

NORTHERN TERRITORY

my Territory
Connections



Developing a Social Capital Index for the Northern Territory

May 2023



NORTHERN
INSTITUTE
People. Policy. Place.



CHARLES
DARWIN
UNIVERSITY
AUSTRALIA

About

The Social Capital Index used data collected in the *my Territory Connections* survey, conducted between November 2021 and June 2022.

The survey was open to all Territory residents aged 18 years and older and more than 3,000 people participated.

The aim of the survey was to understand how Territorians are connected through their social networks, community participation and attachment to the place they live. Results will be used to help governments, service providers, community organisations and businesses to make decisions about making life in the Territory better for residents and identifying who might be missing out.

While the survey was available in English only and designed for individual respondents to complete online, some respondents were assisted to complete the survey and paper copies of the questionnaire were also made available.

The data collection process was conducted during a period of travel restrictions and planned visits to remote communities to encourage survey participation using local facilitators was not possible.

The research team promoted the survey through local media and at various locations across the Territory. They also used networks through the university, NT and local governments, and community organisations.

Promotion of the survey was also assisted by the cooperation of local elected representatives.

Thank you to all Territory residents who took the time to provide information on their experiences and opinions as part of this research.

Further information about the *my Territory Connections* survey can be found on the project website: myterritoryconnections.cdu.edu.au.

RESEARCH BRIEF

DEVELOPING A SOCIAL CAPITAL INDEX FOR THE NORTHERN TERRITORY

This research brief provides background to the development of a social capital index for the Northern Territory. It defines the concept of social capital, discussing its many dimensions and why it is important, and then outlines some of the unique challenges for the Territory in relation to building and maintaining social capital. The principles underpinning the development of any index are briefly explained and two examples of existing indexes measuring aspects of social capital are provided. It concludes with details of the dimensions that were measured in the Territory's social capital index and how it was constructed.

In summary, the report shows:

Strong social capital is a recognised feature of communities that cooperate for mutual benefit. It is a foundational to social and economic development and has been shown to be positively related to individual and community wellbeing.

The Social Capital Index was developed to respond to the uniqueness of both population and place in the Northern Territory.

Because of its multidimensional nature, four dimensions of Social Capital were

described to account for: how Territorians are attached to the place where they live; whether they can access networks of support; whether they volunteer and participate in community and civic activities; their levels of trust, tolerance, and shared values. Each dimension is separately measured.

The construction of the Social Capital Index showed that 52% of the measured opportunities for community connection are being used by Territorians to build Social Capital.

WHAT IS SOCIAL CAPITAL?

Researchers who study social capital have different opinions about how to define it and how it relates to other forms of capital such as human, economic and environmental capital. Portes (1988) emphasises the intangible nature of social capital by stating that, 'whereas economic capital is in people's bank accounts and human capital is inside their heads, social capital inheres in the structure of their relationships. To possess social capital, a person must be related to others.' Portes goes on to explain that it is the relationships with others that is the source of social capital.

Social capital is multidimensional

Most researchers agree that social capital has multiple dimensions and is associated with the value of people's social relationships. Social capital has been described as the "glue" that holds groups together through social networks and is facilitated by the social rules or "norms" that underlie the interactions within these networks. We can think of social capital as an asset that enables individuals, groups, and communities to access actual or potential resources existing in the relationships and networks among and between them.

Four dimensions which contribute to social capital were identified by Onyx and Bullen (2000) during their work on measuring social capital in Australian communities: networks, reciprocity, trust and shared norms.

1. The production of social capital depends on an individual's participation in networks and is not something that an individual can generate in isolation.
2. While assisting others may involve a personal cost of time or resources, individuals may act in this way in the expectation they will benefit if there is a need for assistance to be reciprocated in the future.
3. Trust underlies the belief that others will act as expected and in a supportive, not harmful, manner.
4. Social norms, when they are shared, provide a standard of socially approved behaviour.

These four dimensions can combine to create strong and cooperative communities from which individuals can draw and contribute to the social capital resources.

Bonding, bridging and linking social capital

To explain how resources can be transferred within or between social groups, three types of social capital are often described: bonding, bridging and linking social capital (see Putnam 2000; Szretzer & Woolcock 2004).

1. Bonding social capital develops from the close relationships between people who see themselves as similar such as families, close friends or people from the same ethnic or faith groups. These relationships are built on trust and cooperation and can be understood as helping people to 'get by' in life. You can see this capital working in social relationships providing friendship and practical and emotional support.
2. Bridging social capital refers to horizontal links between people or groups who are more mixed through age, income or ethnic background but generally have similar social status and power. Bridging social capital expands social networks across groups of people who may have different social identities but demonstrate respect and assist people in 'getting on' in life. You can see this capital working when people come together to help their community through volunteering or celebrating specific events.
3. Linking social capital is about the vertical ties between people and individuals or institutions that hold power or influence in the social hierarchy. Linking social capital is helpful in bringing people together across different levels of society when the social status of the people might be quite unequal and is a way in which people and groups can 'get ahead'. This type of social capital is obvious when, for example, elected representatives join with community organisations and local residents to provide support to develop local community assets.

In their work on social capital and refugee communities in Australia, Doney et al (2013) situate the bonding, bridging and linking types of social capital in a cycle where individual capacity, community capacity, and social and political factors enable individuals and communities to extend their social connections and networks and build new links, thus increasing their social capital.

Does everybody have the same social capital?

As with other resources, not all members of society have equal access to different forms of social capital or use it in the same way. Individuals who have less capacity to understand or comply with social norms may lack confidence in making social connections. As a result, they may be less able to access existing networks and the available social capital. This can lead to social exclusion for certain individuals or

groups rather than the development of an inclusive and welcoming society.

Doney et al (2013) found that racism and discrimination in the wider community can negatively impact the ability of marginalised communities to access bridging and linking social capital. Some groups can be so tightly bonded that they are unwilling to trust and accept new members. Such strong ties may make it difficult for newcomers to enter the group and can also limit the ability of a specific group to build bridges or linkages to other groups. While linking social capital can be used in a positive manner to assist groups in accessing resources, it can also enable nepotism or corruption if used to benefit an individual rather than build partnerships and community resources.

WHY DOES SOCIAL CAPITAL MATTER?

Social capital is important for the wellbeing of individuals, families and groups and is a recognised feature of communities that cooperate for mutual benefit. Understanding how social capital operates to benefit individuals and communities is useful when making decisions about how to improve life in the Northern Territory. Alternately, it can also assist our understanding of why some individuals and groups may encounter barriers to accessing similar levels of social capital.

Social capital underpins social and economic wellbeing

Social capital is a foundation of social and economic development and central to building successful partnerships between communities, governments and businesses. In her Boyer Lectures of 1995, Eva Cox proposed that ‘...a government's failure to spend on enhancing social capital will actually reduce the level of financial capital. Indeed, high social capital may well be the prerequisite for economic growth, not the other way round.’ As the ultimate aim of economic policy is to increase wellbeing (McDonald & Gorecki 2010), there appears to be connection between social and economic capital. Knowledge of social capital and how it functions is not only valuable for government policy and program areas which have a direct and obvious social impact but for all areas of government. This ensures that their decision-making and subsequent activity enhances the possibility for social capital to develop and does not inadvertently introduce barriers to the development and exchange of social capital in the community.

Social capital presents challenges for the Territory

The Northern Territory faces specific challenges in terms of social capital due to its relatively small yet culturally diverse and widely dispersed population. The uniqueness of the Territory's people and place means that our understanding of social capital and how it operates in this environment needs to include the varied experiences of many different people. We need to appreciate the social capital brought by new migrants as well as established groups and recognise the long cultural attachment of the Territory's Aboriginal populations to particular lands and seas. A two-way acceptance of diversity in all its forms is a prerequisite for the development of strong and inclusive communities.

The importance of the built and natural environment as well as the digital environment as places where social engagement and connectivity occur needs to be considered when applying social capital theory to specific Territory conditions. While most of the population lives in urban areas, traditional urban notions of neighbourhood and community may be challenged in regional and remote parts of the Territory. Recognition that social networks can develop and be maintained in both physical and digital spaces is an important consideration in the Territory.

As social capital is a resource located within networks of people, logic suggests that the high level of

population mobility within and to and from the Territory could diminish stocks of this resource. Strategies to encourage the development of bridging social capital should lead to strongly networked communities which demonstrate higher resilience to population turnover. This can be especially important in times of disaster recovery – floods, cyclones, pandemics – when people are required to work together for the benefit of the whole community.

WHY DEVELOP AN INDEX?

Now that we have considered what social capital is and why it is important, we provide a brief explanation of the value of an index and how these principles are applied to a social capital index.

An index provides a benchmark or standard against which change can be consistently measured over time. As a summary measure constructed from statistical inputs, it also allows comparison across different groups. The inputs may need to be weighted which is a statistical technique used to better align a dataset with the population it represents.

Initially, the index can be represented as one figure, often 100, and is established for a reference period. Over time, change is shown proportionally, relative to the initial value specified for the index reference period and can be in a positive or negative direction.

Items used to construct an index are carefully selected. They need to have face validity, which means that the item should measure what it is meant to measure. An item should also represent only one dimension of the concept being measured. To be useful, the selected items should also display a certain level of variance (i.e. the extent to which something varies from the average) so they are sensitive to change and differences. The rationale for selecting items and constructing the index needs to be carefully documented so that a standard methodology is used across time.

Indexes are commonly used in economics and health as a way of measuring change that is impacted by multiple inputs. As an example, the Consumer Price Index is an economic index which many Australians are aware and is summarised below.

In Australia, the Consumer Price Index (CPI) measures changes in the price of a fixed basket of representative goods and services and is based on average household expenditure by capital city households across Australia. The goods and services include food, clothing, housing, transport, communication, recreation activities and so on.

The CPI is reported quarterly and rose 1.8% in the June 2022 quarter. The CPI affects almost all Australians because of the many ways it is used. It is primarily used as a macro-economic indicator by the government and economists to monitor and evaluate levels of inflation in the Australian economy, and for adjusting dollar values of types of fixed payments, such as pensions and contracts.

The Australian Bureau of Statistics produces a range of price indexes suited to different parts of the economy. Two other examples are:

- The Selected Living Cost Indexes (SLCIs) which are designed to measure changes in living costs for selected population sub-groups. They are particularly suited for assessing whether or not the disposable incomes of households have kept pace with price changes.
- The Wage Price Index (WPI) which measures changes in the price of labour in the Australian labour market.

Source: Information compiled from the Australian Bureau of Statistics website

WHAT IS A SOCIAL CAPITAL INDEX?

Constructed using the same principles that apply to economic indexes, a social capital index measures a selection of data items or variables associated with the dimensions of social capital and shows how they change across time compared with a base reference period. Change can be positive or negative and analysis can provide an indication of which groups in society are impacted. In turn, this allows government to evaluate policies and programs focused on individual and societal wellbeing and social inclusion and adapt them appropriately.

Existing social capital indexes

Before explaining the development of a social capital index for the Northern Territory, it is useful to look at other indexes measuring aspects of social capital.

The Household, Income and Labour Dynamics Australia (HILDA) survey began in 2001 and has produced a rich longitudinal data set on the lives of Australian residents covering a wide range of aspects of life, including subjective wellbeing. The Social Connectedness Index used HILDA data to measure four key dimensions of social connectedness: social interactions, social support, interpersonal trust, and socioeconomic advantage. Socioeconomic advantage was included to capture the socioeconomic factors most likely to affect social connectedness. The scores on each dimension were standardised to a value of between zero and one, with a higher score signifying a greater level of social connectedness. The four scores were then added up to provide a composite index with, theoretically, a value between zero and four. As reported by Duncan et al (2021), the Social Connectedness Index showed that Australia's social connectedness had fallen by almost 10 per cent over the previous decade.

Since 2013, social capital in Scotland has been tracked using data from 18 questions in the Scottish Household Survey. Their Social Capital Index measures four dimensions of social connection: social networks, community cohesion, social participation and community empowerment. Each dimension has an index score so there is also an indication of change at the dimension level. The four scores have equal weight and are averaged to provide a single measure of social capital. While McClymont et al (2020) found evidence of strong community connections when examining data from the index, they also identified issues of loneliness and lack of influence over local decisions as areas of concern.

These two examples illustrate different approaches that can be taken to developing a social capital index. Similarities exist in the data source for both indexes, being a large-scale population survey providing data across time. The variables used to measure social capital were chosen as being relevant to people and place and reflect the multidimensionality of the concept. While both indexes allow for individual scores for each of the four dimensions, different methods are used to produce the composite index.

DEVELOPING A SOCIAL CAPITAL INDEX FOR THE NORTHERN TERRITORY

Why is the social capital index being developed?

The Northern Territory Government's Social Outcomes Framework requires the development of a social capital index as a measure of people's connection to their community. The Northern Institute at Charles Darwin University was commissioned to develop this social capital index as well as provide additional data to report on measures contained in the Framework.

In order to collect this data, a Territory specific population survey – *my Territory Connections* – was developed. The naming of the survey was in recognition of the importance of connections as the foundation of strong and resilient communities and the central point from which social capital develops.

Dimensions of social capital in the Territory

After a review of the literature, four dimensions were chosen as relevant indicators of community wellbeing and social infrastructure across the Northern Territory: attachment to the Territory; access to supportive networks; community and civic participation; and community cohesion.

Survey questions were developed to capture various aspects of these dimensions. As social capital is a multidimensional concept, measures will be available for each of the chosen dimensions as well as an aggregate headline measure so that change over time can be easily observed. These dimensions and their relevance to the Territory are explained in the following sections.

Attachment

Attachment to the Territory is a known factor in retaining local populations across different Territory regions, supporting local communities to grow. The measurement of attachment informs how social capital can be maintained when some populations are coming and going regularly, and other populations are staying.

Attachment recognises the importance of place for Aboriginal Territorians, the population group most likely to stay, as well as the attraction of the unique natural environments for people who move to the Territory. This dimension will be measured through the following inputs: total length of residence in the Territory; whether the individual intends to remain in or leave the Territory in the following two years; and the level of connection to place through a sense of belonging to the neighbourhood or community where a person lives.

Analysis of attachment data and change in the Attachment Social Capital Index should enable an understanding of which population groups contribute to and withdraw from the Territory's reserves of social capital. Over time, the stability of the Territory's population and whether the length of time a person spends in the Territory influences their investment in their own and their community's social capital can be investigated.

Networks

Inclusion of people in networks is necessary to generate social capital and to enable support to be reciprocated. Individual and community resilience can be built through having networks of family, friends (bonding social capital) and neighbours (bridging social capital) within the Territory. Connection to people with authority and status builds linking social capital which is important for creating partnerships that support local development and increase community capacity.

Measurement of supportive networks will be through the following inputs: the level of practical,

emotional, and financial support given to and received from family, friends and neighbours within the Territory; the potential for access to linking social capital through personally knowing someone in an influential position and feeling comfortable going to them to seek information/advice.

Considering the relatively small size of the Territory's population and its dispersed nature, understanding the strength of people's networks will provide an indication of whether people have access to the support they need, and which groups are missing out. We may also be able to investigate the nature and operation of bridging and linking social capital in different communities and locations, and the role of communication technologies in maintaining and building people's social networks.

Participation

Participation in community groups and engagement with civic issues benefits everyone through cooperative behaviour and involvement in activities that maintain the broader functioning of society. This engagement provides opportunities to support the community through shared action and group associations that builds trust and shared social norms.

The extent of participation in community and civic life will be measured through the following inputs: participation in community events and festivals; formal and informal volunteering; involvement in cultural, sport, professional and social groups (including in person and online); attendance at community meetings/consultations; and personal advocacy for issues or vulnerable people such as involvement in protest/rallies, petitions and direct advocacy.

High levels of community and civic participation indicate a healthy commitment to how we function as a broader society. Investigation of this dimension allows insight into how opportunities to participate can be provided for all groups considering the regional and cultural diversity of the Territory and whether differential opportunities to participate have an impact on people's wellbeing.

Cohesion

Community cohesion is created through trust, the embrace of difference, and shared values. Activities as simple as acknowledging people in the street, welcoming a new neighbour or collecting their mail when they are away, establish positive standards of social behaviour. Respecting the diversity of others within the community who may be different from oneself establishes the foundation for bridging social capital to develop. Trusting people in general, community leaders and government service providers is important for building a society which believes that others will behave as expected and not in a way which is detrimental to individuals or groups.

This dimension of social capital will be measured through the following inputs: neighbourhood friendliness; acceptance of diversity; people generally trusting each other and community leaders; and collective action towards reconciliation between Australia's Aboriginal and Torres Strait Islander peoples and other Australians.

The idea that community cohesion involves the capacity to build a collective identity and sense of belonging is perhaps one of the biggest challenges for the diverse population of the Territory.

Investigation of this dimension may test whether the expectation of a Territory identity is realistic, how government could support a collective Territory identity, and whether this could assist in stabilising elements of population turnover. An important question to consider is whether identifying as a Territorian matters in people's contribution to broader measures of social capital.

Methodology

Survey collection and inputs

The Social Capital Index (SCI) is a number measuring the prevalence of social capital in the Northern Territory, or more specifically, it is the propensity for people to engage in actions or hold attitudes and beliefs that indicate positive social connection. The inputs to these social connections were collected through the *my Territory Connections* (MTC) survey and apply to the people who participated in the survey.

The total number of people participating in the survey was 3,058 however question response rates varied from over 3,000 to around 2,500. Despite these question response inconsistencies, this provides a substantial sample size. Nearly 70% of participants were women, while age groups from 35 years were over-represented in the sample compared to younger adults (aged 18 to 34). About 10% of participants identified as Aboriginal which underrepresents the population of Aboriginal people (30%).

The online survey was open from November 2021 to June 2022 however some data was collected via face-to-face interview in circumstances where people needed help to participate. COVID restrictions severely limited access and participation in remote communities, therefore care is needed when generalising the results to all people who live in the Territory. The survey population is weighted by sex and life stage (allowing some aggregation of younger age groups) but not Indigenous status as we are not confident the survey inputs reflect the circumstances of people living in remote Territory Aboriginal communities.

Constructing the index

The NT SCI incorporates four dimensions, which will contribute to the total SCI score. As such, the SCI is a weighted sum of four separate subindices, where:

ASCI is the attachment social capital subindex

NSCI is the networking social capital subindex

PSCI is the participation social capital subindex

CSCI is the cohesion social capital subindex

Separate weights have been applied to each subindex and can be thought of as the value of each dimension relative to the other dimensions. This provides a mechanism to compare each dimension separately across the Northern Territory community. It allows measurement of the effect on the total of removing one unit from a particular dimension and adding one unit to another dimension. This recognises that the underlying actions or beliefs are normalised with respect to connections over different social scales. Currently the weights are set at 0.25 meaning each dimension adds equally to the total value of Social Capital. However, it is expected that there could be variation in the value of the weights and that these can change with time, therefore the methodology provides the opportunity for

discussion on how we value these now and the potential for adjustment in the future.

Each subindex is also a weighted sum of values specific to the demographic characteristics of the survey participants covering sex (female and male) and life stage (defined as the broad career age groups). These life stages are defined as 18 to 29 year-olds covering people in their early career, 30 to 49 year-olds covering people in their mid-career, 50 to 59 year-olds covering people in their pre-retirement years, and people aged 60 and over which were classified generally as retired. The weights are proportional to the demographic representation of the survey population relative to the Territory’s Estimated Resident Population aged 18 and over.

The survey rates are specified with respect to how many participants responded to each question and are also disaggregated by the age-group and sex demographic characteristics. Non-responses are not included as inputs.

Because of differences in the number of questions that are used as inputs to each subindex, a normalization value is provided. Currently it is set to 1 but allows change in the future.

The calculation of each subindex is described below. In many of the question inputs, we also describe the minimum level for a response to contribute to the value of social capital. These values were informed by responses to the first MTC survey.

The Attachment Subindex

The survey inputs that contribute to the Attachment subindex are mapped in the table below.

Survey inputs	Question and response options	Index contribution
Length of residence	<i>How many years IN TOTAL have you lived in the Territory?</i> (Single choice option from) <i>All my life</i> <i>Less than 1 year</i> <i>1 year to less than 2 years</i> <i>2 years to less than 5 years</i> <i>5 years to less than 10 years</i> <i>10 years to less than 20 years</i> <i>20 years to less than 40 years</i> <i>40 years or more</i>	The response contributes if it was greater than or equal to a minimum number which has been set to 5 years or more
Two-year migration intention	<i>Where do you think you will be living in 2-years time?</i> (Single choice option from) <i>Current town, city or community</i> <i>Somewhere else in the Territory</i> <i>In another State/Territory</i> <i>Overseas</i> <i>Not sure</i>	The response contributes if the intention is to live in the Territory
Sense of belonging to the place where you live	<i>On a scale of 0 (no sense of belonging) to 10 (very strong sense of belonging), how would you describe your sense of belonging to</i> <i>Your neighbourhood (the place where you live)</i>	The response contributes if it was greater than or equal to a minimum sense of belonging which has been set to 6 out of 10

The subindex was calculated from the sum of all contributions.

The subindex normalization was specified at 1.

The mathematical functions describing the subindex are provided in Appendix, Table 3.

After applying these inputs, the value of the Attachment subindex is 0.72 (as the survey weighted index) and 0.70 (as the population weighted index).

The Networks Subindex

The survey inputs that contribute to the Networks subindex are mapped in the table below.

Survey inputs	Question and response options	Index parameters
Support given	<i>In the last 12 months, did you give support in any of these ways to your TERRITORY NEIGHBOURS, FRIENDS, FAMILY who don't live with you. PRACTICAL SUPPORT (like giving them a lift, helping around the home, sharing meals or food, looking after their children or animals, holding a spare key to their home) EMOTIONAL SUPPORT (like dropping in to visit, giving advice or guidance) FINANCIAL SUPPORT (like giving money, paying for things they need, providing advice on managing their money)</i>	The response contributes each time it was Yes
Support received	<i>In the last 12 months, did you get support in any of these ways from your TERRITORY NEIGHBOURS, FRIENDS, FAMILY AND COMMUNITY ORGANISATIONS who don't live with you. PRACTICAL SUPPORT (like giving them a lift, helping around the home, sharing meals or food, looking after their children or animals, holding a spare key to their home) EMOTIONAL SUPPORT (like dropping in to visit, giving advice or guidance) FINANCIAL SUPPORT (like giving money, paying for things they need, providing advice on managing their money)</i>	The response contributes each time it was Yes
Personally knows person in position of influence	<i>Do you personally know somebody in the following positions/organisations that you would feel comfortable going to for information or advice? Federal/Territory politician Local council member (including Land Councils) Community leaders including Elders</i>	The response contributes each time it was Yes

	<i>Justice system (lawyers, judges)</i> <i>Union leadership</i> <i>Business leaders (bank managers, business owners)</i>	
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Currently, each of these network connections is treated with equal weight and included in the Network Subindex if the participant's response was "Yes".

The subindex normalization was specified at 1.

The mathematical functions describing the subindex are provided in the Appendix, Table 4.

After applying these inputs, the value of the Networks subindex is 0.36 (as the survey weighted index) and 0.36 (as the population weighted index).

The Participation Subindex

The survey inputs that contribute to the Participation subindex are mapped in the table below.

Survey inputs	Question and response options	Index parameters
Community participation	<i>In the last 12 months, did you do any of the following?</i> <i>Participate in or attend an organized community activity or festival</i>	The response contributes if it was Yes
Civic engagement	<i>In the last 12 months, did you do any of the following?</i> <i>Attend a community meeting or consultation</i> <i>Attend a political, civic or human rights rally or protest</i> <i>Sign a petition (including online)</i> <i>Act on behalf of other people or about specific issues</i>	The response contributes each time it was Yes
Volunteering	<i>In the last 12 months, did you do any of these activities WITHOUT pay? Your involvement could have been in person, online or by telephone.</i> <i>Member of board, council, committee, or association</i> <i>Organised or assisted at a community event</i> <i>Provided leadership, instruction, coaching, scoring, or other work for a group or team</i> <i>Cared for, support, visited or assisted people other than family/friends</i> <i>Raised funds for a charity or cause</i> <i>Worked with others to support a cause or issue</i> <i>Other work for no pay (please type below)</i>	The response contributes each time it was Yes
Membership of group	<i>In the last 12 months, did you belong to any of these groups? Mark the circles that</i>	The response contributes each time it was Yes

	<p><i>apply and tell us if your involvement was in person or online.</i></p> <p><i>Arts or culture</i></p> <p><i>Sport, recreation, special interest group</i></p> <p><i>Business, professional group, union</i></p> <p><i>Social groups</i></p> <p><i>Multicultural/ethnic clubs or groups</i></p> <p><i>Other group (please type below)</i></p>	
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The subindex is calculated from the sum of all contributions, with each contribution treated equally.

The subindex normalization was specified as 1.

The mathematical functions describing the subindex are provided in Appendix, Table 5.

After applying these inputs, the value of the Participation subindex is 0.34 (as the survey weighted index) and 0.33 (as the population weighted index).

The Cohesion Subindex

The survey inputs that contribute to the Cohesion subindex are mapped in the table below.

Survey inputs	Question and response options	Index parameters
Neighbourhood friendliness	<p><i>At the moment, how common are the following things in your neighbourhood?</i></p> <p><i>(Very common; Fairly common; Not common, Never happens, Not Sure)</i></p> <p><i>People say hello to each other</i></p>	<p>Minimum friendliness set at <i>Fairly common</i></p> <p>Contributes if response was "Very common" or "Fairly common"</p>
Comfort level with neighbour having diverse characteristics	<p><i>Use the sliding scale where 0 = uncomfortable and 10 = comfortable to tell us how you would feel if you had a neighbour who</i></p> <p><i>Practices a different religion</i></p> <p><i>Has a different ethnic or cultural background to you</i></p> <p><i>Speaks a different language to you</i></p> <p><i>Has a severe disability</i></p> <p><i>Has a known mental health problem</i></p> <p><i>Has a different sexuality to you</i></p>	<p>Minimum comfort level set at 10 out of 10 for different religion, ethnic/cultural group, language, or severe disability. It was set at 8 out of 10 for known mental health problem</p>
Reconciliation actions between Aboriginal and Torres Strait Islander and other Australians	<p><i>Do you agree or disagree with the following statements?</i></p> <p><i>I think reconciliation actions between Aboriginal and Torres Strait Islander peoples and other Australians are important</i></p>	<p>Contributes if response was "Agree"</p>
Generalised trust in people and trust in community leaders	<p><i>In general, how much do you trust the following people or organisations?</i></p> <p><i>(All of the time, Most of the time, Some of the time, None of the time, Not sure/ Not applicable to me)</i></p>	<p>Minimum trust level set at <i>Most of the Time</i></p> <p>Contributes if response was "All of the time" or "Most of the time"</p>

	<i>People in general</i> <i>My community leader/s</i>	
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The subindex is calculated from the sum of all contributions, with each contribution treated equally.

The subindex normalization was specified as 1.

The mathematical functions describing the subindex are provided in Appendix, Table 6.

After applying these inputs, the value of the Cohesion subindex is 0.69 (survey weighted) and 0.68 (population weighted).

The combined Social Capital Index is valued at 0.53 (survey weighted) and 0.52 (population weighted).

Sensitivity testing

In order to test the robustness of the results, calculations were performed for the characteristics of sex and life stage to observe whether there were differences in the value of social capital for these sub-populations. These calculations were undertaken for each subindex and the combined Social Capital Index (see Tables below).

Table A Survey weighted results

	ASCI	NSCI	PSCI	CSCI	SCI
Sex					
Females	0.73	0.36	0.34	0.71	0.53
Males	0.71	0.36	0.35	0.64	0.51
Life-stage					
Early-Career	0.58	0.36	0.30	0.71	0.49
Mid-Career	0.71	0.36	0.32	0.69	0.52
Pre-Retiree	0.77	0.35	0.36	0.68	0.54
Retiree	0.80	0.36	0.40	0.68	0.56

Table B Population weighted results

	ASCI	NSCI	PSCI	CSCI	SCI
Sex					
Females	0.72	0.36	0.33	0.71	0.53
Males	0.68	0.36	0.33	0.64	0.50
Life-stage					
Early-Career	0.57	0.35	0.29	0.69	0.47
Mid-Career	0.71	0.36	0.33	0.68	0.52
Pre-Retiree	0.77	0.35	0.35	0.67	0.54
Retiree	0.80	0.36	0.39	0.67	0.55

The results performed as expected – there was little difference by sex in the overall measure of Social Capital. As expected, women have more tolerance for population diversity (Markus, 2019) and thus

scored higher on the Cohesion subindex. Differences by life stage are also explainable, with younger populations scoring lower in their access to social capital compared to older populations. There was more variability in some subindices compared to the overall measure with youth also having lower levels of attachment (aligning with higher rates of migration behaviours) and participation (aligning with lower levels of volunteering and civic engagement). Differences were less marked in their networks of support and acceptance of population diversity (Keating & Janmaat, 2015).

Appendix

Table 1 Minimum levels - Average and median responses for 10 point scale questions

Question	Subindex	Average	Median
Sense of belonging to neighbourhood (place where you live)	Attachment	6.27	6
Comfort level with diversity characteristics			
- religion	Cohesion	9.2	10
- ethnicity	Cohesion	9.3	10
- language	Cohesion	9.1	10
- disability	Cohesion	9.0	10
- mental health	Cohesion	7.8	8
- sexuality	Cohesion	9.3	10

Table 2 Parameters for the Social Capital Index

Index	Parameter	Description	Value
<i>SCI</i>	w_A	<i>ASCI</i> weight	1/4
	w_N	<i>NSCI</i> weight	1/4
	w_C	<i>CSCI</i> weight	1/4
	w_P	<i>PSCI</i> weight	1/4
	{ <i>D</i> }	Demographic decomposition	By sex and life stage
	\hat{N}_D	Index population	Survey population / NT ERP

Table 3 Parameters for the Attachment Subindex

Index	Parameter	Description	Value
<i>ASCI</i>	<i>MinLTR</i>	Minimum years resident	5
	<i>MinSB</i>	Minimum sense of belonging	6
	q_{99}	Question 99 weight	1
	q_9	Question 9 weight	1
	q_{41}	Question 41 weight	1
	m_A	<i>ASCI</i> normalization	1

Calculations for Attachment Subindex

$$q_A ASCI_D / m_A = q_{99} R_D(Q99 \geq MinLTR) + q_9 R_D(Q9 = NT) + q_{41} R_D(Q41 \geq MinSB)$$

where the q 's are 1 or 0 depending on whether a response is included or not,

$$q_A = q_{99} + q_9 + q_{41}$$

is the total number of questions in the subindex and m_A is the subindex normalization, specified as 1.

Table 4 Parameters for the Networks Subindex

Index	Parameter	Description	Value
<i>NSCI</i>	q_{33xy}	Question 33 weights	1
	q_{32xy}	Question 32 weights	1
	q_{20x}	Question 20 weights	1
	m_N	<i>NSCI</i> normalization	1

Calculations for Networks Subindex

$$q_N NSCI_D / m_N = q_{33PFAM} R_D(Q33PFAM = Y) + q_{33PFR} R_D(Q33PFR = Y) + q_{33PNBR} R_D(Q33PNBR = Y) + q_{33EFAM} R_D(Q33EFAM = Y) + q_{33EFR} R_D(Q33EFR = Y) + q_{33ENBR} R_D(Q33ENBR = Y) + q_{33FFAM} R_D(Q33FFAM = Y) + q_{33FFR} R_D(Q33FFR = Y) + q_{33FNBR} R_D(Q33FNBR = Y) + q_{32PFAM} R_D(Q32PFAM = Y) + q_{32PFR} R_D(Q32PFR = Y) + q_{32PNBR} R_D(Q32PNBR = Y) + q_{32EFAM} R_D(Q32EFAM = Y) + q_{32EFR} R_D(Q32EFR = Y) + q_{32ENBR} R_D(Q32ENBR = Y) + q_{32FFAM} R_D(Q32FFAM = Y) + q_{32FFR} R_D(Q32FFR = Y) + q_{32FNBR} R_D(Q32FNBR = Y) + q_{20P} R_D(Q20P = Y) + q_{20C} R_D(Q20C = Y) + q_{20E} R_D(Q20L = Y) + q_{20J} R_D(Q20J = Y) + q_{20U} R_D(Q20U = Y) + q_{20B} R_D(Q20B = Y)$$

where the q 's are 1 or 0 depending on whether a question is included or not,

$$q_N = q_{33PFAM} + q_{33PFR} + q_{33PNBR} + q_{33EFAM} + q_{33EFR} + q_{33ENBR} + q_{33FFAM} + q_{33FFR} + q_{33FNBR} + q_{32PFAM} + q_{32PFR} + q_{32PNBR} + q_{32EFAM} + q_{32EFR} + q_{32ENBR} + q_{32FFAM} + q_{32FFR} + q_{32FNBR} + q_{20P} + q_{20C} + q_{20E} + q_{20J} + q_{20U} + q_{20B}$$

is the total number of questions in the subindex and m_N is the subindex normalization, specified as 1.

Table 5 Parameters for the Participation Subindex

Index	Parameter	Description	Value
<i>PSCI</i>	q_{67x}	Question 67 weights	1
	q_{36x}	Question 36 weights	1
	q_{38x}	Question 38 weights	1
	m_P	<i>PSCI</i> normalization	1

Calculations for Participation Subindex

$$\begin{aligned}
 q_P PSCI_D / m_P = & q_{67A} R_D(Q67A = Y) + q_{67M} R_D(Q67M = Y) + q_{67R} R_D(Q67R = Y) + \\
 & q_{67P} R_D(Q67P = Y) + q_{67B} R_D(Q67B = Y) + \\
 & q_{36M} R_D(Q36M = Y) + q_{36O} R_D(Q36O = Y) + q_{36L} R_D(Q36L = Y) + \\
 & q_{36C} R_D(Q36C = Y) + q_{36A} R_D(Q36A = Y) + q_{36F} R_D(Q36F = Y) + \\
 & q_{36W} R_D(Q36W = Y) + q_{36X} R_D(Q36X = Y) + \\
 & q_{38A} R_D(Q38A \neq N) + q_{38R} R_D(Q38R \neq N) + q_{38B} R_D(Q38B \neq N) + \\
 & q_{38S} R_D(Q38S \neq N) + q_{38M} R_D(Q38M \neq N) + q_{38X} R_D(Q38X \neq N)
 \end{aligned}$$

where the q 's are 1 or 0 depending on whether a question is included or not,

$$\begin{aligned}
 q_P = & q_{67A} + q_{67M} + q_{67R} + q_{67P} + q_{67B} + \\
 & q_{36M} + q_{36O} + q_{36L} + q_{36C} + q_{36A} + q_{36F} + q_{36W} + q_{36X} + \\
 & q_{38A} + q_{38R} + q_{38B} + q_{38S} + q_{38M} + q_{38X}
 \end{aligned}$$

is the total number of questions in the subindex and m_P is the subindex normalization, specified as 1.

Table 6 Parameters for the Cohesion Subindex

Index	Parameter	Description	Value
CSCI	<i>MinPrevalence</i>	Greeting prevalence	Fairly common
	<i>MinComfort</i>	Minimum diversity acceptance	10 and 8
	<i>MinTrust</i>	Minimum trust level	Most of the time
	q_{22H}	Question 22, part 1 weight	1
	q_{25x}	Question 25 weights	1
	q_{26R}	Question 26 weight	1
	q_{18x}	Question 18 weights	1
	m_C	CSCI normalization	1

Calculations for Cohesion Subindex

$$q_C CSCI_D / m_C = q_{22H} R_D(Q22H \geq MinPrevalence) + q_{25R} R_D(Q25R \geq MinComfort) + q_{25E} R_D(Q25E \geq MinComfort) + q_{25L} R_D(Q25L \geq MinComfort) + q_{25A} R_D(Q25A \geq MinComfort) + q_{25M} R_D(Q25M \geq MinComfort) + q_{25S} R_D(Q25S \geq MinComfort) + q_{26R} R_D(Q26R = Agree) + q_{18G} R_D(Q18G \geq MinTrust) + q_{18L} R_D(Q18L \geq MinTrust)$$

where the q 's are 1 or 0 depending on whether a question is included or not,

$$q_C = q_{22H} + q_{25R} + q_{25E} + q_{25L} + q_{25A} + q_{25M} + q_{25S} + q_{26R} + q_{18G} + q_{18L}$$

is the total number of questions in the subindex and m_C is the subindex normalization, specified as 1.

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Contact:

Fiona Shalley

Research Associate - Demography, Growth and Planning

T: 08 8948 7468

E: myterritoryconnections@cdu.edu.au

my Territory Connections

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