Can social capital be measured? Is any measurement valid?

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Abstract

The challenge of social capital measurement is an ongoing problem for social capital theory and anyone who wants to utilise the concept. There is disagreement about how social capital can be measured, and whether it is even possible. This article argues that social capital cannot be measured the way many people would want. As much as we may desire a simple tool, like a thermometer to measure temperature, the nature of social capital makes this impossible. There is no instrument that can be applied to a social context that produces a meaningful measurement. Social capital is multidimensional, with complex relationships between dimensions that makes it more like an umbrella concept than a unified theory. Therefore, it cannot be treated as a single variable or goal and there is no measure that can produce a meaningful number, or even a set of numbers. This means that quantitative methods of measuring social capital are inherently unsuitable in most contexts. However, it is possible to measure social capital where the process is informed by theory and carefully related to the context of interest. This article discusses the problems of social capital measurement.

Introduction

Social capital **can** be measured in a specific context where interdependencies are given due credit and attention, but I think there is a strong case to suggest it **cannot** be measured in a general sense. There are no robust, widely applicable and consistent ways to measure social capital that allow for comparison between different contexts. The main reasons are: lack of consistent definition; differences between levels of analysis and context; problems of aggregation; uneven distribution and inequality; nonlinear relationships; and complex causality.

I am regularly asked by researchers for an instrument to measure social capital. My response is that there is no such instrument that universally measures social capital. This is a significant problem for social capital theory and those who seek to use it. There is no standard unit of social capital. To say that there are 9.2 social capitals is nonsensical. There is no measure that produces a number, or even a set of numbers that are comparable in time and context. Therefore, there is no widely accepted, widely applicable, valid, reliable, and robust measure of social capital.

Is this simply because one hasn't been created yet? While we can remain ever optimistic that the problems of social capital measurement will be resolved I suspect it is an impossible task given the nature of the concept.

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In this article I will discuss the reasons why social capital can and cannot be measured. While it may seem like I'm sitting on the fence on this issue I will explain why I think both are true depending on perspective.

Social capital has different meanings

Social capital cannot be measured unless it is clearly defined – both in terms of theoretical perspective and the context of investigation. There is no consensus on what social capital is and is not – no commonly agreed definition – and without a consistent definition measurement cannot be consistent. Currently when someone talks about social capital they need to qualify what they mean because different people define it very differently.

When I talk with someone about social capital it is necessary to ask them about their understanding of social capital otherwise there can be a great deal of confusion. When I read an article on social capital the first thing I do is scan for a definition or who is cited – a citation of Bourdieu, Coleman, or Putnam tells me a lot about the author's perspective and what social capital means to them. Twitter discussions can be problematic when questions or comments are made without regard for the theoretical perspective being used.

Since there is no consistent definition of social capital many people tend to create their own which then becomes their framework for measurement. If social capital were defined as an individual's social network then we could probably measure it. But there are hundreds of definitions of social capital so it is not comparable. Some people equate social capital with trust, which we could

measure, but have we measured social capital or have we just measured trust?

It seems we can define social capital as whatever we like (as hundreds of authors have) and then measure that. But I don't think this qualifies as measuring social capital because it's not widely applicable, reliable, robust, etc.

I could define social capital as a function of the annual salary of one's closest friends. There is some logic to this since I could claim that salary is a proxy for a range of factors related to social capital, particularly the availability of resources that could be mobilised through social relationships. But is measuring the annual salary of one's 5 closest friends actually measuring social capital?

What is and is not social capital

Social capital is an umbrella concept that potentially includes almost any aspect of sociality and social organisation. There are different perspectives in the literature on what is, and is not, social capital. To take the most comprehensive perspective would mean measuring literally hundreds of different factors.

Currently there is no correct answer to what is and is not social capital since it depends on the theoretical perspective and definition, and the level and context of investigation.

A good illustration of this is the different ways in which social capital is conceptualised at different levels. Even within each level social capital can be conceptualised very differently.

Individual level social capital measurement

At the individual level the focus is generally on the number and quality of social relationships. Analysis can include aspects related to an individual's goodwill and reputation but generally factors related to social organisation and normative influence are not considered. If the focus is on differential status and power between individuals then the properties of the collective such as culture, mores, and normative influence are generally not considered. At the individual level of analysis some practitioners aggregate individual social capital to reach a higher level measure of social capital. This is fraught with problems as discussed later.

Group level social capital measurement

At the group level the focus tends to be on social connectedness (network closure and structural holes) and the properties of the collective such as norms of trust and reciprocity. Depending on the theoretical perspective researchers may include factors that relate to social organisation and normative influence such as rules and guidelines, and reward and penalty systems.

Community level social capital measurement

At the community level social capital is generally considered the property of the collective. It tends to include generalised trust, civic norms, civic engagement, and social and political participation.

From this discussion we can see that social capital can be conceptualised very differently depending on the level of investigation and theoretical perspective. Someone who sees social capital as the network properties of the individual would find it difficult to have a conversation about social capital with someone who views social capital as the property of the collective at the community level. The term social capital can mean very different things.

With such variety of definition, it is not possible to measure social capital and have it representative of social capital generally. The results of any social capital measurement must be qualified by how social capital is defined.

Do we measure the source, form, or consequences?

There is often confusion about whether we should measure social capital's determinants, its structure, or its consequences. I believe all three are relevant to understanding social capital in a specific context. However, I think it is important to understand the differences between each.

Generally speaking, certain **determinants** *may* result in certain **structures** that *may* result in certain **consequences** – but they are complicated by cyclic, relational, or mutual causality.

Consider the following grossly simplified set of determinant, structure and consequence for an organisation:

Café space –> social ties –> collaboration

An organisation that has a café space for staff to spend time meeting and interacting is more likely to develop more social ties between employees. These social ties may facilitate more collaboration between employees resulting in more efficiency, productivity, or innovation.

This is grossly simplified because multiple factors would contribute to the development of social ties and collaboration, and there are complex causalities.

In this example, for measurement of social capital we could gather information about the café space and its use as a determinant of social capital. For example, the existence or size of a café space, the number of people using the café, how long people use the café space, or the frequency of social interaction in the café space. While this information would help us to understand social capital in this context it provides little information about the final 'capital' outcome we are interested in – more employee efficiency, productivity, or innovation.

We could also gather information about social ties as the structure of social capital. We could map the existence and quality of social relationships between employees. This however, will tell us very little about how

often and how effectively people collaborate since there are many other factors that contribute to collaborative behaviours.

This may lead us to conclude that the only meaningful information to measure is the amount and quality of collaboration between employees since this is the outcome of interest. We know that the relationship between determinants, structure and consequences is conditional involving complex causality. This means that measuring the determinants or structure of social capital does not guarantee the desired outcomes.

If the investigation does not seek to understand or change social capital, then only measuring the consequences of social capital would be logical – if these consequences could be solely attributed to social capital and not other factors. Since we can't make this attribution measuring collaboration is not measuring social capital, it is simply measuring collaboration.

Typically we want to understand or improve social capital, so it is important to gather information on the determinants, structure and consequences of social capital. This allows us to develop a rich picture of social capital processes within the context of interest.

Can this be done quantitatively?

Clearly we can collect data on a wide range of determinants, structures, and consequences. But what data do we collect? And how do we analyse the data?

For example, an organisation may have a 492m² café space, but what does this mean? An average of 233 people per day may use the café space for an average of 11 minutes, and each person may on average talk to 1.6 people for an average of 92 seconds. This information tells us relatively little about the social capital of the organisation in isolation but with other observations we can build up a picture of what is happening in the organisation.

Context is key

I have already discussed how social capital is different at different level of analysis but even within the same level of analysis social capital can be very different in different contexts. In different contexts the factors of sociability and social organisation that are important and beneficial can be quite different.

For example, consider at the organisational level what is important for the product development department compared to the fulfilment department. Product development requires innovation, creativity, and problem-solving. Employees need to be inspired and feel safe to explore novel ideas. They need to collaborate with other people with diverse backgrounds and positions to gain different insights and expert knowledge.

This is considerably different to the people in the fulfilment department who would benefit from supportive relationships with co-workers to facilitate information flows that can improve efficiencies. These close relationships can (where appropriately managed) create a sense of belonging and togetherness that can be motivating and further improve productivity.

In this example, although a very simple example, social capital is different in each context. For the product development department, too much bonding social capital could limit innovation however in the fulfilment department more bonding social capital would be beneficial. If we were to measure social capital in the same way in both contexts we would not get reliable results.

The productive benefits of a given element of social capital derives from its distinctive value in that context, or environment, and this environment includes first and foremost the other elements of social capital. There is no guarantee that if one were to transplant an element of social capital found in one environment to another environment it would have the same effect. This reinforces the importance of the interrelationships between different elements of social capital and its context.

Aspect context

Trust is a good example of an aspect of social capital that is highly context dependent. Trust has several components: a trustor (individual or collective), a trustee (individual or collective), an aspect of behaviour, and specific circumstances. For example, you may trust an employee to not embezzle money in times of prosperity but not in a time of scarcity. In this example the first three components are the same: the same trustor, trustee, and behaviour; but a change of circumstance can change the level of trust.

Another example is trust in neighbours – you may trust Bob and Sarah with the location of your spare key but not John. This highlights the very context specific nature of trust and trustworthiness.

Questions that ask about trust are difficult to answer since it heavily depends on context. When the question is asked generally it can be difficult to aggregate diverse thoughts, feelings, and experiences about trust.

Generally speaking, would you say that most people can be trusted?

Different people will likely think about different contexts when answering this question. One person may think about if most people can be trusted not to kill them and steal their wallet. Someone else may consider whether most people can be trusted to return $20 that fell from their wallet. This is an extreme example but highlights how context is important.

Subjectively derived

When we ask people about aspects of social capital their answers are subjective and therefore open to a range of different factors that may affect their answer.

Many aspects of social capital relate to opinion, feelings, or beliefs, and much of this is not fully conscious. Especially the cognitive dimensions of social capital are "pre-reflective", often requiring some reflection for them to be articulated. The amount of reflection may affect the response because an initial belief may be different to an eventual conclusion after deep reflection of the situation.

Aggregation of factors

Social capital cannot be treated as a single variable or goal. It is commonly understood to have multiple dimensions that have complex and multidirectional causality. The temptation is to aggregate factors to simplify analysis however this results in loss of meaning and can even confound results.

This is particularly common in quantitative methods that group factors into categories. For example, grouping a range of factors into 'collective action and cooperation' or 'social cohesion and inclusion'. Another common approach is to aggregate factors into 'dimensions' such as structural, relational, and cognitive.

Heterogeneity and inequalities

Social capital is not evenly distributed among individuals and groups. There can be significant differences within a community or group with some individuals having very high levels of social capital and others having very little. The degree of heterogeneity and resulting inequalities can be an important aspect of social capital but is typically lost by measurement approaches that aggregate responses or seek general information.

For example, consider a traditional rural community where the village leaders or elders may have significant power, status, influence, and connections to members of the community and other communities. There may be significant differences within the community. Consider for example that women may have very high levels of bonding social capital related to relationships with their immediate family and other women in the community. Men may have more bridging social capital relative to bonding social capital depending on the culture however it is not uncommon for men to have less social capital overall, particularly in poor communities.

For some applications of social capital, the distribution of social capital within the target group may not be important but for others it may be essential to understand and qualify the social capital of the group. In cases where heterogeneity is important, different approaches to social capital measurement must be used.

Nonlinear relationships

The relationships involved in social capital can be linear, nonlinear, and curvilinear. One of the reasons is because social capital is context- and time- relative. This means more of some aspects of social capital are not necessarily better and there are potentially various thresholds or tipping points that make relationships nonlinear.

For example, within an organisation network ties are important for information flows and various other benefits however too many network ties (i.e. network closure) can result in limiting norms that can stifle innovation and creativity or result in social exclusion. Therefore, there is a curvilinear relationship between internal group closure and performance.

Another example is trust at the community level where trust facilitates exchange, but an excess of trust can result in exploitation and free rider behaviour.

Measurement of social capital should not assume that more of any one aspect is better, i.e. that relations are linear. The examination of curvilinear effects can help us understand how a relationship can change over the range of both the independent and dependent variables.

Changing causal direction

A variable that stimulated the development of social capital may not lead to a reversal in the level of social capital once it is removed.

Returning to an earlier example, a café space may stimulate the development of social ties between employees however the removal of the café space may not result in a decline of social ties.

Social processes often take on a life of their own and create consequences for other processes which, when the original cause is removed, will not return to the original state. If we were to assume symmetrical causation we may be misled by the observation of a factor that is declining even in the presence of high levels of another aspect. We might conclude falsely that there is no relationship or a negative relationship.

Rigor of proxies

Many aspects of social capital cannot be observed directly so researchers tend to use indicators that can be measured and that are believed to have a causal relationship with the aspects of social capital being measured. This means that what is being measured 'indicates' the existence of social capital.

Social capital is said to be measured by proxies because the proxies 'stand in' for the aspects of social capital we hope to measure. The quality of these proxies varies enormously depending on the theoretical and practical relationship to the aspect of social capital we are attempting to measure.

Some proxies are merely correlational, such as the use of crime rates to measure trust, others are more widely accepted and theoretically robust, such as the use of group memberships to account for the size or nature of a person's social network.

A single proxy?

In the past some researchers have used a single indicator of social capital. They justify this by claiming that the factor is closely related to social capital or even that social capital cannot exist without it. There is some

logic to this argument but also some problems.

A commonly used indicator is trust. The assumption is that a society where people trust each other has social capital because trust provides the basis for collective action. This approach has been heavily criticised.

Another approach is to use associational membership as an indicator of social capital. The assumption is that membership indicates the existence of networks and positive relational characteristics such as trust and belonging.

These studies provide evidence of what they measure, such as trust, but they provide little if any empirical data on social capital so shouldn't be using the term social capital. If they measure associational membership they should be referring to associational membership rather than making the leap of faith to social capital.

Can't we simplify social capital measurement?

Since social capital relates to the benefits of human sociability perhaps we could measure social capital by simply asking people:

To what extent do you feel sociable towards people in your neighbourhood, organisation, or country?

Would this question give us a good general indication of social capital? Unfortunately, I don't think it would. If I was asked this question I would need to spend some time to contemplate my answer. I think after consideration, most people would probably answer conditionally yes to some extent or depending on context.

So someone who answers 7 out of 10 may have provided that answer with a particular context or conditions in mind.

Oversimplification

Sociability is very complex with multiple factors that can be positive or negative. Distilling measurement to a single question would result in an aggregation of these factors. These factors have complex relationships with many of them having cyclic, relational, or mutual causality.

Some of the factors have curvilinear benefit where more of something is not necessarily better. An example being trust – while more trust is associated with improved outcomes, too much trust can result in negative outcomes.

So simplifying social capital measurement in this way obscures the detail that we are attempting to observe.

Cognitive bias

Even more problematic is the likelihood that various cognitive biases would confound the results. Some of these biases could include framing effect, attention bias, negativity bias, optimism bias, regressive bias, and social desirability bias. This means that a variety of factors may affect our answer, especially as it relates to our own experiences.

There may be some value in flipping the question to ask:

How sociable are other people in your neighbourhood, organisation, or country?

But, while this would avoid some cognitive biases it would introduce others. It also doesn't solve the problem of amalgamation of positive and negative factors.

Is aggregation a problem?

Could it be argued that a general perception of social capital is a valid measure? Perhaps it is the best measure since the whole may be more than the sum of its parts?

I think an important question is what would the result mean? If the average response was 6 out of 10, what does this mean? I think this number has limited value and very little explanatory power. Hence, we need to explore multidimensional measures of social capital.

Conclusions about social capital measurement

Social capital cannot be treated as a single variable or goal. Social capital is an umbrella concept that includes multiple dimensions with complex relationships. Therefore, there is no measure that can produce a meaningful number, or even a set of numbers. This means that quantitative methods of measuring social capital are inherently unsuitable in most contexts. Qualitative methods (and potentially mixed methods) tend to create the best results since it allows for the understanding of complex processes and the emergence of a rich picture of the research context.