headcounts per 1000 population, the mean difference in cohesion score between intervention and comparison groups was 1.1 ($p = 0.003$). Baseline cohesion scores and socio-demographic characteristics were controlled for. The high quality of this study and the significant result at the neighbourhood level suggests that this holistic public health intervention programme, that used community engagement and community-based projects to increase physical activity, healthy eating and mental health and wellbeing in 20 of the most deprived neighbourhoods in London, may benefit neighbourhood cohesion in areas where the activities are the most concentrated.

Neighbourhood regeneration

Mason et al. (2012) measured the impact on cohesion of the first phase of a neighbourhood regeneration programme that included substantial demolition of housing blocks along with social, environmental and housing improvement works. Confidence in the results was assessed as moderate, mainly due to the lack of a comparison group and high attrition. A significant ($p < 0.0001$) improvement in cohesion was reported at follow-up compared to baseline with more (28.2%) cohesion ratings changing for the better than the worse (9.8%). However, the majority of cohesion ratings (62%) remained the same.

Refugee support

Platts-Fowler and Robinson (2011) assessed the effect on cohesion of the Gateway Protection Programme, a 12-month programme of assistance for refugees designated as

vulnerable by the United Nations. Various methodological concerns including high attrition and lack of comparison group give rise to a moderate confidence in the results. 18 months into resettlement, 89% of respondents fairly or strongly agreed their local area was a place people from different backgrounds got on well, higher than the national average (76%). While baseline neighbourhood cohesion results perhaps would not make sense in this context, results are not reported for the 6-month survey, and significance tests do not appear to have been conducted, so these results, while perhaps indicative, cannot be described as robust.

Target-setting

Andrews et al. (2014) evaluated the effectiveness of including community cohesion targets in Local Area Agreements (LAA). Confidence in results has been assessed as moderate due to insufficient detail about the analysis and attrition and lack of random assignment to condition. It is inconclusive whether simply having targets improved cohesion; Local Strategic Partnerships (LSPs) with an LAA for social cohesion improved (or reduced declines in) perceptions of social cohesion by almost a whole percentage point more (0.95%) than those without an LAA - but this was not significant. However, the toughness, or “stretch”, of the target compared to the baseline level for each area seems to play a more important role, about 35% of the explanatory power of the regression model. Perceptions of cohesion in a local authority improved by 0.65% for every additional percentage point of target stretch in their Local Area Agreement ($p < 0.01$).

School linking

The School Linking Network supports schools via local authorities, and directly, to conduct school linking activities that bring schools from different communities together and aims to improve social cohesion. The study evaluating this network (Kerr et al., 2011) was found to give moderate confidence in the results due to inconsistent results reporting such as not reporting attrition or how missing data was dealt with, as well as the lack of clarity over the robustness of the cohesion measure used. No link was found between participation in the network and cohesion (measured as the neighbourhood’s openness to diversity).

Resident learning programme

Shen et al. (2017) measured the effect on cohesion of a six-month programme of learning activities for residents of a Hong Kong district with low baseline cohesion. Residents were introduced to the concept of improving family health, happiness and harmony through learning together, and workshops and activities on a variety of topics (e.g. crafts, exercise) were provided to enable them to do so. Confidence in the results is high. Of the 5 item cohesion scale, item 4 covered the outcome of interest most closely (People in this neighborhood generally do not get along with each other). For item 4, the changes in mean scores from baseline to follow up and the difference in changes between mean scores for the intervention and comparison groups were small and not significant. The overall mean cohesion score (5 items) improved significantly from baseline to follow-up with a small

effect size for the intervention group whereas for the comparison group the improvement was smaller and not significant. The difference between these changes for the intervention and comparison groups was not significant. Therefore there is little to suggest that the programme improved the specific measure of cohesion that this review is concerned with, although it may have improved aspects of a wider conceptualisation of cohesion.

Intervention type	Summary of effect on cohesion outcome
NCS (Youth skills) (Kantar, 2020; Kantar and London Economics, 2020; Kantar Public and London Economics, 2017; Ipsos Mori 2017; Ipsos Mori, 2015)	Significant increase: summer programmes; half of spring programmes; two of five autumn programmes.
Physical activity/ other public health	Physical activity (Bertotti et al., 2020): not significant. Public health programme of activities (Philips et al., 2014): neighbourhood level impacts; no significant impact at individual level.
Neighbourhood regeneration (Mason et al., 2012)	Significant increase at follow-up overall. Caveat, majority of cohesion ratings remained the same.
Refugee support (Platts-Fowler and Robinson, 2011)	High rating of cohesion, not significance tested.
Target setting (LAA) (Andrews et al., 2014)	Inconclusive whether simply having targets improved cohesion. Stretch targets however are associated with an increase.
School linking (Kerr et al., 2011)	No link was found between participation in the network and cohesion.
Resident learning (Shen et al., 2017)	No significant change.

Table 3: Summary of findings by intervention type for cohesion outcome

2. Social capital outcome: social support

16 studies were identified that measured the impact of interventions on social support, conceptualised as the belief that someone would be there for you if you needed help. They were published between 2004 and 2021, eight of them in peer-reviewed journals (Blancafort et al., 2021; Chan et al., 2017; Vaughan Sarrazin and Hall, 2004; Huang et al., 2011; Marselle et al., 2014; Martin et al., 2011; McDonald et al., 2009; Aw et al., 2020) and the rest published as grey literature, six of which were evaluations of different phases of the NCS. Eight of the studies were conducted in England, one in Scotland (Mason et al., 2012), and one each in Spain (Blancafort et al., 2021), Taiwan (Huang et al., 2011), USA (Vaughan Sarrazin and Hall, 2004), Canada (McDonald et al., 2009), Australia (Martin et al., 2011), Singapore (Aw et al., 2020) and Hong Kong (Chan et al., 2017).

2.1 Study design

Three studies used randomised controlled trial (RCT) methodology (Vaughan Sarrazin and Hall, 2004; Huang et al., 2011; Martin et al., 2011), plus one pragmatic RCT (Blancafort et al., 2021) and one pilot RCT (Chan et al., 2017). There were two longitudinal designs (Marselle et al., 2014; Mason et al., 2012) and one quasi-experimental design which was concurrent with mixed methods (Aw et al., 2020). Seven of the studies used a mixed methods design with a non-experimental quantitative element comprising repeated measures (McDonald et al., 2009; Kantar, 2020; Kantar and London Economics, 2020; Kantar Public and London Economics, 2017; Kantar and London Economics, 2021; Ipsos Mori 2017; Ipsos Mori, 2015). Finally, there was one quantitative cohort study (Bertotti et al., 2020).

15 of the 16 studies collected data at or near baseline and then during or after the intervention, the exception being Marselle et al. (2014), where limited data was collected at baseline and the authors did not fully clarify what was included in the social support analysis. The length of follow-up ranged from eight weeks to two years, with precise follow up length unclear to the reviewers for two of the studies (Chan et al., 2017; McDonald et al., 2009). The shortest follow up periods were 8 weeks (McDonald et al., 2009 - although this was a little unclear), 10 weeks (Martin et al., 2011) and 13 weeks (Marselle et al., 2014). For seven studies the length of follow up was three to five months (Kantar, 2020; Kantar and London Economics, 2020; Kantar Public and London Economics, 2017; Kantar and London Economics, 2021; Ipsos Mori 2017; Ipsos Mori, 2015; Huang et al., 2011). One study had a 6 month follow up (Chan et al., 2017 - although this was a little unclear), and one had 9 months (Blancafort et al., 2021), with three having a follow up period of one year (Bertotti et al., 2020; Aw et al., 2020; Vaughan Sarrazin and Hall, 2004) and the longest follow up being two years (Mason et al., 2012).

All of the studies included some form of control or comparison group in their social support analysis except for one (Mason et al., 2012) although one of them was arguably not a true control group as they had taken part in the intervention previously (Marselle et al., 2014).

2.2 Population

The most common population categories among the included studies were:

- Children and young people (n=7: Kantar, 2020; Kantar and London Economics, 2020; Kantar Public and London Economics, 2017; Kantar and London Economics, 2021; Ipsos Mori 2017; Ipsos Mori, 2015; McDonald et al., 2009)
- Older adults (n= 4: Blancafort et al., 2021; Aw et al., 2020; Chan et al., 2017; Huang et al., 2011)
- General population (n=4: Bertotti et al., 2020; Mason et al., 2012; Marselle et al., 2014; Martin et al., 2011)
- People living in material deprivation and/or a deprived or disadvantaged area/background (n=2: one for older adults (Blancafort et al., 2021) and one for the general population which was aimed at people who also had low levels of physical activity (Bertotti et al., 2020)).

More specifically, individual studies targeted the following particular groups:

- Young single mothers with babies under two (McDonald et al., 2009)
- Substance abuse treatment clients (Vaughan Sarrazin and Hall, 2004)
- People who scored low on social support at baseline (Martin et al., 2011)
- Long-term residents of a regeneration area (Mason et al., 2012)

2.3 Intervention theme and type

We identified five **intervention themes** among the identified studies, with a few interventions relevant to multiple themes and the NCS programme relevant to Social relationships, Community and Education and skills:

- Social relationships (n=10: Martin et al., 2011; Vaughan Sarrazin and Hall, 2004; Chan et al., 2017; Blancafort et al., 2021; Kantar, 2020; Kantar and London Economics, 2020; Kantar and London Economics, 2021; Kantar Public and London Economics, 2017; Ipsos Mori 2017; Ipsos Mori, 2015)
- Community (n=8: Kantar, 2020; Kantar and London Economics, 2020; Kantar and London Economics, 2021; Kantar Public and London Economics, 2017; Ipsos Mori 2017; Ipsos Mori, 2015; Blancafort et al., 2021; Aw et al., 2020; McDonald et al., 2009)
- Health (n=8: Martin et al., 2011; Marselle et al., 2014; Bertotti et al., 2020; Aw et al., 2020; Huang et al., 2011; Vaughan Sarrazin and Hall, 2004; Chan et al., 2017; Blancafort et al., 2021)
- Education and skills (n=7: McDonald et al., 2009; Kantar, 2020; Kantar and London Economics, 2020; Kantar and London Economics, 2021; Kantar Public and London Economics, 2017; Ipsos Mori 2017; Ipsos Mori, 2015)
- Social care (1 study: Vaughan Sarrazin and Hall, 2004)

The **intervention types** were relatively varied. A few loose groupings emerged and, as before, some studies covered interventions of multiple types within the same programmes:

- Various waves of the National Citizen Service programme of outdoor residentials, life skills training and social volunteering (n=6: Kantar, 2020; Kantar and London Economics, 2020; Kantar and London Economics, 2021; Kantar Public and London Economics, 2017; Ipsos Mori 2017; Ipsos Mori, 2015)
- Physical activity: These three studies comprised a programme of physical activity promotion and activities (Bertotti et al., 2020), a 3-month tai-chi qigong programme (Chan et al., 2017) and guided group walks (Marselle et al., 2014).
- Mental and physical health: These three studies included a community development programme of health promotion (Aw et al., 2020), a CBT programme to reduce fear of falling combined with a tai chi programme (Huang et al., 2011) and a programme of group social and health activities (Blancafort et al., 2021).
- Advice and support: These three studies included a strengths-based model of substance abuse treatment case management (Vaughan Sarrazin and Hall, 2004), facilitated sessions about building social networks and social support (Martin et al., 2011) and a group work parenting intervention for teenage mothers (McDonald et al., 2009).

The remainder of the interventions were:

- Regeneration of the local area including both demolition and improvement works (Mason et al., 2012)

In addition, seven of these interventions took a community-centred approach (Aw et al., 2020; Kantar, 2020; Kantar and London Economics, 2020; Kantar and London Economics, 2021; Kantar Public and London Economics, 2017; Ipsos Mori 2017; Ipsos Mori, 2015). Five interventions were particularly concerned with social needs (Chan et al., 2017; Marselle et al., 2014; Martin et al., 2011; McDonald et al., 2009; Blancafort et al., 2021).

2.4 Measures of social support

At the abstract screening stage of the review the researchers identified that the search results included studies using dozens of heterogeneous and often either very specific (e.g., social support for exercise) or very broad (e.g., including social connectedness and social networks) conceptualisations of social support. Therefore, the review included only those measures of social support that were aligned to the outcome wording in [Table 1](#) and/or the conceptualisation described by Pryor (2021). Where the measures used were much broader than just social support, they were only included if results were reported for more specific and relevant subscales or questions - these are in the last section, below.

Eight of the 16 studies reported using named and validated measures of social support, although almost all of these were different. The measures with the greatest similarities have been grouped together below:

Two scales measured the **number of people** available to call on for various kinds of support:

- The **Social Resources Inventory in Older Adults** (Diaz-Veiga, 1987) was used by Blancafort et al. (2021). The reviewers were unable to locate the full wording, but

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included this study based on the summary wording in the paper. There are four components to the scale: extension of social network, emotional support, instrumental support and informational support. The scale measures the number of sources of relationship providing each of these types of support (partner, children, other relatives, neighbours and friends).

- Three items from the **Lubben Social Network scale** (Lubben, 1988) were used by Aw et al. (2020). They assessed the number of local friends they could see/hear from at least monthly, feel at ease to talk about private matters and feel close enough to call upon for health.

A third scale measured both the **number of people and the satisfaction** with the level of support:

- The **Revised Social Support Questionnaire (RSSQ)** (Sarason et al., 1987) was used by Chan et al. (2017). The scale measured both the number of people ('RSSQ number') and satisfaction ('RSSQ satisfaction') with six items: who can you really count on to distract you from worries/stress, to feel more relaxed when under pressure, to accept you totally, to care about you regardless of what is happening, to help you feel better when down in the dumps, to console you when very upset. The results were reported based on the overall scores for the number of people available for all items ('RSSQ number') and satisfaction with all items ('RSSQ satisfaction').
- Similarly to the RSSQ, Bertotti et al. (2020) used a measure which captured both the **number** of people that can be counted on in difficult times and the **ease of accessing help** from neighbours. The reviewers were unable to tell whether the measure used was named and validated.

This scale also measures satisfaction (along with behaviour) but is focused on **help actually received recently**, rather than the theoretical present or future help measured by the others:

- The Chinese version (Huang and Lin, 2004) of the **Inventory of Social Supportive Behaviors (ISSB)** (Barrera et al., 1981) was used by Huang et al. (2011). The 13-item scale includes two subscales: behaviour and satisfaction. It requires the participant to say how frequently they received a variety of forms of help and support during the past 4 weeks.

The remainder of the scales measured somewhat broad conceptualisations of social support but results for **one or more relevant subscales** (of tangible help and/or people to rely on) within them were also reported, hence their inclusion in the review.

- The **Social Provisions Scale (SPS)** (Cutrona & Russell, 1987) was used by Vaughan Sarrazin and Hall (2004). The scale measures response to 24 items including: There are people I know will help me if I really need it AND There are people I can count on in an emergency. There are six subscales including reliable alliance - the assurance that others can be counted on for tangible assistance - generally provided by family members.
- The **Interpersonal Support Evaluation List (ISEL)** (Cohen et al., 1985) is a 40-item scale with four 10-item subscales. Marselle et al. (2014) reported results for the 10-

item Appraisal subscale and Martin et al. (2011) reported the Tangible and Appraisal subscales.

- The **Medical Outcomes Study Social Support** survey (MOSSS) (Sherbourne and Stewart, 1991) was used by McDonald et al. (2009). This measures three components of social support: Emotional, Affectionate, Tangible plus an overall support score. Tangible includes things like being helped with chores and being taken to the doctor.
- In addition, while the reviewers couldn't establish that the scale was named and validated, Mason et al. (2012) measured residents' perception of the availability of three types of social support - **practical, financial and emotional** – from people outside their own household and reported results for the three types separately as well as the overall score. The 'practical' type is broadly similar to the 'Tangible' subscales described above.
- The remaining six studies evaluating waves of the NCS programme did not report using named and validated measures, but all used a consistent, one-question measure, based on the level of agreement that **if you needed help there are people that would be there for you** (Kantar, 2020; Kantar and London Economics, 2020; Kantar and London Economics, 2021; Kantar Public and London Economics, 2017; Ipsos Mori 2017; Ipsos Mori, 2015). Of the other measures described, this is probably most similar to the Tangible components mentioned above.

2.5 Results for social support

Confidence in results for the social support outcome was assessed as high for five studies and moderate for the remaining eleven (see below for details). This assessment of confidence in the results was conducted using What Works Centre's Quality Checklist for quantitative evidence of intervention effectiveness (Snape et al., 2019). A copy of the checklist is available at Appendix 3.

The findings relating to the impact of the NCS programme on the social support outcome are reported first, given the larger number of included studies relating to these interventions. Then the findings from the two health programme evaluations will be discussed, before finally the remaining five different types of intervention.

Youth skills programmes (NCS)

The six studies covering this type of intervention (Kantar, 2020; Kantar and London Economics, 2020; Kantar and London Economics, 2021; Kantar Public and London Economics, 2017; Ipsos Mori 2017; Ipsos Mori, 2015) were of moderate quality, or high for Kantar (2020) and Kantar and London Economics (2021).

All of these studies reported that for at least one of the seasonal interventions that year, the proportion of the respondents who agreed or strongly agreed with the social support statement was higher in the intervention groups than it had been at baseline, when either the

opposite was true of the comparison groups, or the increase was not as great. In most cases the increases are greater for the summer groups.

In total, across the six studies, six summer programmes were evaluated, two summer test programmes (Ipsos Mori 2017; Ipsos Mori, 2015), two spring programmes (Ipsos Mori 2017; Ipsos Mori, 2015) and five autumn programmes (Kantar, 2020; Kantar and London Economics, 2020; Kantar Public and London Economics, 2017; Ipsos Mori 2017; Ipsos Mori, 2015). The difference in differences (DiD) were significant ($p < 0.05$) for both the summer test groups and all of the summer standard groups except Ipsos Mori (2017) and Kantar and London Economics (2021) and for only one of the autumn groups (Ipsos Mori, 2015). The DiD were not significant for either of the two spring programmes.

Of the significant results, the DiD was a 6 percentage point increase for the autumn group (Ipsos Mori, 2015) and ranged from 6-10 percentage points for the summer test programmes (Ipsos Mori, 2015; Ipsos Mori 2017). For summer standard, they ranged from 6-10 percentage points increase as well (Kantar, 2020; Kantar and London Economics, 2020; Kantar Public and London Economics, 2017; Ipsos Mori, 2015).

Although there are some inconsistencies among these results, bearing in mind the quality of these evaluations, they do suggest that the summer programmes may increase the participants' perceptions of social support.

Physical activity

The three studies relating to physical activity were of moderate (Bertotti et al., 2020; Marselle et al., 2014) to high (Chan et al., 2017) quality.

The three physical activity studies had mixed impacts on social support. Bertotti et al. (2020) reported an increase in both ease of social support and number of people from which they felt it could be obtained at follow-up compared to baseline in the physical activity programme intervention group and not the control group. However, sample sizes were small (<20) and this result was not significance tested. Marselle et al. (2014) did not find group walk participation to be a significant predictor of social support although they did find significant positive associations with frequency of nature walks and significant negative associations with having a health condition or recent stressful life event. Finally, Chan et al. (2017) found the tai chi intervention group had significantly greater improvement in social support satisfaction at baseline than the control group. There was no significant improvement in the number of people from which people felt they could access social support, however.

The conceptualisation of social support that this review is most concerned with relates to the quality of that support rather than the quantity. Further reflections are set out in Appendix 6. Given this, and the high quality of the latter study in particular, the tai chi

intervention could have some positive impact on social support but there is scant extant evidence that other physical activity interventions do so.

Mental and physical health

Confidence in the results of the three studies relating to mental and physical health interventions was assessed as moderate (Aw et al., 2020) to high (Blancafort et al., 2021; Huang et al., 2011). The impact of the interventions on social support was mixed and the measures of social support used were quite different.

Aw et al. (2020) evaluated a community development programme of health promotion for older adults which had three components. SCOPE offered 16 weekly sessions to improve self-efficacy for self-care and disease management. GAB offered 8 weekly guided autobiography sessions to improve life satisfaction and SWING offered 8 weekly sessions to improve civic engagement by enabling participants to launch their initiatives. SCOPE only, SCOPE+SWING and GAB+SWING conditions all had a positive effect on social support (conceptualised in terms of the number of people one can contact for three purposes and controlling for baseline score and demographics). However, this effect was only significant for the 'GAB+SWING' condition. Participants in this condition reported 36% higher social support than the control at post one-year ($p < 0.05$).

Huang et al. (2011) measured the effect of a CBT programme addressing fear of falling among older people, combined with a tai chi programme, on social support conceptualised as the help, and satisfaction with that help, that they have received in the past four weeks. Social support satisfaction scores were significantly higher at five months for the CBT+tai chi group than both the other groups (CBT alone and a control). Social support behaviour scores were significantly higher in the CBT+tai chi group than the control group at five months as well.

Blancafort et al. (2011) evaluated a complex 12-week intervention of facilitated group sessions at health centres and on visits to a local supermarket, a public space for physical activity and a community centre offering social activities. The aim was to develop new skills and behaviours to support improved social capital, self management and health literacy among the participants. They found no statistically significant difference in the change in social support (conceptualised as the number of relationships providing support) between timepoints for the control group and the intervention group.

Advice and support

These three studies were assessed at a moderate confidence level in the results. There were also mixed results from these quite different interventions targeting different groups.

The study evaluating a strengths-based model of substance abuse treatment case management (Vaughan Sarrazin and Hall, 2004) found participants in the treatment

conditions had a higher total social support score than the control at three (n/s) and six months ($p=0.018$) but not 12 months. For the Reliable Alliance subscale, which is closer to the conceptualisation of social support that this review is concerned with (see box 1 below), there was a significant difference in score between the ICM INSIDE condition and the control at 6 months. This condition involved a case manager working inside the treatment agency as opposed to outside it or remotely via telephone/online in the other treatment conditions.

Martin et al. (2011) evaluated a programme of facilitated sessions about building social networks and social support. The intervention group had higher scores at follow up than the control group for the Appraisal and Tangible subscales, and the total score, but only the latter two were significant.

Finally, there was no significant change in social support scores for teenage mothers before and after participating in a group work parenting intervention (McDonald et al., 2009), but there was for their mothers. Specifically, there were significant increases in the Tangible subscale scores and the overall scores for the sample of grandmothers. It is not clear whether the grandmothers participated in the intervention themselves. N.B. Although similar, this study used a different Tangible subscale than that mentioned for Martin et al. above.

While these results suggest that all three interventions may have had a positive effect on social support for their respective participants (or their mothers), the differences in interventions, scales and populations make it hard to draw any conclusions about advice and support interventions more broadly.

Regeneration

Mason et al. (2012) measured the change in social support among residents living through the first phase of a neighbourhood regeneration programme including both demolition and improvement works. Confidence in the results of this evaluation was assessed as moderate, due to factors such as high attrition and uncertainty about the precise measure used and its validity, as well as the lack of a comparison group.

Social support was conceptualised as perceived availability of Practical, Financial and Emotional support from people outside the household. There was an aggregate improvement in all three areas of perceived support since baseline (measured as the ratio of the proportion of participants for whom social support had got worse to the proportion for whom it had got better) but this improvement was only significant for the Practical element.

Intervention type	Summary of effect on social support outcome
NCS (Youth skills) (Kantar, 2020; Kantar and London Economics, 2020; Kantar and London Economics, 2021; Kantar Public and London Economics, 2017; Ipsos Mori 2017; Ipsos Mori, 2015)	Significant increase for both summer test groups; four out of six summer standard groups; one out of five autumn groups; not significant for spring programmes.
Physical activity	<p>Physical health promotion (Bertotti et al., 2020): increase but not significance tested.</p> <p>Group walk participation (Marselle et al., 2014) was not a significant predictor of social support.</p> <p>Tai chi (Chan et al., 2017) had significantly greater improvement in social support satisfaction.</p>
Neighbourhood regeneration (Mason et al., 2012)	Significant increase in perceptions of practical support as a result of a programme of demolition and improvement works.
Advice and support	<p>Case manager at substance treatment agency (vs outside/ remote) (Vaughan Sarrazin and Hall, 2004): significant difference in social support.</p> <p>Facilitated sessions for building social networks and social support (Martin et al., 2011): significant effect on perceived tangible support.</p> <p>Parenting intervention (McDonald et al., 2009): no significant effect.</p>
Mental and physical health	<p>Significant effect on social support for intervention combining guided autobiography/ launch own initiatives (Aw et al., 2020).</p> <p>CBT and tai chi (Huang et al., 2011) had a significant effect on social support satisfaction.</p> <p>Facilitated group sessions (Blancafort et al., 2011): no significant effect.</p>

Table 4: Summary of findings by intervention type for social support outcome

3. Social capital outcome: neighbourhood belonging

Seven studies were identified that measured the impact of interventions on neighbourhood belonging, conceptualised as agreement with the statement 'I feel like I belong to this neighbourhood'. They were published between 2011 and 2018, one of them in a peer-reviewed journal (Jalaludin et al., 2012) and the rest published as grey literature (National Work and Learning Institute, 2018; CLES & NEF, 2013; Mason et al., 2012; Morley et al., 2017; Harkin and Knudsen, 2018; Bragg et al., 2013). 5 interventions took place in England (National Work and Learning Institute, 2018; CLES & NEF, 2013; Morley et al., 2017; Harkin and Knudsen, 2018; Bragg et al., 2013), one in Scotland (Mason et al., 2012) and one in Australia (Jalaludin et al., 2012).

3.1 Study design

Five studies used mixed methods with quantitative elements comprising repeated measures in a non-experimental design (Morley et al., 2017; Harkin and Knudsen, 2018; Bragg et al., 2013; Jalaludin et al., 2012; CLES & NEF, 2013). There was also one longitudinal study (Mason et al., 2012) and one randomised controlled trial (RCT) (National Work and Learning Institute, 2018).

All studies had baseline and follow up measurements except for Morley et al. (2017) which only took measurements at the end of the intervention. The RCT was the only study with a control group (National Work and Learning Institute, 2018).

Length of follow up varied from four weeks to two years, although the follow up period was unclear to the reviewers for three of the studies (Morley et al., 2017; Bragg et al., 2013; CLES & NEF, 2013). Harkin and Knudsen (2018) had the shortest follow-up period at four weeks, then National Work and Learning Institute (2018), for which the follow-up appeared to be 11 weeks. The remaining studies had an eight month follow up (Jalaludin et al., 2012) and two years (Mason et al., 2012).

3.2 Population

The most common population categories among the included studies were:

- General population (n=4: Jalaludin et al., 2012; Morley et al., 2017; Mason et al., 2012; CLES & NEF, 2013)
- People living in material deprivation and/or a deprived or disadvantaged area/background (n=2: Jalaludin et al., 2012; Harkin and Knudsen, 2018)

The remaining studies were concerned with the following populations:

- Adults (over 19) with low levels of English language proficiency, who had been resident for more than 12 months in the UK and currently lived in one of five areas of Yorkshire and Greater Manchester (National Work and Learning Institute, 2018)
- People with mental health issues (Bragg et al., 2013)

3.3 Intervention theme and type

We identified three **intervention themes** among the identified studies, with one intervention cutting across all three themes:

- Health (n=4: Bragg et al., 2013; Harkin and Knudsen, 2018; Morley et al., 2017; CLES & NEF, 2013)
- Community (n=3: Jalaludin et al., 2012; Morley et al., 2017; CLES & NEF, 2013)
- Education and skills (n=2: National Work and Learning Institute, 2018; Morley et al., 2017)

The **intervention types** were more heterogeneous than for the other two social capital outcomes, so each intervention is briefly described below:

Infrastructure improvement:

- 16-month urban renewal programme of internal and external upgrades to homes alongside community engagement and employment initiatives (Jalaludin et al., 2012)
- Regeneration of the local area including both demolition and improvement works (Mason et al., 2012)

Outdoor environmental sustainability activities:

- A community food growing programme with skills training and local business support for food enterprises (Morley et al., 2017)
- Programme of various different environmental projects aiming to support mental health, such as social and therapeutic horticulture (Bragg et al., 2013)

English language classes:

- An 11-week programme of community-based English language learning classes and club sessions (National Work and Learning Institute, 2018)

Physical activities:

- 20-month programme of various different community-organised sports activities (Harkin and Knudsen, 2018)

Varied, mostly around healthy eating:

- A collection of projects that were part of the Big Lottery Fund National Well-Being Programme that opted to measure social wellbeing outcomes. Projects within the Programme had to address at least one of three topics: healthy eating, physical activity or mental health, and were encouraged to combine topics. Almost all of the projects included here had a focus on health awareness and cooking. They all involved group delivery. The majority included food growing and food awareness activities (CLES & NEF, 2013)

The reviewers identified three of the interventions that took a community-centred approach (Morley et al., 2017; National Work and Learning Institute, 2018; Harkin and Knudsen, 2018).

3.4 Measures of neighbourhood belonging

All six studies used similar conceptualisations of neighbourhood belonging, asking slight variations on the belonging question from the [ONS harmonised set](#) (To what extent do you agree or disagree with the statement 'I feel like I belong to this neighbourhood?'). The ONS version of the question uses a 5-point response scale (strongly agree to strongly disagree) but some of the six studies differed from this or did not report the specific response scale used.

- Two studies used the statement 'I feel like I belong to this neighbourhood' but didn't state the response scale they used (Jalaludin et al., 2012; Harkin and Knudsen, 2018).
- Three studies used very similar variations on this wording (e.g. 'How strongly do you feel you belong to your immediate neighbourhood or community?') with 4-point response scales from 'very strongly/a great deal' to 'not at all strongly/not at all' (Bragg et al., 2013; Mason et al., 2012; CLES & NEF, 2013). Bragg et al. (2013) note that this question was adapted from Ministry of Housing, Communities and Local Government (2014).
- National Work and Learning Institute (2018) asked a two-question set (How much do you feel part of your local area? (A lot, somewhat, not very much, not at all); How much do you feel part of this country? (A lot, somewhat, not very much, not at all)) and reported the results of each question separately. The survey was translated into several languages to match the languages most spoken by participants. The question was changed from a version much closer to the one used in Pryor (2021) after cognitive testing and before the pilot phase.
- Morley et al. (2017) had no baseline measurement so their question was retrospective: 'Has your involvement with IET had an effect on any of the following? Sense of belonging to a community' (Increased significantly, increased somewhat, no effect, decreased somewhat, not sure).

3.5 Results for neighbourhood belonging

Two of the studies achieved a high quality rating in the Quality Assessment (Jalaludin et al., 2012; National Work and Learning Institute, 2018), four moderate (Bragg et al., 2013; Mason et al., 2012; Harkin and Knudsen, 2018; ; CLES & NEF, 2013) and one low (Morley et al., 2017). The low-quality score arose from multiple factors including lack of clarity over sample size and lack of control group and baseline measurement. The four studies assessed as moderate quality all lacked control groups and there were either concerns about attrition, clarity of details or sample size, for example.

Two of the studies reported no change in sense of neighbourhood belonging before and after the intervention. For Mason et al. (2012), there was no significant change between measurements, with a similar percentage of respondents' sense of belonging having respectively improved, stayed the same and diminished. There was no control group to compare this to, and the neighbourhood regeneration activity was still ongoing at the time of

the second measurement. National Work and Learning Institute (2018) reported no change for the English language intervention group and a slight increase for the comparison group, but the difference between the groups was not significant. In addition, the level of belonging reported by participants at baseline was extremely high, with 97% of the intervention group and 89% of the comparison group stating they felt part of their local area either a lot or somewhat.

Morley et al. (2017) found that 96% of volunteers involved in the community growing intervention reported an increased sense of belonging to community, although this result was not significance tested, as mentioned the confidence assessment was low and the measure was retrospective and had an unbalanced positive and negative response.

The four remaining studies used similar wording for their measures of belonging. Three of them had positive impacts on neighbourhood belonging, but only one of those was tested for statistical significance (CLES & NEF, 2013) and the impact of the fourth study is somewhat unclear. Although most participants' perception of their level of neighbourhood belonging remained the same before and after taking part in a LoveSport activity, more participants' level of belonging increased than decreased (13% compared to 4%) (Harkin and Knudsen, 2018). Jalaludin et al. (2012) found 70% of participants agreed or strongly agreed with the belonging statement after the urban renewal intervention compared to 48% before, but this result was not significant and there was no comparison group. Finally, Bragg et al. (2013) reported a significant decrease in pre- and post- mean score for the belonging statement among the group of participants who only responded to the survey before or after the environment-focused mental health intervention. They also report a decrease in mean score that was not significant among the participants who completed questionnaires both pre- and post-. The direction of the significance tested results for belonging was not clear from the paper; the reviewers have assumed that the decrease in mean score signifies greater, rather than lesser, belonging.

Overall, the small number of included studies, along with their varying quality and results, means the reviewers are unable to draw any conclusions, however tentative, about the types of interventions that could increase neighbourhood belonging, more broadly than the reviewed studies have already done.

Intervention type	Summary of effect on belonging outcome
Infrastructure improvement	<p>No significant change as a result of ongoing regeneration (demolition and improvement works) (Mason et al., 2012).</p> <p>Increase (not significance tested) as a result of urban renewal programme (internal and external upgrades to homes; community engagement and employment initiative) (Jalaludin et al., 2012).</p>

Outdoor environmental sustainability activities	Volunteers involved in the community growing intervention (Morley et al., 2017) reported an increased sense of belonging to community, (not significance tested). Environment-focused mental health intervention (Bragg et al., 2013): significant decrease in scores (overall sample; not significant within sample).
English language classes (National Work and Learning Institute, 2018)	Not significant.
Physical activities (Harkin and Knudsen, 2018)	More people increased than decreased their sense of belonging after a 20-month programme of various different community-organised sports activities (most people stayed the same).
Varied projects, mostly around healthy eating (CLES & NEF, 2013)	Significant increase in sense of belonging to immediate neighbourhood.

Table 5: Summary of findings by intervention type for belonging outcome

4. Overall summary of findings

For the most part, the limitations outlined in previous sections (the diversity of the included study designs, measures and intervention types; the varying quality of the evidence and the way it has been reported) have prevented this review from identifying the specific types of interventions that evidence suggests may improve the social capital outcomes of interest. However, there were two types of intervention for which more than one high quality study found significant increases in cohesion and/or social support. The first was regular group tai chi practice, which both Huang et al. (2011) and Chan et al. (2017) evaluated and in both cases the tai chi intervention groups had higher social support scores at follow-up than the control groups. The second was the NCS programme; the six NCS evaluations included in the review, being relatively homogenous in terms of quality and study design, offered more scope than the rest of the studies for drawing more robust conclusions. All five that measured the cohesion outcome reported a significantly higher increase in cohesion scores for the standard summer interventions compared to the comparison groups, suggesting that these summer youth skills programmes are effective at improving cohesion among participants. In this case it would be interesting to understand if cohesion was also improved for non-participants in the same communities, after Phillips et al. (2014). Most of the NCS evaluations also reported a significantly higher increase in social support scores for the summer test and standard interventions compared to their respective comparison groups, although there were a couple of exceptions. The NCS evaluations didn't measure the belonging outcome

Table of studies

Reference	Year of publication	Study Overview					Intervention						Level of confidence in the results	
		Study design	Length of follow-up	Intervention theme	Population category	Geography	Main intervention type	Data collection method for social capital outcomes			Results			
								Social cohesion	Belonging	Social support	Social cohesion	Belonging		Social support
Blancafort et al., 2021	2021	Pragmatic RCT	9 months	Community Health Social relations	Older adults Deprivation/ disadvantage	8 low income urban sites in Catalonia	12 weekly group activities with health and social care professionals			Social Resources Inventory in Older Adults			No statistically significant difference in change between timepoints (IG/CG)	high
Chan et al., 2017	2017	Pilot RCT	Unclear: T2 is 6 months after baseline, 3-month intervention	Health Social relations	Older adults	Hong Kong	Tai-chi qigong programme assisted by elderly neighbourhood volunteers			Revised Social Support Questionnaire - RSSQ			IG had significantly more improvement at T1 and T2 than CG for RSSQ Satisfaction but not RSSQ Number	high
Vaughan Sarrazin and Hall, 2004	2004	RCT	12 months	Health Social care Social relations		Iowa - rural midwest USA	Iowa Case Management Model - a comprehensive model of self-directed case management for substance abuse treatment			Social Provisions Scale (SPS)			All IGs had significantly higher SPS global scores than CG and one IG had significantly higher Reliable Alliance subscale score than CG at 6 months but not 3 or 12 months.	moderate
Huang et al., 2011	2011	RCT	5 months	Health	Older adults	Rural northeastern Taiwan	Cognitive behavioural strategies with and without intense Tai Chi			Chinese version of the Inventory of Social Supportive Behaviors (ISSB)			Tai chi IG had significantly better outcomes at 5 months than the CGs	high
Marselle et al., 2014	2014	Longitudinal study	13 weeks	Health	General population	England	Group walks in natural surroundings			Interpersonal Support Evaluation List (ISEL) (Appraisal subscale)			Group walk participation was not a significant predictor of social support. Having a health condition/recent stressful life event were associated with significantly less, and frequency of other nature walks with significantly greater, social support.	moderate
Martin et al., 2011	2011	RCT	10 weeks.	Health Social relations	General population	Australia	Facilitated sessions about building social networks and social support			Interpersonal Support Evaluation List (ISEL) (Appraisal and Tangible subscales)			IG had significantly higher post-intervention overall ISEL, Belonging and Tangible subscale scores than the CG, controlling for the baseline scores	moderate

McDonald et al., 2009	2009	Mixed methods incl. repeated measures, nonexperimental	Unclear: T2 is after end of 8-week intervention	Community Education/skills	Women	11 sites across Canada	Community-based, groupwork intervention for teenage mothers.			Medical Outcomes Study Social Support survey (MOSSS)			For the teenage mothers in the sample there was no significant change pre- and post-intervention. For the grandmothers, there were statistically significant increases in Tangible subscale and total support scores pre- and post-intervention.	moderate
Aw et al., 2020	2020	Concurrent mixed-methods evaluation with a quasi-experimental design	One year	Community Health	Older adults	Whampoa, Singapore - an area with a higher proportion of older people	Community development program of health promotion for older adults			3 items from Lubbens Social Network			At post-one year, the 4 groups had significantly different social support scores. GAB+SWING IG reported 36% higher social support than the CG.	moderate
Shen et al., 2017	2017	Quasi-experimental study	One year	Community Education/skills Social relations	General population Deprivation/disadvantage	Kwun Tong in Hong Kong	Community based intervention for cohesion	"People around here are willing to help their neighbors", "this is a close-knit neighborhood", people in this neighborhood "can be trusted", "generally do not get along with each other", "do not share the same values". Scale translated into Chinese.			No significant changes in cohesion item 4 (whether people get along). Overall neighborhood cohesion (5 items) significantly improved with small effect size in IG but not CG.			high
National Work and Learning Institute, 2018	2018	RCT	Unclear: most T2 measures collected around 11 weeks	Education/skills	BAME population	Bradford, Kirklees, Manchester, Oldham and Rochdale	English Language classes and activities		How much do you feel part of your local area? How much do you feel part of this country?			No significant differences were found between the treatment and control groups at baseline or follow-up.	high	
Phillips et al., 2014	2014	Non randomised control trial	Unclear: T2 at end of intervention	Health	General population Deprivation/disadvantage		Community-based public health activities	People from different backgrounds in the neighbourhood get on			No significant difference between IG and CG at individual or neighbourhood level. For neighbourhoods with higher project headcounts, IG scored significantly higher than CG at follow-up, controlling for baseline.		high	

Platts-Fowler and Robinson, 2011	2011	Mixed methods incl. repeated measures, nonexperimental design	6 months	Health Social relations	BAME population	Bromley, Colchester, Hull, Sheffield, Norwich, Bradford and Greater Manchester	Refugee resettlement and integration support	My local area is a place where people from different backgrounds get on well together			18 months into resettlement, 89% of respondents agreed with the cohesion statement. No significance test reported.	At 18 months, 69% of all respondents reported a sense of neighbourhood belonging, above the national average (59%). No significance test reported.		moderate
Morley et al., 2017	2017	Mixed methods incl. repeated measures, nonexperimental design	Unclear: ongoing programme delivery, intervention not "complete"	Community Education/skills Health	General population	England	Community growing, skills share and business support		Has your involvement with IET had an effect on any of the following? Sense of belonging to a community			96% of volunteers reported their involvement in the project had increased their sense of belonging. No significance test reported.		low
Harkin and Knudsen, 2018	2018	Mixed methods incl. repeated measures, nonexperimental design	4 weeks	Health	Deprivation/disadvantage	Banbury, Chester, Sheffield, Torbay and Hackney	Sports and exercise activities		I feel like I belong to this neighbourhood			After attending an activity, belonging remained the same for 30% of participants, 13% showed improvement, 4% showed deterioration. Missing data for the remaining 52%.		moderate
Bragg et al., 2013	2013	Mixed methods incl. repeated measures, nonexperimental	Unclear: T2 dependent on the end of activities.	Health	People with underlying health conditions	Various locations in England	Ecotherapy activity programme		How strongly do you feel you belong to your immediate neighbourhood or community?			One of the three sub-groups showed a significant reduction in belonging score at follow-up compared to baseline. Not clearly stated but reviewers assume lower scores mean greater belonging. No significant findings from the other sub-groups.		moderate
Andrews et al., 2014	2014	Mixed methods incl. repeated measures, nonexperimental	Unclear: ongoing intervention.	Community Social relations	General population	England	Local Area Agreements with targets for social cohesion	The belief that people from diverse backgrounds got on well together in the area			No significant difference in cohesion between LSPs that set targets and those that didn't. Target toughness did make a significant difference to cohesion, however.			moderate

Kerr et al., 2011	2011	Two-stage, quasi-experimental research design	Before and after the school participated in the school linking network (SLN)	Social relations	Children and young people	England	School Linking Network (SLN) aiming to improve community cohesion	Where I live, people get on well in my neighbourhood even if they are: from different parts of the city/ town/village; from different racial or ethnic groups; from different religions; better off or worse off (financially) than each other			No connection was found in the model between participation in SLN and cohesion.			moderate
Mason et al., 2012	2012	Longitudinal study	2 years	Infrastructure	General population	Glasgow. Predominantly social housing areas.	Neighbourhood regeneration areas	My neighbourhood is a place where people from different backgrounds get on well together. Excluding responses perceiving all to have the same background.	How much they felt they belonged to their neighbourhood	Measured perceived availability of three types of social support - practical, financial and emotional – from people outside their own household.	Cohesion significantly improved compared to the baseline.	No significant change in belonging compared to the baseline.	Significant improvement in practical support since baseline for some intervention areas.	moderate
Bertotti et al., 2020	2020	Quantitative cohort study	12 months (approx.)	Health	General population Deprivation/ disadvantage	4 estates in Redbridge (London borough)	Physical activity programming	My neighbourhood is a place where people from different backgrounds get on well together		How easy is it for you to get help from neighbours if you should need it? Number of people I can count on for help in times of difficulty	The mean score at follow up showed a reduction in cohesion (IG only).		The mean score at follow up showed a slight improvement compared to baseline for the IG only.	moderate
Kantar and London Economics, 2021	2021	Mixed methods incl. repeated measures, nonexperimental design	3 months	Community Education/skills Social relations	Children and young people	England	Youth provision			If I needed help there are people who would be there for me.			No significant impact on social support.	high
Jalaludin et al., 2012	2012	Mixed methods incl. repeated measures, nonexperimental	8 months	Community Infrastructure	General population Deprivation/ disadvantage	Sydney, Australia	Urban renewal		I feel as though I belong to this neighbourhood			No significant change in belonging compared to the baseline.		high
Kantar, 2020	2020	Mixed methods incl. repeated measures, nonexperimental	3 months	Community Education/skills Social relations	Children and young people	England	Youth provision	My local area is a place where people from different backgrounds get on well together		If I needed help there are people who would be there for me.	Summer intervention: Cohesion improved significantly more between pre- and post- for the IG than the CG. Autumn intervention: No significantly different improvement in either IG or CG.		Summer intervention: Social support improved significantly more between pre- and post- for the IG than the CG. Autumn intervention: No significantly different improvement in either IG or CG.	high

Kantar and London Economics, 2020	2020	Mixed methods incl. repeated measures, nonexperimental	3 months	Community Education/skills Social relations	Children and young people	England	Youth provision	My local area is a place where people from different backgrounds get on well together		If I needed help there are people who would be there for me.	Summer and autumn interventions: No significantly different improvement in either IG or CG.		Summer intervention: Social support improved significantly more between pre- and post- for the IG than the CG. Autumn intervention: No significantly different improvement in either IG or CG.	moderate
Kantar Public and London Economics, 2017	2017	Mixed methods incl. repeated measures, nonexperimental	3 months	Community Education/skills Social relations	Children and young people	England	Youth provision	My local area is a place where people from different backgrounds get on well together		If I needed help there are people who would be there for me.	Summer and autumn interventions: Cohesion improved significantly more between pre- and post- for the IG than the CG for both summer and autumn.		Summer intervention: Social support improved significantly more between pre- and post- for the IG than the CG. Autumn intervention: No significantly different improvement in either IG or CG.	moderate
Ipsos Mori, 2017	2017	Mixed methods incl. repeated measures, nonexperimental	3-5 months	Community Education/skills Social relations	Children and young people	England	Youth provision	My local area is a place where people from different backgrounds get on well together		If I needed help there are people who would be there for me.	Summer standard and autumn interventions: cohesion improved significantly more between pre- and post- for the IG than the CG. Spring and summer test: No significantly different improvement in either IG or CG.		Summer test intervention: Social support improved significantly more between pre- and post- for the IG than the CG. No impact on the autumn, spring, summer standard programmes.	moderate
Ipsos Mori, 2015	2015	Mixed methods incl. repeated measures, nonexperimental	3-5 months	Community Education/skills Social relations	Children and young people	England	Youth provision	My local area is a place where people from different backgrounds get on well together		If I needed help there are people who would be there for me.	Spring and summer standard interventions: Cohesion improved significantly more between pre- and post- for the IG than the CG. Autumn and summer test: No significantly different improvement in either IG or CG.		Summer standard, summer test and autumn interventions: Social support improved significantly more between pre- and post- for the IG than the CG.	moderate
CLES & NEF, 2013	2013	Mixed methods incl. repeated measures, nonexperimental	Unclear	Community Health Social relations	General population	England	Healthy eating		How strongly do you feel you belong to your immediate neighbourhood?			Significant increase in neighbourhood belonging		moderate

IG = Intervention Group	CG = Comparison Group	Significance level: 95%	Some studies didn't fall into generic population categories or intervention themes. There is more information about these in the full extraction table.
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What works to improve social capital?

Table 6: Overview of included studies

Conclusion and limitations

This rapid review set out to answer:

- What evaluation research has been carried out to assess the effects of wellbeing programmes and interventions on neighbourhood belonging, the strength of social support networks and community cohesion?
- What is the strength of evidence of the evaluation research?
- What are the key findings from the research?

The review identified 27 studies and evaluation reports for inclusion, from a longlist of nearly 4,000. The findings provided insight into how these social capital domains are conceptualised and measured but synthesis of the results was challenging due to the limited volume of studies and the heterogeneity of measures, intervention types and populations.

In the following sections we outline in more detail the limitations of the study and findings and then set out our reflections on what insights we can draw from the process and the identified studies to make use of this work.

Assessment of search strategy

The design of this research purposely used a significant scoping phase to test different approaches to searching for studies using wide and deep search strings. The first approach was to cast a wide net using a combination of concepts of social capital with terms for interventions and evaluation. As documented in the methods section, and set out in Appendix 5, the wide net resulted in significant returns which, when a sample was reviewed, did not capture what we were looking for. Iterative adaptations to the conceptual search string of outcome AND evaluation AND intervention to expand the search terms and exclude irrelevant studies yielded a smaller number of results which were subsequently included in the review.

It should be noted that a full text screening is not available for all databases, and even where it is included, many papers do not detail full questions which rendered searching for the specific measures difficult. Where search methods did yield such results was through the use of Google Scholar. It's possible that alternative databases that offer full text screening may have yielded either more appropriate or at least more targeted search results - but if so, the reviewers may not have observed the multiple and broad conceptualisations of social support in particular that are in use.

The use of Google Scholar, a Call for Evidence and hand searching was deemed to provide an assessment of the main potential sources of papers in the UK that could yield results within the time period available.

Limitations of measurement approaches

Regarding **cohesion**, the measure used in most included studies was very similar and very close to the cohesion question in the ONS harmonised set (Pryor, 2021). However, limitations we noted included:

- Perhaps due to a lack of clear published guidance about using the scale, the response scales used varied substantially from one study to another, and weren't always reported.
- Some researchers had adapted the question or response scale to address perceptions that people in the neighbourhood had the same backgrounds (Mason et al., 2012) or critiques of this question (e.g., Ratcliffe et al., 2008, cited in Kerr et al., 2011). These related to the vagueness of the question and the potential for multiple understandings of the term 'different backgrounds'.

Similarly, all studies that measured the **belonging** outcome used broadly consistent question wording drawn from the ONS harmonised set (Pryor, 2021) although two of them were adapted more substantially from the standard wording than the rest. In some cases the response scales either varied from the standard or were not reported, which creates a difficulty in aggregating results across studies. Where there was deviation from the standard question wording or response scale, it was not always clear why.

Furthermore, the baseline belonging measures in one study (National Work and Learning Institute, 2018) were so high that there was no realistic scope to improve them, with one possible explanation that the measure may not be appropriate for all audiences.

The sheer number of **social support** scales and the breadth of conceptualisation of social support was a challenge for the review as a whole. The large volume of abstracts selected for screening because they referenced social support outcomes often gave little detail about the conceptualisation being used; in many cases, particularly from studies published outside the UK, it was closer to social networks or social connection, for example. Even the 16 studies included in the review used ten different measures; the six NCS evaluations all used the same one, and two other studies both used the ISEL scale (Cohen et al., 1985) but they were not consistent in the subscales they reported. In addition, the measures that were used were frequently composed of between 10 and 40 items, sometimes including more specific subscales. Therefore, the scope for a robust summary of the social support findings was very limited.

Limitations of study designs

None of the studies measuring the **cohesion** outcome met the standard of a randomised control trial (RCT), although they all had clear baseline and follow up measurements and three quarters of them had at least a fairly robust comparison group. All except two of the **social support** studies included robust comparison groups, and there were several RCTs in

this group. However, apart from the NCS evaluations there was substantial variation in the designs of the remaining studies. Although the studies evaluating the **belonging** outcome had more consistency in study design, they were also less robust; with only one study having a control group.

The consistency in design of the six NCS evaluations was useful for synthesising those results but the lack of consistency across other types of interventions limits the scope for meta-analysis or drawing robust conclusions beyond the results of the studies themselves.

Reflections

This review has not been able to identify a comprehensive set of intervention types that have evidence of how they contribute to the three social capital outcomes of interest through summarising the available evidence. The reasons for this are:

1. The small number of identified studies that meet the review criteria
2. The diversity of the included study designs, measures and intervention types
3. The varying quality of the evidence and the way it has been reported (e.g., whether or not statistical tests have been conducted).

Given that the reviewers have relatively high confidence in the comprehensiveness of the search strategy used for peer reviewed papers, this suggests a gap in the published social capital evidence. As set out in the assessment of the search strategy, possible amendments to the source databases to include those which include full paper screening may have increased the number of studies available for review. In terms of grey literature, the decision was made to use full text search for the specific measures, as initial searches using Google Scholar using social capital terms yielded thousands of results which were not possible to include in a rapid review process.

The limited number of studies we were able to identify for inclusion highlights the overall need for social capital interventions to be evaluated using more consistent conceptualisations of these key social capital outcomes, with more consistent measures and results reporting. Guidance about appropriate measures could build on those developed for other measures of social capital, such as those in the ONS harmonised set (Pryor, 2021), although the various adaptations of the cohesion measure suggest that the difficulties with it, such as those cited by Kerr et al. (2011), should be properly addressed within it. The other outcome measures, too, might benefit from further re-assessment. The inflated belonging scores reported by National Work and Learning Institute (2018) may not be due to the measure, either way this could be addressed in the guidance. In addition, the existence of such a multiplicity of validated social support scales suggests more than one question may be required to offer a feasible standard. Pragmatic results reporting guidance, tailored to the differing scales and resources of social capital evaluations may also help to facilitate a greater number and consistency of studies appropriate for review and meta-analysis in the future.

In terms of the quality of the studies more broadly, assessments of moderate or low quality were most commonly due to concerns over lack of representativeness and in some cases comparator groups, handling of attrition, or concerns over measurement or equivalence. Those advocating for the use of evaluations in policy and practice may wish to consider where additional guidance is needed to support practitioners in study design to overcome some of the limitations that have been set out in this report.

A specific action could involve further research on measurement approaches, such as developing and publicising a standardised and validated measure for cohesion that addresses the concerns outlined in the limitations of the measurement approaches section above, may be a useful endeavour to (a) encourage more frequent evaluation of this outcome and (b) to facilitate more meaningful meta-analysis of the results of such evaluations. It may also be useful to explore why there was deviation from the Belonging measure question wording with some of the reports' authors in order to better understand whether these adaptations arise from lack of awareness of the standard measure or particular difficulties in operationalising the standard that could be addressed. In terms of social support, the huge variety in conceptualisations and measures suggests a need for (a) more standardisation and guidance around what social support is, particularly within a wider conceptualisation of social capital and also (b) to open discussions on the extent to which question regarding having people to rely on is granular enough to cover the different aspects of support that the evaluators are trying to understand.

Further work may also wish to consider the ways in which social capital is conceptualised and experienced as a dependent variable by different groups and in different contexts which merits inclusion into evaluations of a broad range of interventions. The screening process identified the many instances of where the three social capital outcomes were measured as intermediary outcomes to facilitate a wider goal but did not explicitly consider social capital as an end goal, or dependent on interventions and context in the way it was considered for this review. This study has shown that there is an emerging evidence base of the impact of interventions on social capital outcomes which can help to facilitate further conversations, research and evaluation practice.

Therefore, in developing actions to make best use of this research, it may be useful not only to target evaluators with guidance about appropriate social capital outcome measures, but in particular audiences evaluating these types of interventions.

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Appendices

Appendix 1: Study Protocol

28th April 2022

Introduction

What Works Centre for Wellbeing is seeking to understand what types of interventions have improved three key social capital outcomes: neighbourhood belonging, social network support and community cohesion. Centre for Thriving Places has been commissioned to deliver a rapid review to answer the following:

- What evaluation research has been carried out to assess the effects of wellbeing programmes and interventions on neighbourhood belonging, the strength of social support networks and community cohesion?
- What is the strength of evidence of the evaluation research?
- What are the key findings from the research?

PICOS

The following table sets out the PICOS that will be used for this rapid review.

Type	Criteria
Population	No restriction
Intervention	<p>Any intervention that aims to improve one or more target areas of social capital: neighbourhood belonging; having someone to rely on; community cohesion.</p> <p>[Examples of intervention topic areas could include but will not be limited to:</p> <ul style="list-style-type: none">• Community interventions (e.g. social cohesion, social isolation)• Health interventions (e.g. diet, sports)• Social care/services interventions• Education/skills-based interventions• Environmental interventions (e.g. safety, urban planning)• Workplace interventions• Social relationship interventions (e.g. loneliness, social integration)]
Comparator	Before-and-after studies i.e. all studies must assess pre-intervention scores.

Outcome	Reporting a within-person change or a between-person difference in one or more of the target outcome measures (and measures with similar wording) ⁴ .
Study design	Formative or summative impact evaluations using one of the following study designs: <ul style="list-style-type: none"> ➤ Comparative observational studies including cohort studies, before and after studies and surveys ➤ Controlled trials (randomised, cluster randomised, quasi- randomised or non-randomised) Exclusions: narrative reviews, uncontrolled observational studies, case series, case reports, commentaries, letters, conference abstracts, publications only available as an abstract or summary and posters.
Geographical reference	OECD.
Language restrictions	Published in English
Date restrictions	Published after 31/12/1999

Search strategy

Searches for peer-reviewed literature will be conducted across the following databases:

- Scopus
- Medline / PubMed
- ERIC, ASSIA, Sociological Abstracts, and Dissertations and Theses (via ProQuest)

The results of an initial scoping exercise have been presented to What Works Wellbeing and the Review Consultation Group and have informed the following approach.

Search terms will include synonyms for social capital (examples provided in the appendix of this document), evaluations that incorporate a comparison (including before and after design) and filters for location (OECD), language (English), subject area (psychology, social science and public health), date (>1999) and to remove terms identified in the scoping searches as producing high numbers of irrelevant results (disaster, disease, illness, nursing students).

⁴ Indicators include “To what extent do you agree or disagree with the statement ‘I feel like I belong to this neighbourhood’?; Belief or agreement that someone would be there for you if you needed help; Belief that the neighbourhood is a place where people from different backgrounds get on well.

In addition to the database search, grey literature will be sourced via Google Scholar and a call for evidence shared by What Works Centre for Wellbeing, Centre for Thriving Places and the Review Consultation Group.

Study selection

Initial screening of abstracts against the PICOS will be undertaken by two people, following a process of dual review for any that are ambiguous. Once we have a shortlist of potential studies, we will download the full papers. Review will be undertaken using software to aid gathering of data for the PRISMA diagram and reasons for exclusion will be documented for those documents reviewed in full.

Data extraction and critical appraisal

We will extract the information required, including the data that will enable filtering by theme and outcome, into the extraction template (Excel), referring to the [WWCW quality criteria](#) to assess strength of evidence. Two members of staff will conduct the extraction, with a third undertaking quality assurance checks on a sample.

Reporting

We will make use of the functionality of Excel, manipulating the extraction template using multiple filters to assess the evidence by social capital domain, intervention thematic areas of work and type, and - if relevant - demographic groups.

We will bring together a technical report summarising the process (including the methodology, full search strategy, PRISMA) and evidence - including any causal inferences, gaps, implications and recommendations and including key methodological information.

Review team members

Saamah Abdallah, Centre for Thriving Places

Mel Cairns, Centre for Thriving Places

Rosie Maguire, Centre for Thriving Places (project lead, for further information contact hello@centreforthrivingplaces.org)

Liz Zeidler, Centre for Thriving Places

Project dates

Start date: 5th April 2022

Anticipated completion date: 9th September 2022

Appendix 2: Detailed search strategy and results

Proposed search

We have chosen to use the following search string as a starting point for the main search (S1), as it incorporates the outcome criteria and methodology as well as removing subject areas and keywords which are not relevant to this project. The syntax below is for Scopus but will be adapted as needed for other databases. Supplementary searches using synonyms for methodologies and outcomes will be added as they are identified in the initial search.

```
TITLE-ABS-KEY (( belong* W/3 ( neighbourhood OR area OR sense OR community ) )
OR "social capital" OR "community wellbeing" OR "social integration" OR "community
relations" OR "community development" OR "bonding capital" OR "social support" OR (
support W/3 community ) OR ( local W/3 help ) OR cohesion OR cohesiveness OR
"inclusive community" ) AND TITLE-ABS-KEY ( ( evaluation OR trial OR "impact
assessment" ) AND ( intervention OR program OR programme OR project ) AND NOT
**countrylist**AND NOT ( disease OR illness OR disaster OR (nursing W/3 student*)) )
AND PUBYEAR > 1999 AND ( LIMIT-TO ( SUBJAREA , "SOC" ) OR LIMIT-TO ( SUBJAREA
, "PSYC" ) )
```

Where **country list** is detailed below, and the subject area will be amended, as needed.

* country list *

(afghanistan OR albania OR algeria OR andorra OR angola OR antigua OR barbuda OR
argentina OR armenia OR azerbaijan OR bahamas OR bahrain OR bangladesh OR barbados OR
belarus OR belize OR benin OR bhutan OR bolivia OR bosnia OR botswana OR brazil OR
brunei OR "Burkina Faso" OR burundi OR "Cabo Verde" OR cambodia OR cameroon OR "Central
African Republic" OR chad OR china OR comoros OR congo OR cuba OR ivoire OR djibouti OR
dominica OR ecuador OR egypt OR "El Salvador" OR guinea OR eritrea OR eswatini OR ethiopia
OR fiji OR gabon OR gambia OR ghana OR grenada OR guatemala OR guyana OR haiti OR
honduras OR india OR indonesia OR iran OR iraq OR jamaica OR jordan OR kazakhstan OR
kenya OR kiribati OR kuwait OR kyrgyzstan OR laos OR lebanon OR lesotho OR liberia OR
libya OR madagascar OR malawi OR malaysia OR maldives OR mali OR marshall OR
mauritania OR mauritius OR micronesia OR moldova OR mongolia OR montenegro OR morocco
OR mozambique OR myanmar OR namibia OR nepal OR nicaragua OR niger OR nigeria OR
macedonia OR oman OR pakistan OR palau OR palestine OR panama OR paraguay OR peru
OR philippines OR qatar OR russia OR rwanda OR samoa OR "Sao Tome" OR "Saudi Arabia" OR
senegal OR serbia OR seychelles OR "Sierra Leone" OR solomon OR somalia OR africa OR "Sri
Lanka" OR sudan OR suriname OR syria OR tajikistan OR tanzania OR thailand OR timor OR
togo OR tonga OR trinidad OR tunisia OR tobago OR turkmenistan OR uganda OR ukraine OR
"United Arab Emirates" OR uruguay OR uzbekistan OR vanuatu OR venezuela OR vietnam OR
yemen OR zambia OR zimbabwe)

This lists all countries that are neither EU nor OECD. The list does not include other wealthy countries that are not OECD or EU, such as Singapore and Hong Kong.

Google Scholar searches

These searches focused on the specific wording of the outcome measures. Three searches were conducted, as follows:

Cohesion

Find articles:

With all of the words: evaluation intervention

With the exact phrase: people from different backgrounds get on well

With at least one of the words:

Without the words:

Where my words occur anywhere in the article OR in the title. ARTICLE

Return articles dated between: 2000 and 2022

English language only

Results: 170

Excluded: 161 records

Maybe: 9 records (1 academic, 8 grey)

Belonging

Find articles:

With all of the words: evaluation intervention

With the exact phrase: I feel like I belong to this neighbourhood

With at least one of the words:

Without the words:

Where my words occur anywhere in the article OR in the title. ARTICLE

Return articles dated between: 2000 and 2022

English language only

Results: 62

Excluded: 60 records

Maybe: 2 records (1 academic, 1 grey)

Social support

Find articles:

With all of the words: evaluation intervention

With the exact phrase: needed help, someone would be there

With at least one of the words:

Without the words:

Where my words occur anywhere in the article OR in the title. ARTICLE
Return articles dated between: 2000 and 2022
English language only

Results: 2
Excluded: 2
Maybe: 0

The maybes listed above (n = 11) were exported from GS and deduped by title in Excel against the full Rayyan list (Scopus, PubMed and ProQuest), there were no duplicates.

They were also deduped against the papers identified through the call to evidence/hand searching. Two duplicates were removed leaving 9 papers for screening. After screening, four papers were selected for inclusion and the rest excluded for methodological reasons (see PRISMA diagram, Figure 1).

Appendix 3: Social Capital Rapid Review: Call for Evidence

Have you conducted an evaluation of a project or programme aimed at improving social capital outcomes – belonging, social support or community cohesion? Then we want to hear from you!

What is happening?

The What Works Centre for Wellbeing (WWCW) has commissioned the [Centre for Thriving Places](#) to conduct a Rapid Review of evaluations of social capital interventions aimed at children, young people and adults, and delivered within the UK and across OECD countries. The project is funded by the National Lottery Community Fund.

Criteria for submission

We are looking for evaluations that report quantitative findings on the impact of interventions aimed at improving:

- neighbourhood belonging – “I feel like I belong to this neighbourhood’
- social network support – “I believe that someone would be there for me if I needed help’
- community cohesion – “I believe that my neighbourhood is a place where people from different backgrounds get on well’

We are interested in studies from across voluntary, public and private sectors, to summarise evidence on what works to improve social capital outcomes, for whom and in what contexts.

Submitted studies must meet ALL of the following criteria:

- Evaluate a project or intervention conducted in the UK or in an OECD country with children, young people and/or adults. This can be in any setting, including: community interventions, health interventions, social care/services interventions, education/skills-based interventions and workplace interventions.
- Explore the impact on social capital using a measure/s that capture one or more of the following outcomes: neighbourhood belonging, social network support and community cohesion.
- Measure changes in social capital outcome scores against a comparator. This could be by conducting a before-and-after intervention assessment by measuring the social capital outcome at baseline (e.g. pre-intervention) and at endline (post-intervention).
- Published from 2000-onwards and include author details and date.
- Written in the English language and publicly available

Next steps

Please send any relevant studies to evaluation@whatworkswellbeing.org by **Friday 20th May**. Please include the subject header: Social Capital Rapid Review.

Thank you for your help.

Why a call for evidence?

Searching for evidence on wellbeing and related topics can present technical and resource challenges, particularly if studies are not adequately indexed by study design or wellbeing measures used. Our experience has shown that some of the wellbeing research produced by our Centre's audiences is best located through a snowballing approach, by targeting relevant experts and stakeholders.

As part of our evidence reviews, we often use calls for evidence to complement structured database and online literature searches, and, in particular, to increase the sensitivity of grey literature searches. Where necessary, we seek advice from our project consultation groups to ensure quality and fully document the approach in our reports to maximise transparency.

To find out more about the project go to the [Social capital: Evidence review and synthesis project page](#).

Appendix 4: Quality checklist for quantitative evidence of intervention effectiveness

Critical appraisal framework

The checklist below is from the quality checklist for quantitative evidence of intervention effectiveness, taken from the What Works Centre Guide to Evidence Review Methods (2019). It is based on the Early Intervention Foundation Quality Checklist.

A scoring system has been added to provide an indication of overall level of confidence in the design, conduct and reporting of the study. The 10 elements of the checklist can be scored either 1 (yes) or 0 (no, can't tell or N/A). The total score can be used to assign each study an overall level of confidence of low (0-2), moderate (3-6) or high (7-10).

Question	Element	Response options
Was the evidence well-designed?	Fidelity: <ul style="list-style-type: none"> The extent to which the intervention was delivered with fidelity is clear – i.e., if there is a specific intervention which is being evaluated, this has been well reproduced. 	Yes (1) No (0) Can't tell (0) N/A (0)
	Measurement: <ul style="list-style-type: none"> The measures are appropriate for the intervention's anticipated outcomes and population. Participants completed the same set of measures once shortly before participating in the intervention and once again immediately afterwards. An 'intent-to-treat' design was used, meaning that all participants recruited to the intervention participated in the pre/post measurement, regardless of whether or how much of the intervention they received, even if they dropped out of the intervention (this does not include dropping out of the study - which may then be regarded as missing data). 	Yes (1) No (0) Can't tell (0) N/A (0)
	Counterfactual: <ul style="list-style-type: none"> Assignment to the treatment and comparison group was at the appropriate level (e.g., individual, family, school, community). The comparison condition provides an appropriate counterfactual to the treatment group. Consider: <ul style="list-style-type: none"> Participants were randomly assigned to the treatment and control group through the use of methods appropriate for the circumstances and target population OR sufficiently rigorous quasi-experimental methods (regression discontinuity, propensity score matching) were used to generate 	Yes (1) No (0) Can't tell (0) N/A (0)

	<p>an appropriately comparable sample through non-random methods.</p> <ul style="list-style-type: none"> The treatment and comparison conditions are thoroughly described. 	
Was the study carried out appropriately? Including appropriate sample	<p>Representative:</p> <ul style="list-style-type: none"> The sample is representative of the intervention's target population in terms of age, demographics and level of need. The sample characteristics are clearly stated. There is baseline equivalence between the treatment and comparison group participants on key demographic variables of interest to the study and baseline measures of outcomes (when feasible). 	<p>Yes (1) No (0) Can't tell (0) N/A (0)</p>
	<p>Sample size:</p> <ul style="list-style-type: none"> The sample size is sufficiently large to test for the desired impact. <u>This depends most importantly on the effect size</u>, however a suggestion could be, for example, that a minimum of 20 participants have completed the measures at both time points within each study group. 	<p>Yes (1) No (0) Can't tell (0) N/A (0)</p>
	<p>Attrition:</p> <ul style="list-style-type: none"> A minimum of 35% of the participants completed pre/post measures. Overall study attrition is not higher than 65%. The study had clear processes for determining and reporting drop-out and dose. Differences between study drop-outs and completers were reported if attrition was greater than 10%. The study assessed and reported on overall and differential attrition. 	<p>Yes (1) No (0) Can't tell (0) N/A (0)</p>
	<p>Equivalence:</p> <ul style="list-style-type: none"> Risks for contamination of the comparison group and other confounding factors have been taken into account and controlled for in the analysis if possible. Participants were blind as to their assignment to the treatment and comparison group. There was consistent and equivalent measurement of the treatment and control groups at all points when measurement took place. 	<p>Yes (1) No (0) Can't tell (0) N/A (0)</p>
	<p>Measures:</p> <ul style="list-style-type: none"> The measures used were valid and reliable. This means that the measure was standardised and validated independently of the study, and that the methods for standardisation were published. Administrative data and observational measures may also have been used to measure programme impact, but sufficient 	<p>Yes (1) No (0) Can't tell (0) N/A (0)</p>

	<p>information was given to determine their validity for doing this.</p> <ul style="list-style-type: none"> • Measurement was independent of any measures used as part of the treatment. • In addition to any self-reported data (collected through the use of validated instruments), the study also included assessment information independent of the study participants (e.g., an independent observer, administrative data etc). 	
Was the analysis appropriate?	<ul style="list-style-type: none"> • The methods used to analyse results are appropriate given the data being analysed (categorical, ordinal/ratio, parametric/non-parametric, etc.) and the purpose of the analysis. • Appropriate methods have been used and reported for the treatment of missing data. 	<p>Yes (1) No (0) Can't tell (0) N/A (0)</p>
Is the evidence consistent?	<ul style="list-style-type: none"> • Are the findings made explicit? • Is there adequate discussion of the evidence both for and against the researcher's arguments? • Has the researcher discussed the credibility of their findings (e.g., triangulation, respondent validation, more than one analyst)? • Are the findings discussed in relation to the original research question? 	<p>Yes (1) No (0) Can't tell (0) N/A (0)</p>

Appendix 4: Table of organisational social capital papers

Outcome	Context	Reference	Publication year	Abstract	Notes and cautions
Social support	Workplace	Blake H and Zhou D and Batt ME (2013) Five-year workplace wellness intervention in the NHS. Perspectives in public health. 133, 5. pp. 262-71.	2013	AIMS: Poor health and well-being has been observed among NHS staff and has become a key focus in current public health policy. The objective of this study was to deliver and evaluate a five-year employee wellness programme aimed at improving the health and well-being of employees in a large NHS workplace. METHOD: A theory-driven multi-level ecological workplace wellness intervention was delivered including health campaigns, provision of facilities and health-promotion activities to encourage employees to make healthy lifestyle choices and sustained behaviour changes. An employee questionnaire survey was distributed at baseline (n = 1,452) and at five years (n = 1,134), including measures of physical activity, BMI, diet, self-efficacy, social support, perceived general health and mood, smoking behaviours, self-reported sickness absence, perceived work performance and job satisfaction. RESULTS: Samples were comparable at baseline and follow-up. At five years, significantly more respondents actively travelled (by walking or cycling both to work and for non-work trips) and more were active while at work. Significantly more respondents met current recommendations for physical activity at five years than at baseline. Fewer employers reported 'lack of time' as a barrier to being physically active following the intervention. Significantly lower sickness absence, greater job satisfaction and greater organisational commitment was reported at five years than at baseline. CONCLUSIONS: Improvements in health behaviours, reductions in sickness absence and improvements in job satisfaction and organisational commitment were observed following five years of a workplace wellness intervention for NHS employees. These findings suggest that health-promoting programmes should be embedded within NHS infrastructure.	Unclear from the abstract whether social support was measured as an outcome or control variable.
Social support	Workplace	Jakobsen MD and Sundstrup E and Brandt M and Andersen LL (2017) Psychosocial benefits of workplace physical exercise: cluster randomized controlled trial. BMC public health. 17, 1. pp. 798.	2017	BACKGROUND: While benefits of workplace physical exercise on physical health is well known, little is known about the psychosocial effects of such initiatives. This study evaluates the effect of workplace versus home-based physical exercise on psychosocial factors among healthcare workers. METHODS: A total of 200 female healthcare workers (Age: 42.0, BMI: 24.1) from 18 departments at three hospitals were cluster-randomized to 10Å weeks of: 1) home-based physical exercise (HOME) performed alone during leisure time for 10 min 5 days per week or 2) workplace physical exercise (WORK) performed in groups during working hours for 10Å min 5Å days per week and up to 5 group-based coaching sessions on motivation for regular physical exercise. Vitality and mental health (SF-36, scale 0-100), psychosocial work environment (COPSOQ, scale 0-100), work- and leisure disability (DASH, 0-100), control- (Bournemouth, scale 0-10) and concern about pain (Pain Catastrophizing Scale, scale 0-10) were assessed at baseline and at 10-week follow-up. RESULTS: Vitality as well as control and concern about pain improved more following WORK than HOME (all pÅ <Å 0.05) in spite of increased work pace (pÅ <Å 0.05). Work- and leisure disability, emotional demands, influence at work, sense of community, social support and mental health remained unchanged. Between-group differences at follow-up (WORK vs. HOME) were 7 [95% confidence interval (95% CI) 3 to 10] for vitality, -0.8 [95% CI -1.3 to -0.3] for control of pain and -0.9 [95% CI -1.4 to -0.5] for concern about pain, respectively. CONCLUSIONS: Performing physical exercise together with colleagues during working hours was more effective than home-based exercise in improving vitality and concern and control of pain among healthcare workers. These benefits occurred in spite of increased work pace. TRIAL REGISTRATION: NCT01921764 at ClinicalTrials.gov . Registered 10 August 2013.	Unclear from the abstract how much social support featured in the intervention or how it was measured
Social support	Workplace	Umanodan R and Shimazu A and Minami M and Kawakami N (2014) Effects of computer-based stress management training on psychological well-being and work performance in Japanese employees: a cluster randomized controlled trial. Industrial health. 52, 6. pp. 480-91.	2014	This study evaluated the effectiveness of a computer-based stress management training (SMT) program in improving employees' psychological well-being and work performance. A total of 12 work units (N=263) were randomly assigned to either an intervention group (8 work units, n=142) or to a wait-list control group (4 work units, n=121). All participants were requested to answer online questionnaires assessing psychological well-being as a primary outcome, and coping style, social support, and knowledge about stress management as secondary outcomes at baseline (T0), immediately after the intervention (T1), and 2 months after the intervention (T2). The groupÅ€...Å—Å€...time interaction was tested using a mixed-model repeated measures ANOVA. Results showed a groupÅ€...Å—Å€...time interaction for "knowledge about stress management" in the entire sample. Among participants who had more than 3 d of training, a significant groupÅ€...Å—Å€...time interaction was observed for "problem-solving" and "avoidance and suppression" as well as "knowledge about stress management." Our computer-based stress management program was effective for improving knowledge about stress management. It was also effective for improving coping skills in instances where participants had enough time (at least 3 d) to complete all sessions.	Unclear from the abstract how social support was measured
Social support	Workplace	Roessler KK and Rugulies R and Bilberg R and Andersen LL and Zebis MK and Sjøgaard G (2013) Does work-site physical activity improve self-reported psychosocial workplace factors and job satisfaction? A randomized controlled intervention study. International archives of occupational and environmental health. 86, 8. pp. 861-4.	2013	PURPOSE: To investigate whether a work-site strength-training program has a positive effect on self-reported psychosocial workplace factors and job satisfaction. METHODS: We conducted a randomized controlled trial among laboratory technicians implementing neck and shoulder exercises for pain relief, with 199 participants in the training group and 228 in the control group. Influence at work, sense of community, time pressure, and job satisfaction were measured with the Copenhagen Psychosocial Questionnaire at baseline and post-intervention after 20 weeks. RESULTS: There was no statistically significant change in any of the four variables in the training group from baseline to follow-up (all p Å‰ 0.39). When we used MANOVA to test for between-group effects over time, we did not find any statistically significant result (all p > 0.14). CONCLUSIONS: This study does not provide evidence for an effect of a work-site strength-training program on self-reported psychosocial workplace factors and job satisfaction.	The relevant outcome variable is 'sense of community' and it's not clear from the abstract what measure was used

Social capital	Workplace	Framke E and Sørensen OH and Pedersen J and Clausen T and Borg V and Rugulies R (2019) Effect of a participatory organizational workplace intervention on workplace social capital: post-hoc results from a cluster randomized controlled trial. BMC public health. 19, 1. pp. 693.	2019	<p>BACKGROUND: A high level of workplace social capital (WSC) may contribute to the protection of employees' health. We hypothesized that a participatory workplace intervention would increase the level of WSC defined as vertical WSC (i.e. WSC linking together employees and their leaders) and horizontal WSC (i.e. WSC bonding employees together). METHODS: We conducted a secondary data analysis of a cluster randomized controlled trial that was implemented among all employees in 78 municipal Danish pre-schools (44 intervention and 34 control group schools). The study sample consisted of 606 employees, 386 in the intervention and 220 in the control group. The intervention aimed to improve the psychosocial working environment by using a participatory approach and focusing on core job tasks. Vertical and horizontal WSC was measured by five and four items, respectively, at baseline and at 24-months follow-up. We estimated intervention effect by calculating the interaction of change over time by group assignment (intervention versus control group) and included workplace identification number in a repeated statement to take into account that employees were nested within workplaces. We conducted post-hoc analyses to examine whether intervention effect differed by implementation degree. RESULTS: WSC decreased in both groups. In the main analyses, there was no statistically significant difference between intervention and control group, neither for vertical nor horizontal WSC. However, when we excluded intervention workplaces with a low degree of implementation, we found a statistically significant difference between the intervention and the control group (estimate: 0.25, 95% CI: 0.00 to 0.50, $p=0.049$), indicating that vertical WSC decreased in the control group and remained stable in the intervention group. CONCLUSIONS: There was not a statistically significant difference between intervention and control group in the main analysis. Post-hoc analyses, however, suggest that the intervention may have prevented a decrease in vertical WSC among employees in workplaces with a high or a medium degree of implementation. A conference abstract with the key results of this study has been previously presented and published, European Journal of Public Health, Volume 28, Issue suppl. 4, November 2018, cky260, https://academic.oup.com/eurpub/article/28/suppl_4/cky260/5187184 . TRIAL REGISTRATION: ISRCTN16271504 , retrospectively registered on November 15, 2016.</p>	Unclear from the abstract whether the outcomes of interest are included and if so which measures are used
Social support	Workplace	Andersen LL and Poulsen OM and Sundstrup E and Brandt M and Jay K and Clausen T and Borg V and Persson R and Jakobsen MD (2015) Effect of physical exercise on workplace social capital: Cluster randomized controlled trial. Scandinavian journal of public health. 43, 8. pp. 810-8.	2015	<p>AIMS: While workplace health promotion with group-based physical exercise can improve workers' physical health, less is known about potential carry-over effects to psychosocial factors. This study investigates the effect of physical exercise on social capital at work. METHODS: Altogether, 200 female healthcare workers (nurses and nurse's aides) from 18 departments at three hospitals were randomly allocated at the department level to 10 weeks of (1) group-based physical exercise at work during working hours or (2) physical exercise at home during leisure time. At baseline and follow-up, participants replied to a questionnaire concerning workplace social capital: (1) within teams (bonding); (2) between teams (bridging); (3) between teams and nearest leaders (linking A); (4) between teams and distant leaders (linking B). RESULTS: At baseline, bonding, bridging, linking A and linking B social capital were 74 (SD 17), 61 (SD 19), 72 (SD 22) and 70 (SD 18), respectively, on a scale of 0-100 (where 100 is best). A group by time interaction was found for bonding social capital ($P=0.02$), where physical exercise at work compared with physical exercise during leisure time increased 5.3 (95% confidence interval 2.3- 8.2)(effect size, Cohen's $d = 0.31$) from baseline to follow-up. For physical exercise at home during leisure time and exercise at work combined, a time effect ($P=0.001$) was found for linking A social capital, with a decrease of 4.8 (95% confidence interval 1.9-7.6). CONCLUSIONS: Group-based physical exercise at work contributed to building social capital within teams at the workplace. However, the general decrease of social capital between teams and nearest leaders during the intervention period warrants further research.</p>	Unclear from the abstract whether the outcomes of interest are included and if so which measures are used
Social support	Workplace	Bostock S and Crosswell AD and Prather AA and Steptoe A (2019) Mindfulness on-the-go: Effects of a mindfulness meditation app on work stress and well-being. Journal of occupational health psychology. 24, 1. pp. 127-138.	2019	<p>We investigated whether a mindfulness meditation program delivered via a smartphone application could improve psychological well-being, reduce job strain, and reduce ambulatory blood pressure during the workday. Participants were 238 healthy employees from two large United Kingdom companies that were randomized to a mindfulness meditation practice app or a wait-list control condition. The app offered 45 prerecorded 10- to 20-min guided audio meditations. Participants were asked to complete one meditation per day. Psychosocial measures and blood pressure throughout one working day were measured at baseline and eight weeks later; a follow-up survey was also emailed to participants 16 weeks after the intervention start. Usage data showed that during the 8-week intervention period, participants randomized to the intervention completed an average of 17 meditation sessions (range 0-45 sessions). The intervention group reported significant improvement in well-being, distress, job strain, and perceptions of workplace social support compared to the control group. In addition, the intervention group had a marginally significant decrease in self-measured workday systolic blood pressure from pre- to post-intervention. Sustained positive effects in the intervention group were found for well-being and job strain at the 16-week follow-up assessment. This trial suggests that short guided mindfulness meditations delivered via smartphone and practiced multiple times per week can improve outcomes related to work stress and well-being, with potentially lasting effects. (PsycINFO Database Record (c) 2019 APA, all rights reserved).</p>	Unclear from the abstract how social support was measured

Social support	Workplace	Stelnicki, A.M. and Jamshidi, L. and Fletcher, A.J. and Carleton, R.N. (2021) Evaluation of Before Operational Stress: A Program to Support Mental Health and Proactive Psychological Protection in Public Safety Personnel. <i>Frontiers in Psychology</i> . 12.	2021	Public safety personnel (PSP; e.g., communications officials, corrections workers, firefighters, paramedics, and police officers) are at risk of developing mental health problems due to experiencing potentially psychologically traumatic events during their career. Research examining evidence-based treatments for psychological injuries resulting from operational duties (also known as operational stress injuries) has not yielded robust results that would indicate ongoing interventions as the best solution for managing PSP mental health injuries; as such, proactive psychological interventions designed to bolster resilience are being considered potentially beneficial for mitigating the impact of occupational stress on PSP. Despite the growing popularity of resilience programs, most are delivered in a single session after an event deemed particularly problematic with no follow-up. Longer interventions may better support sustained resiliency, mitigate the impact of operational stress, and increase positive PSP workplace outcomes. The current article introduces the Before Operational Stress (BOS) program, which was designed for delivery early in a PSP career to enhance self-awareness and healthy relationships. The year-long program is derived from cognitive behavior therapy and group therapeutic techniques to meet program objectives. The current BOS program evaluation demonstrated small, statistically significant improvements in symptoms of PTSD, quality of life, stigma, and perceived social support from baseline (Time 1) to 6 months (Time 4). There were also non-significant improvements observed in symptoms of depression, anxiety, stress, alcohol use, as well as in emotional regulation and resilience. Qualitative results indicated participants positively perceived the BOS program, with participants reporting specific improvements in self-awareness, avoidant behaviors, and relationships with family and colleagues. The BOS program content (e.g., functional disconnection and functional reconnection) and processes (e.g., psychoeducation within a supportive learning structure; mutually empowering group interactions) appear unique relative to other PSP resilience programs, with promising initial results in support of PSP mental health. Recommendations for future research and program development are provided. © Copyright © 2021 Stelnicki, Jamshidi, Fletcher and Carleton.	Unclear from the abstract how social support was measured
Cohesion	Education/outh	Durdubas, D. and Martin, L.J. and Koruc, Z. (2020) A Season-Long Goal-Setting Intervention for Elite Youth Basketball Teams. <i>Journal of Applied Sport Psychology</i> . 32, 6. pp. 529-545.	2020	The current study involved a season-long team goal-setting intervention within an elite youth sport population. Participants were 75 male basketball players (Mage = 16.23 years, SD = 1.40) from 6 teams that were randomly assigned to team goal-setting (n = 3) or no-treatment control (n = 3) conditions. The intervention condition received a 3-stage team goal-setting program throughout the season, whereas no systematic program was delivered to the control teams. All participants completed questionnaires assessing perceptions of team cohesion and motivational climate at 3 time-points throughout the season (beginning, midseason, end-season). Data were first analyzed using a multivariate analysis of covariance to determine differences in cohesion and motivational climate throughout the season, with pretest scores and age included as covariates. In addition, a series of multiple mediation analyses were conducted to determine whether motivational climate mediated the relationship between preseason and postseason cohesion perceptions. Findings suggest that although perceptions of cohesion remained constant for the control condition teams, those in the intervention condition experienced a decrease throughout the season. In addition, increase in ego-involving climate within the intervention group negatively affected the cohesion perceptions throughout the season; however, task-involving motivational climate decreased for teams in the intervention condition. These results highlight the importance of accounting for additional variables when conducting team-building interventions, and findings are discussed in relation to their implications for the literature, in concert with practical implications and future directions. Lay Summary: This study extends the team-building literature by conducting a season-long goal-setting intervention in elite youth sport. In recognizing previously identified limitations within the field, the intervention involved both direct and indirect delivery methods, was conducted across the entire season, and included additional constructs beyond cohesion and a control condition. ©, Copyright © Association for Applied Sport Psychology.	
Social support	Education/outh	Casstevens, W.J. and Waites, C. and Outlaw, N. (2012) Non-traditional Student Retention: Exploring Perceptions of Support in a Social Work Graduate Program. <i>Social Work Education</i> . 31, 3. pp. 256-268.	2012	This study examines non-traditional student perceptions of social support in the context of a group intervention offered by a graduate program at a predominantly white university in the southern United States of America. The goal of the group intervention was to enhance perceptions of social support, as measured by a standardized instrument administered pre and post the group intervention. Data analysis showed no significant differences in pre-post changes in perceptions of social support between intervention and comparison groups. A follow-up survey questionnaire administered to group intervention participants provided feedback that shed light on these unanticipated results: it is recommended that future interventions for improving non-traditional student retention focus on supporting the development of social support networks among incoming and first-year graduate students. © 2012 Copyright Taylor and Francis Group, LLC.	Unclear from the abstract how social support was measured
Belonging	Education/outh	Wright, Robin and Offord, David and John, Lindsay and Duku, Eric and DeWit, David (2005) Secondary Schools Demonstration Project: Program Effects of School-Based Interventions on Antisocial Behaviour. <i>Exceptionality Education Canada</i> . 15, 2. pp. 27-50.	2005	This article describes the methodology and program effects of the Secondary Schools Demonstration Project (SSDP) conducted in four Ontario schools. The objective of the study was to evaluate the extent to which a universal program model of three interventions--cooperative learning; classroom management; and peer-helping approaches that included tutoring and mediation--can reduce the prevalence of antisocial behaviour. The study employed a two-group matched comparison before-and-after design. It involved the collection of baseline data on all ninth grade students (average age of 14 years) in four schools, and the selection of a sub-sample for a more detailed follow-up. Of the 13 measures analyzed, the results were statistically significant on four variables: student perception of teacher, student sense of belonging, student attachment to school, and truancy, suspensions, and behaviour problems. The findings of the study are discussed in relation to the methodological issues involved in implementing and evaluating multi-component interventions in secondary schools. Secondary Schools Demonstration Project Outcome Measures are appended. (Contains 4 tables.)	

Belonging	Education/ outh	Kettler, Todd and Shiu, Alex and ra and Johnsen, Susan K. (2006) AP as an Intervention for Middle School Hispanic Students. Gifted Child Today. 29, 1. pp. 39-46.	2006	<p>This article focuses on two education-related factors that appear to contribute to the schooling aspirations and self-efficacy of Hispanic youth: (1) sense of belonging at school; and (2) composition of the student's peer group. In particular, middle school students whose home language was Spanish were given an opportunity to participate in the Advanced Placement (AP) Spanish Language program. By placing these students in a program that honors their native language as an advanced academic skill rather than an academic risk factor, the authors hypothesized that Spanish-speaking eighth-grade students would: (1) earn qualifying scores on the AP Spanish exam; and (2) increase their sense of belonging at school, self-efficacy, and academic aspirations. Findings support both hypotheses. The study was conducted at Waco Independent School District, in Waco, TX, which offers AP Spanish Language to Hispanic students in eighth grade. To examine the effectiveness of the AP Spanish project, the authors looked at student performance on the AP exams and studied the composition of the intervention group, students' sense of belonging at school, students' academic aspirations, and students' self-efficacy. The evaluation of student success on the AP exam included three years of data collected since the program's inception in the fall of 2002. In three years of program implementation, 117 students participated in the AP Spanish Language course and took the corresponding AP exam in the eighth grade. Of those 117 students, 92 (79%) of them earned qualifying scores of 3, 4, or 5 on the AP exam. All of those students earned four high school credits as a result of their exam scores. The AP group was compared with two other groups of students who were not enrolled in the AP class, one composed of Hispanic students who spoke Spanish (HS) as their first language, the other composed of Hispanic students who spoke English as the first language (HE). Randomly selecting eighth-grade classes from four participating middle schools completed a survey adapted from the National Center for Education Statistics Educational Longitudinal Study of 2002 Student Questionnaire measuring the composition of their peer group, their sense of belonging at school, self-efficacy, and their academic aspirations. Supporting the first hypothesis, statistically significant differences were found between the AP group and the HS and HE groups who did not enroll in the AP class. Eighth-grade Spanish-speaking students in the program significantly outperformed high school students in the same district on the AP Spanish Language exam with more Spanish-speaking students earning qualifying scores than high school Spanish students in the school district. Supporting the second hypothesis, it was found that an AP program honoring the students' home-language builds students' sense of self-confidence, academic aspirations, and sense of belonging in school. The authors emphasize the importance of campus administrative support in creating a culture that values Spanish language skills as an advanced academic indicator rather than a risk factor.</p>	
Belonging	Education/ outh	Hanson, Thomas and Polik, Jeff and Cerna, Rebeca (2017) Short-Term Impacts of Student Listening Circles on Student Perceptions of School Climate and of Their Own Competencies. REL 2017-210. Regional Educational Laboratory West. pp. 1-59.	2017	<p>An activity for eliciting student involvement in collaborative decision-making and problem-solving with adults--the student listening circle workshop--is examined for the first time through an experimental study of its effects on participating students. A student listening circle is a facilitated focus group in which students articulate to adults their experiences, perspectives, and ideas on an important school topic and then collaborate with those adults to plan and implement related actions to improve their school climate. Although the student listening circle is intended partly as a tool to gather data to be used in school improvement efforts, it can also be considered a student intervention (O'Malley, Voight, & Izu, 2013). Accordingly, this study examines the potential impact of students' participation in listening circles on the students involved. Conducted by the School Climate Alliance with technical support from Regional Educational Laboratory (REL) West, the study took place at nine middle schools in eight California school districts in spring 2015. The study has a primary experimental component and a secondary descriptive component. The primary component is a random assignment investigation of the impacts of student listening circles on the perceptions of student participants. The secondary component is a descriptive study of staff participants' perceptions before and after a student listening circle. The primary component used surveys to ascertain student perceptions of school climate and of their competencies and compared responses from an intervention group of students with those from a control group 1 week before and 1 week and 12 weeks after participation in a student listening circle. The secondary component used surveys to assess changes in staff participants' perceptions of school supports and of student competencies after the student listening circles, as well as interviews to assess staff perceptions of practices implemented as a result of the intervention. The experimental results showed no discernible effects of the student listening circle on student participants' perceptions of school climate or on their competencies. Participation in the student listening circle was not associated with changes in student perceptions about their input into decision-making at school, relationships with school staff and peers, school bonding (sense of connectedness/belonging at school), competencies for improving the school (students' perceived ability to effect school change), or academic self-efficacy (perceived ability to succeed academically). The descriptive results of the study show that after participating in a student listening circle, a larger percentage of school staff reported the belief that students have opportunities for meaningful participation at school, trust in students, and recognition of students' competency in school improvement. These descriptive results do not provide evidence about the impacts of student listening circles because there was no staff control group. Thus any increases in staff perceptions could be due to factors other than student participation in a listening circle. Moreover, students' actual opportunities and competencies were not directly measured in the study--only staff and student perceptions of opportunities. According to interviews with school principals and student listening circle coordinators, schools followed through with most of the actions suggested during the student listening circles and implemented multiple school-improvement practices to address issues identified during the student listening circles. Although the experimental findings suggest that the student listening circle has no discernible impact on student participants, there are other reasons to implement and conduct further research. Student listening circles are also intended to improve the overall school climate by altering perceptions of staff, actively promoting a more positive school climate, and implementing schoolwide practices. Future studies with a different design may seek to ascertain the extent to which student listening circles have schoolwide effects other than on the perceptions of student and staff participants. Potential schoolwide impacts include effects on decision-making practices in schools, school bonding, and improved relationships between school staff and students. The following are appended: (1) Research design, outcome measures, and analysis methods; (2) Student listening circle goals set and actions taken; (3) Ancillary analyses of student surveys; and (4) Student and staff surveys.</p>	

Social support	Workplace	Oude Hengel KM and Blatter BM and Joling CI and van der Beek AJ and Bongers PM (2012) Effectiveness of an intervention at construction worksites on work engagement, social support, physical workload, and need for recovery: results from a cluster randomized controlled trial. BMC public health. 12. pp. 1008.	2012	<p>BACKGROUND: To prolong sustainable healthy working lives of construction workers, a worksite prevention program was developed which aimed to improve the health and work ability of construction workers. The aim of the current study was to investigate the effectiveness of this program on social support at work, work engagement, physical workload and need for recovery. METHODS: Fifteen departments from six construction companies participated in this cluster randomized controlled trial; 8 departments (n=171 workers) were randomized to an intervention group and 7 departments (n=122 workers) to a control group. The intervention consisted of two individual training sessions of a physical therapist to lower the physical workload, a Rest-Break tool to improve the balance between work and recovery, and two empowerment training sessions to increase the influence of the construction workers at the worksite. Data on work engagement, social support at work, physical workload, and need for recovery were collected at baseline, and at three, six and 12 months after the start of the intervention using questionnaires. RESULTS: No differences between the intervention and control group were found for work engagement, social support at work, and need for recovery. At 6 months follow-up, the control group reported a small but statistically significant reduction of physical workload. CONCLUSION: The intervention neither improved social support nor work engagement, nor was it effective in reducing the physical workload and need for recovery among construction workers. TRIAL REGISTRATION: NTR1278.</p>	Unclear from the abstract how social support was measured
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Appendix 5: Insights from scoping and sample of test search results

The results of an initial scoping exercise were presented to What Works Wellbeing and the Review Consultation Group and have informed the approach that was subsequently used for the rapid review.

Initial searches identified the following:

- The term “study” returned many irrelevant papers (e.g. time-series data); the search term was refined to focus on methodological details, including synonyms for before and after studies.
- Many of the papers referred to disaster or medical literature, in particular in relation to nursing students. We updated the search string to exclude such terms.
- Many of the papers referred to social capital/ three key concepts as the independent variable, rather than the outcome as a result of an intervention. This needs manual screening through abstract review.
- Many of the papers that our search terms identified come from the field of education, with schools as communities, as well as workplaces. This was discussed with the Consultation group and it was decided that this should not be included in the findings.
- In most cases, it was not possible to ascertain the measures used without accessing the full paper. Even then, many studies use scales and do not include the wordings of individual questions.
- Searches within Google Scholar yielded very few grey literature studies – most returns were peer reviewed papers, although provided a small number of returns when searching for specific outcome measures (12 social support/ 22 belonging / 105 cohesion).

The following is a summary of a selection of searches undertaken and how the approach was refined.

Type of search	Database	Search terms	Notes	No. of hits
Broad concept, no geographical limits	ScienceDirect Google Scholar	TITLE-ABS-KEY "social capital" AND intervention AND evaluation (evaluation OR trial OR "impact assessment") AND (intervention OR program OR programme OR project) AND ((neighbourhood belong*) OR "social capital" OR "community wellbeing" OR "bonding capital" or cohesion OR cohesiveness OR "inclusive community")	Many studies have social capital as a predictor rather than outcome. Google Scholar results include screening for 2007-	50 18,000
More defined concepts, no geographical limits	Scopus	(TITLE-ABS-KEY (((belong* W/3 (neighbourhood OR area OR sense OR community)) OR "social capital" OR "community wellbeing" OR "bonding capital" OR "social support" OR (support W/3 community) OR (local W/3 help) OR cohesion OR cohesiveness OR "inclusive community")) AND TITLE-ABS-KEY (evaluation AND (intervention OR program OR programme OR project)))	Many responses from medical and disaster literature.	11,270
Defined concepts, geographical and subject limits	Scopus	TITLE-ABS-KEY ((belong* W/3 (neighbourhood OR area OR sense OR community)) OR "social capital" OR "community wellbeing" OR "bonding capital" OR "social support" OR (support W/3 community) OR (local W/3 help) OR cohesion OR cohesiveness OR "inclusive community") AND TITLE-ABS-KEY (evaluation AND (intervention OR program OR programme OR project) AND NOT **country list** AND NOT (disease OR illness OR disaster)) AND PUBYEAR > 2005 AND (LIMIT-TO (SUBJAREA , "SOC") OR LIMIT-TO (SUBJAREA , "PSYC"))		1801

Defined concepts, broadening of methodology, geographical and subject limits	Scopus	TITLE-ABS-KEY ((belong* W/3 (neighbourhood OR area OR sense OR community)) OR "social capital" OR "community wellbeing" OR "bonding capital" OR "social support" OR (support W/3 community) OR (local W/3 help) OR cohesion OR cohesiveness OR "inclusive community") AND TITLE-ABS-KEY ((evaluation OR trial OR "impact assessment") AND (intervention OR program OR programme OR project) AND NOT **country list** AND NOT (disease OR illness OR disaster OR (nursing W/3 student*))) AND PUBYEAR > 2006 AND (LIMIT-TO (SUBJAREA , "SOC") OR LIMIT-TO (SUBJAREA , "PSYC"))	Search needs to be repeated for "public health" as cannot combine search.	2636 (soci/psyc)
	Proquest	noft(((belong* NEAR/3 (neighbourhood OR area OR sense OR community)) OR "social capital" OR "community wellbeing" OR "bonding capital" OR "social support" OR (support NEAR/3 community) OR (local NEAR/3 help) OR cohesion OR cohesiveness OR "inclusive community")) AND noft((evaluation OR trial OR "impact assessment")) AND noft((intervention OR program OR programme OR project)) NOT loc(**countrylist**) NOT noft(disease OR illness OR disaster) AND su((Soci* OR Psych*))		3111
	PubMed	((("social capital" OR "community wellbeing" OR "bonding capital") AND ("neighbourhood belonging" OR "neighborhood belonging" OR ("neighbourhood" OR "area") AND belong*)) OR "social support" OR ("local" AND "help") OR (("social" OR "community") AND ("cohesion" OR "cohesiveness"))) OR "inclusive community") AND ("evaluation" AND ("intervention" OR "program" OR "programme" OR "project"))		4487

Defined measures	Google Scholar	Intervention AND evaluation AND ["if I needed help there are people who would be there for me"/ "I feel like I belong to this neighbourhood"/ "people from different backgrounds get on well"]	Almost all studies are peer reviewed articles - these will need deduping from those recovered from academic databases.	12 / 22 / 105
	Scopus	(TITLE-ABS-KEY ((evaluation OR trial OR "impact assessment") AND (intervention OR program OR programme OR project) AND NOT (disease OR illness OR disaster)) AND ALL (> 2006) AND ALL ("I feel like I belong to this neighbourhood"))	Without full text search in the database, it is not possible to ascertain how many papers contain the measures.	0

**** country list ****

(afghanistan OR albania OR algeria OR andorra OR angola OR antigua OR barbuda OR argentina OR armenia OR azerbaijan OR bahamas OR bahrain OR bangladesh OR barbados OR belarus OR belize OR benin OR bhutan OR bolivia OR bosnia OR botswana OR brazil OR brunei OR "Burkina Faso" OR burundi OR "Cabo Verde" OR cambodia OR cameroon OR "Central African Republic" OR chad OR china OR comoros OR congo OR cuba OR ivoire OR djibouti OR dominica OR ecuador OR egypt OR "El Salvador" OR guinea OR eritrea OR eswatini OR ethiopia OR fiji OR gabon OR gambia OR ghana OR grenada OR guatemala OR guyana OR haiti OR honduras OR india OR indonesia OR iran OR iraq OR jamaica OR jordan OR kazakhstan OR kenya OR kiribati OR kuwait OR kyrgyzstan OR laos OR lebanon OR lesotho OR liberia OR libya OR madagascar OR malawi OR malaysia OR maldives OR mali OR marshall OR mauritania OR mauritius OR micronesia OR moldova OR mongolia OR montenegro OR morocco OR mozambique OR myanmar OR namibia OR nepal OR nicaragua OR niger OR nigeria OR macedonia OR oman OR pakistan OR palau OR palestine OR panama OR paraguay OR peru OR philippines OR qatar OR russia OR rwanda OR samoa OR "Sao Tome" OR "Saudi Arabia" OR senegal OR serbia OR seychelles OR "Sierra Leone" OR solomon OR somalia OR africa OR "Sri Lanka" OR sudan OR suriname OR syria OR tajikistan OR tanzania OR thailand OR timor OR togo OR tonga OR trinidad OR tunisia OR tobago OR turkmenistan OR uganda OR ukraine OR "United Arab Emirates" OR uruguay OR uzbekistan OR vanuatu OR venezuela OR vietnam OR yemen OR zambia OR zimbabwe)

This lists all countries that are neither EU nor OECD. The list does not include other wealthy countries that are not OECD or EU, such as Singapore and Hong Kong.

Appendix 6: Additional insights from search and screening process

The process of conducting the scoping phase and initial screening provided some interesting insight for the researchers and the What Works Centre for Wellbeing team and Consultation Group. Although the below is not included in the formal reporting of results, the team felt it was an important addition to future conversations about how social capital concepts and measures are used in the design, monitoring and evaluation of interventions. It is presented in a box to distinguish from the main findings.

Conceptualisation of outcomes

One important distinction that we found in the scoping phase was that there was a consistent conceptualisation of belonging and cohesion in the papers we found, compared to that which was set out by What Works Centre for Wellbeing (see Table 1). However, social support, which was often found in health and social care literature, did not have the same conceptualisation as used by WWCW and the ONS, that is a general sense of having people around to help you. Examples included online support interventions for people with medical conditions that intended to impact on whether people feel supported (Kaplan et al, 2011), not whether social capital outside of that online community is impacted. Other papers focused on themes of emotional support (Hughes et al, 2010) or increasing the access to but not necessarily quality of social support (Henderson et al, 2014).

Different measurement tools

In terms of measurement, social support measures tended to include specific practical examples of support in specific contexts, such as support with shopping if the person was ill (Resource Generator), someone to give advice about a crisis (MOS Social Support), or a general sense of having people to turn to. It was often deployed in healthcare interventions when researchers wanted to understand if having social support networks increased the efficacy of an intervention, for example to stop smoking or vaping (e.g., Graham et al. (2021)). In addition, most of the scales used in the studies used multiple indicators to provide a composite score which did not allow separation of any elements that might align more closely with a broad concept (e.g., Shapira et al., 2021).

Specific examples of social support measurements that featured in search results included:

- MOS Social Support (Sherbourne and Stewart, 1991) divides types of social support and uses specific examples for people to indicate whether it is present in their lives. Dimensions include tangible support/ emotional support. Tangible support has specific examples of “having someone to help if I needed it”. We only included studies that reported results on the Tangible subscale that used this measurement tool.
- Resource Generator: Social capital (van der Gaag and Snijders, 2005) is a list which describes the kind of people you might need to solve problems in your life, rather

than a broad measure of social support. No studies were included that used this scale.

- UCLA Loneliness Scale (Russell et al., 1980) includes the indicator "There are people I can turn to". No studies were included that used this scale.

In terms of belonging, measures tended to focus on general psychological components of belonging, rather than to a particular community (Drapalski et al, 2021) or a sense of community involvement (Peters et al, 2010).

Specific examples of measurements of belonging which differed from that in Table 1 included:

- Social Connectedness Scale (Lee and Robbins, 1995) is a 20 (long version) or 8 (short version) point scale that measures different components of feeling close to others. There is no reference to "neighbourhood" in the belonging component.
- General Belongingness Scale (Malone, 2011) measures "achieved belongingness" and includes the indicator "I have a sense of belonging". It does not define the boundaries of belonging (e.g. at neighbourhood level).
- Sense of Belonging Instrument (Hagerty and Patuskay, 1995) is a 32-item measure of perceived belongingness and includes two sub-scales: the Psychological subscale (n = 18), which measures psychological experiences of belonging, and the Antecedents subscale (n = 14), which measures antecedents that foster belonging. It does not mention community specifically, although there are some references to broader society.

About Us

What Works Centre for Wellbeing

We are an independent collaborating centre and the aim of our work is to improve wellbeing and reduce misery in the UK. We believe that this is the ultimate goal of effective policy and community action. By accelerating research and democratising access to wellbeing evidence, we develop and share robust evidence for governments, businesses, communities and people to improve wellbeing across the UK.



To find out more, visit

<https://whatworkswellbeing.org/>

Centre for Thriving Places



To find out more, visit

www.centreforthrivingplaces.org

Centre for Thriving Places was founded in 2010, with the aim to change the economic compass from pointing to consumption and growth toward wellbeing economics for people, place and planet. We bring this vision to life through place-based strategic consulting, training and our evidence-based measurement tools the Thriving Places Index and Happiness Pulse. We work with local authorities, organisations and individuals to provide practical pathways to measure, understand and improve wellbeing.