

# Exploring the limits of social capital

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Can social capital be continually improved or is there a maximum?



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## 1 Introduction

It is widely acknowledged that social capital is vital to a wide range of human activities and allows modern economies to function efficiently (Fukuyama 2001). Building or improving social capital is therefore essential for any social group, organisation, or society. After over 30 years of research on social capital<sup>1</sup>, our understanding of how to *maximise* social capital is rudimentary. We have many ideas about how to improve social capital in social groupings, but once these ideas have been implemented, we do not know much about the implications of continuing efforts to enhance social capital. There is some evidence that many aspects of social capital have non-linear relationships with outcomes and that some aspects may even have inverted U-shape relationships meaning very high levels of some aspects may be detrimental<sup>2</sup>. This would suggest that social capital has a limit; that it cannot be built or improved infinitely without limit. However, very little is known about what factors limit the maximum amount of social capital and the interrelationships between aspects of social capital that may interact to create this limit. Without this understanding, serious attempts to improve social capital are haphazard at best and reckless at worst. This article will outline a methodology for how to explore the social

***“Currently, serious attempts to improve social capital are haphazard at best and reckless at worst”***

capital limit and some introductory findings using this approach. While this article will demonstrate that there is a social capital maximum, it is not an absolute limit since various aspects can be partially mitigated or supplemented to some extent. Therefore, social capital has a relative limit that is difficult or impossible to tangibly define.

## 2 How much should we invest in social capital building initiatives?

How much would you invest if you were tasked with building social capital in a social grouping, such as an organisation? We know that building social capital can have significant benefits, but how much should we spend on improving social capital? Currently, we do not know enough to answer this question. For many other organisational matters we optimise benefits to the nth degree, however, when it comes to social capital, most organisations have little idea how to build social capital, much less how to maximise it. For a medium-sized organisation with a few thousand employees, would \$100K be enough? That would be a good start, and I would have no difficulty designing an intervention that would make significant improvements. In most organisations, there are some fairly quick and easy ways to make

What would you do if the budget was...

**\$100,000**

“That’s a good start”

**\$1,000,000**

“Now we’re talking”

**\$100,000,000**

“Ok, um... do we just do more of the same?”

Figure 1. Different budgets for social capital building initiatives

<sup>1</sup> Since Robert Putnam’s influential publications in the early 1990s that popularised the concept and led to an explosion of interest and research in social capital.

<sup>2</sup> Strong shared identity can have negative outcomes where close-knit groups can create a tendency for

conformity and “group think”, which can limit creativity and innovation and ultimately constrain action (Stern 2013).

considerable enhancements in social capital since most organisations currently do not deliberately pay attention to their social capital. But what if the budget was \$1M? I could certainly work with that. But what if it was \$100M? Can we still be confident the outcomes would justify the investment? And what would we do? Just more of the same initiatives we would implement if the budget was \$100K? This approach would be haphazard. This highlights how little we know about maximising social capital.

### 2.1 The current approach to building social capital

Currently, most social capital building initiatives focus on social structures such as informal or formal networks, groups, or organisations. The approach pioneered by the World Bank in the 1990s was to establish community groups such as cooperatives, savings groups, micro-enterprises, or natural resource management groups. In developed countries, following the influence of Putnam's work, common approaches focused on supporting informal associations such as sporting clubs and community organisations. The focus on social structures comes from their tangible, observable, and measurable nature. It is possible to observe that new groups have been established, that groups have more members, and that they meet more often. These tangible outcomes can be easily measured and communicated to decision-makers. It is less common for social capital building initiatives to focus on building trust, developing social norms, strengthening sense of belonging, or improving shared understandings. For many organisations that

attempt to improve social capital, the approach is focused on increased social interaction. These approaches can be very effective. However, they are not always effective.

### 2.2 State-of-the-art approach to social capital building

A more systematic approach to building social capital would be to use the dimensions framework to identify initiatives across each dimension. This would ensure that not only are social structures established and strengthened, but the relational and cognitive dimensions are also improved. Since all three dimensions are interrelated, focusing on all three dimensions improves the building of social capital and decreases the likelihood that the efforts will be ineffective. For any given context, we could identify the strategies that could improve each of the aspects listed in Table 1.

From this table, it would be easy to identify numerous strategies to build social capital. To illustrate a few of these ideas, we could build more relationships, strengthen existing relationships, establish roles that create productive patterns of interaction, and create or refine rules and procedures that encourage cooperation and positive social action. For the relational dimension, we could attempt to build trust and establish norms of trustworthiness, build and shape the nature of social norms and sanctions, develop positive obligations and expectations, and develop a strong sense of identity and belonging. And for the cognitive dimension, we could work to build shared language and narratives, develop a strong sense of shared values and attitudes, and establish shared purpose and buy-in to this vision.

Structural dimension	Relational dimension	Cognitive dimension
Configuration and pattern of social relationships including structures of social organisation	Characteristics and qualities of social relationships	Shared understandings that provide systems of meaning
<ul style="list-style-type: none"> <li>• Network ties and configuration</li> <li>• Roles, rules, precedents, and procedures</li> </ul>	<ul style="list-style-type: none"> <li>• Trust and trustworthiness</li> <li>• Norms and sanctions</li> <li>• Obligations and expectations</li> <li>• Identity and identification</li> </ul>	<ul style="list-style-type: none"> <li>• Shared language, codes, and narratives</li> <li>• Shared values, attitudes, and beliefs</li> <li>• Shared goals, purpose, and vision</li> </ul>

Table 1. Dimensions of social capital (adapted from Nahapiet and Ghosal 1998)



### 2.3 Can we design better social capital building initiatives?

The ideas above may seem comprehensive, and they are excellent compared to most current initiatives to build social capital. However, to me, this approach is still haphazard. We do not have a good understanding of the interrelationships between these strategies, how their long-term implementation may result in diminishing benefits, trade-offs, and feedback loops, and the potential for them to create negative outcomes. Also, these are only some ways I would go about building social capital, suggesting that we are missing some important factors. We need to dig deeper to understand the factors that limit social capital. This approach will highlight the factors that can build social capital and include a range of factors that are not readily identifiable from the dimensions framework. This next section will explore the meaning of social capital to provide the foundation for exploring the limits in more detail.

***“We need to dig deeper to understand the factors that limit social capital”***

## 3 What is social capital?

There are numerous different definitions of social capital, and each likely has implications when considering the limits of social capital. From all the various definitions, there is one distinction that has significant consequences for the investigation of social capital limits: whether social capital relates only to networks or whether it also relates to the wider social setting. This distinction is illustrated by the following question: when strangers form a new group, does it already have social capital?

### 3.1 Does a new group already have social capital?

In a recent webinar, I posed this question to the audience and found that 60% answered the poll "Yes, it has some social capital" and 40% "No, it has no social capital". Both answers are correct, depending on how you define social capital. The latter group answered this way because, from their perspective, social capital is about resources in networks (or a similar meaning), and if there are no networks, such as in a new group of strangers, there can be no social capital. For those who answered "Yes", social capital includes norms, trust, belonging, and shared understandings that are not necessarily tied to networks. From this perspective, a group of strangers already have these understandings from being part of society, so social capital precedes the existence of networks.

An important question when considering these differences is: what is the boundary of a social network? Who is a stranger, and who is a network tie or 'friend'? It may seem as though there is a very clear distinction between a friend and a stranger (a simpler way to think of this distinction is between known individuals and unknown individuals). However, if we examine this demarcation in more detail, we find it is not as clear as we might expect.

Research by Robin Dunbar and others postulated that an individual sits in the centre of a personal social network with social contacts located at varying distances based on emotional closeness and frequency of contact. The "inner circle" may include just a handful of

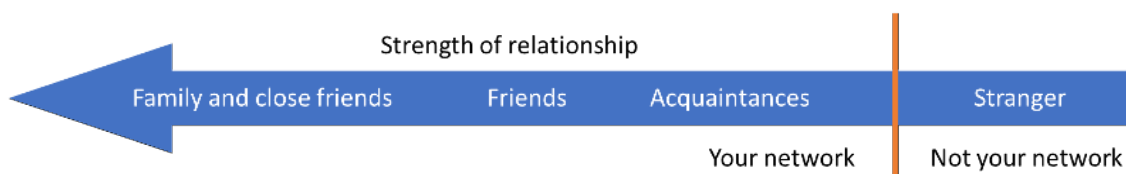


Figure 2. The continuum from close friends and family to strangers

people with whom there is a deep personal connection and frequent contact, while the outer circle of acquaintances may include up to 1500 or more people (Dunbar and Spoor 1995; Hill and Dunbar 2003). The strength of relationships could be represented as a continuum from family and close friends to friends and acquaintances, with strangers at the other end of the spectrum (as represented in Figure 2).

The vertical orange line in Figure 2 represents the distinction between those who are in your network and those who are not in your network. While it would be possible to define criteria for this delineation, it is not as clearly defined as the known/unknown distinction would suggest.

### 3.2 Assumptions about known and unknown individuals

Common assumptions associated with social capital theories are that we are *positively social* towards known individuals - our friends - and *indifferent* towards people we do not know - strangers. But if we examine this assumption, we find we are not friendly with everyone we know. Because we know them, we know their history, personality, character, etc. We may have positive relationships with many of the people we know, but some of them may have betrayed our trust or exploited us in some way in the past. We are not positively social towards everybody who we know. We are actually *differently social* based on our experience of them. The relational properties we have built up over time mean

we are differently social towards them based on our understanding of them and the nature of the relationship.

If we explore this assumption that we are *indifferent* towards unknown individuals, we find that is inaccurate because humans are generally *positively social*. We are social creatures, so we tend to be cooperative and trusting, depending on the broader societal culture. Most people are inclined to help strangers in need and be kind and courteous.

However, this is still not accurate because even if we do not know someone, we still recognise certain characteristics in them. We recognise their gender, age, ethnicity, religion, or various other things, and we associate different characteristics with them based on these observations. We hold various predispositions towards these recognised attributes. So, it would be more accurate to say that we are *differently social* toward unknown individuals as well (refer to Figure 3).

From the discussion above, we can see that the demarcation between a known and an unknown individual is not as clear as we often assume it is. Having said that, I think we can still make some general conclusions about our friends and known individuals since we are more likely to be positively social towards people we are friends with or people we know. And we might try to distance or remove people we do not particularly like from our network. This means we still can make some generalisations, but it is obviously not a clean demarcation.

	Known Individuals	Unknown Individuals
Common assumptions:	<del>Positively social</del>	<del>Indifferent</del>
	Differently social	<del>Positively social</del>
		Differently social

Figure 3. Common assumptions about known and unknown individuals



### 3.3 The role of relational influence and social/structural influence

Social capital is a potential for social action. Regardless of whether you focus on networks, norms, or trust as the 'potential', it is useful to consider the source of influence of social action, i.e., why people do what they do. Social action is the result of various influences, including but not limited to self-interest and beliefs about outcomes, habituated patterns of interaction, normative influence, the influence of coordinating institutions and associated laws and their patterns of enforcement, cognitive biases, and even instinct.

When it comes to determining the boundary of our social network and the difference between a known and unknown individual, it is helpful to consider the relative influence of relational attributes and social/structural influence in different strength relationships. Relational attributes are the properties or characteristics of a relationship and include trust, trustworthiness, reputation, solidarity, goodwill, and various norms and shared understandings. They are the things you know about the other person and the nature of your relationship with them.

In strong relationships, such as family and close friends, the influence of relational

attributes generally dominates the nature of social action. However, even in the strongest relationships, the way someone acts towards the other person is partially influenced by social and structural factors. All relationships exist within the broader social context of the family, club, organisation, community, and society and exist within the context of various norms, rules, precedents, and laws. In strong relationships, these social/structural influences may have relatively little influence compared to relational attributes (refer to Figure 4). However, in weak relationships, the relatively under-developed relational attributes mean social/structural factors tend to have greater influence. If you do not know someone well, you are more likely to rely on norms and rules of the social grouping to guide your interaction with them.

The difference between strong and weak relationships illustrated in Figure 4 is a gross generalisation. Different relationships are highly variable due to differences in personality, cultural influence, nature of social sanctions, and a range of other factors. Figure 4 illustrates this generalisation and the distinction between a stranger and a weak relationship. From this discussion, we can conclude that the difference between a stranger and a weak relationship does not produce a binary demarcation in terms of the

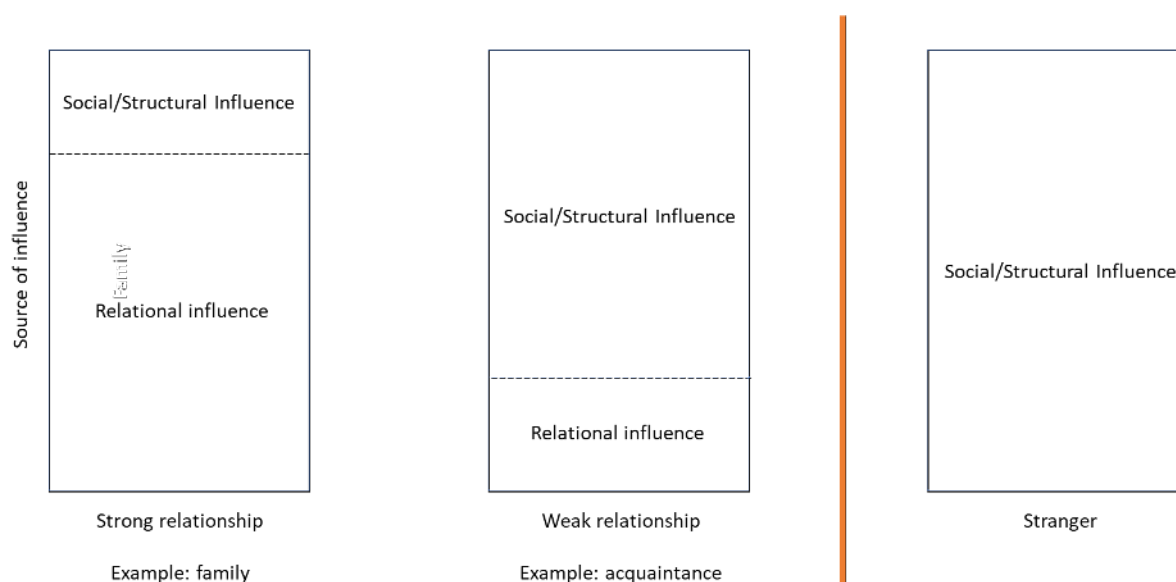


Figure 4. Source of influence of social action in different strength relationships

source of influence of social action. Social/structural influence plays a role in social action between known individuals, and the role of recognised characteristics means that social action between strangers is also influenced by assumed relational attributes.

### 3.4 Different understandings of social capital

Returning to the question of whether a new group of strangers has social capital, the answer would depend on the way in which social capital is defined. For followers of James Coleman and Robert Putnam, the answer would be "yes" since social capital is defined as "aspect[s] of social structure" and "features of social organisation" respectively (see Coleman 1990; Putnam 1995). However, followers of Nan Lin would answer "no" because, from this perspective, social capital is "resources embedded in networks" and therefore, where there are no networks<sup>3</sup>, there can be no social capital (see Lin 1999).

The discussion in the previous section may suggest that the distinction between a network tie and a stranger is not delineated clearly enough to justify the inclusion of 'networks' and exclusion of 'social structure'<sup>4</sup> in a definition of social capital. However, for many uses of the social capital concept, such as in some types of empirical inquiry, it is essential to clearly define the meaning of a concept, and this involves specifying the boundary of what is and is not relevant and included in analysis. There is clearly a difference between a known and unknown individual, and this could be a suitable distinction to define an empirical concept. What I think is important is that the nature of this demarcation is understood, and the strengths and weaknesses of the chosen approach are acknowledged in the discussion and

***“Excessive concern for conceptual clarity may hinder the effective use of the social capital concept”***

implications of any findings or claims arising from the research.

There is a danger that excessive concern for conceptual clarity may hinder the effective use of the social capital concept, depending on the purposes the concept is being used to address. Most scholars agree that social capital is an umbrella concept that highlights numerous sociological processes. As an interdisciplinary concept, social capital has the potential to integrate theories and understandings from various disciplines. While it is important to maintain rigour and to not consider social capital as everything social, there is value in not preferencing any one influence of social action. The danger is that *assumptions* related to delineations such as the known/unknown individual distinction, undermine the usefulness of the concept.

### 3.5 Implications of different definitions on the limits of social capital

The definition of social capital has important implications for understanding change in social capital over time. For approaches that consider a new group to have *no social capital*, the starting point is zero, and if social capital were to change, it would be positive. Networks would be established that have the potential to mobilise resources. This potential may strengthen or weaken over time due to a range of factors, but it remains positive. It effectively precludes the possibility of negative social capital since the network has the potential for the mobilisation of resources or it does not; there are no negative outcomes.

For approaches that consider a new group to have *some social capital*, a new group starts with some level of social capital, and change may be positive or negative from this starting point. For example,

<sup>3</sup> There is clearly a temporal factor that complicates this issue. The moment the group is formed, people meet each other, and new network relationships come into existence that have the potential to facilitate the flow of resources.

<sup>4</sup> I have used 'networks' and 'social structure' as shorthand for the variety of relational and extra-relational attributes respectively.

if positive norms are established or reinforced, if trust is developed, if networks are established, etc. But it could change in a negative direction if negative norms develop or positive norms are not reinforced, or if distrust develops, etc.

If we apply this idea to the theory of group dynamics, we may expect a pattern similar to what is illustrated in Figure 5 (see Tuckman 1965 for discussion of the five stages of group development). During the *forming stage*, we may expect social capital to increase as people learn the purpose of the group and rules to be followed, trust and openness develop, and various norms are established for collective action. Then in the *storming stage*, members often challenge group goals and struggle for power which can undermine cohesiveness, potentially undermining trust and productive norms and patterns of interaction. In Tuckman's framework, this is followed by a *re-norming stage* characterised by the recognition of individual differences and shared expectations where members begin to

develop a feeling of group cohesion and identity, and cooperative efforts start to yield results that reinforce positive norms. Finally, the *performing stage* involves a mature and cohesive group that is capable of conflict resolution and has strongly established norms, trust, and sense of identity.

### 3.6 The 'normal' amount of social capital

The rest of this article is based on an understanding of social capital where a new group has some social capital and that the potential for social action is influenced by a wide range of factors, not just the existence of networks. It is based on the idea that social capital exists in every social grouping<sup>5</sup>. In this section, I will explore the theses that most social groupings have a 'normal' amount of social capital, that every group could have more or less social capital, and that relatively few groups have very low or very high social capital.

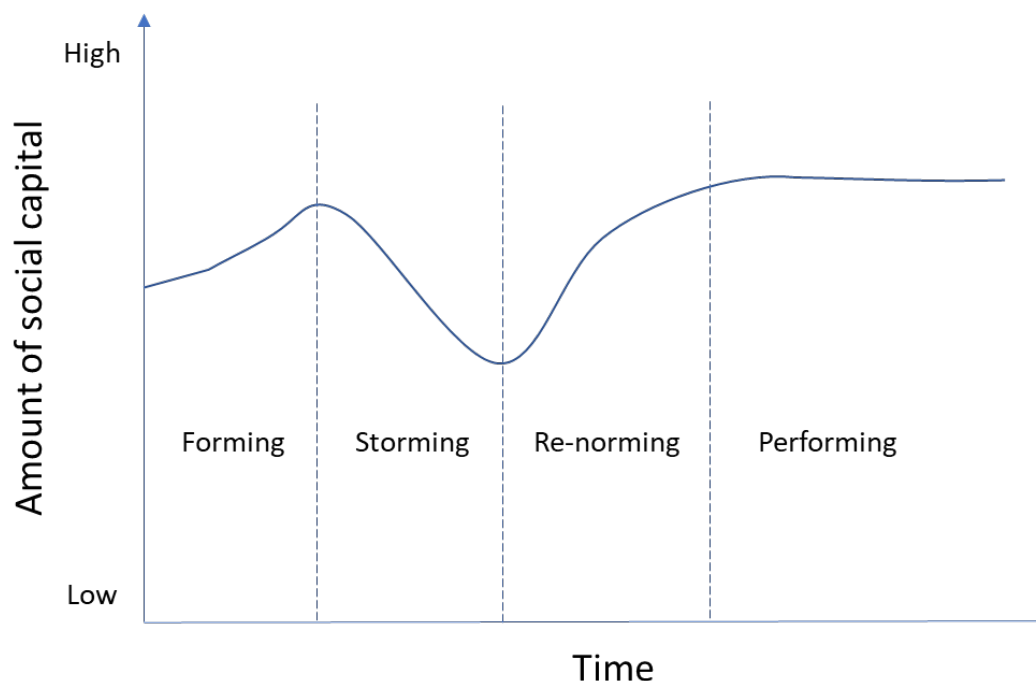


Figure 5. Possible change in social capital during different phases of group dynamic theory

<sup>5</sup> Social grouping means any group of people who identify as a group and can include family, sporting groups, organisations and the teams or departments within organisations, interest groups,

neighbourhoods, cities, states, countries, etc. Each person is a member of potentially hundreds of social groupings. This is similar to Bourdieu's (1977) concept of fields.

In any social grouping, there is always scope for social capital to change. Theoretically, any social grouping could have more or stronger social capital and less or weaker social capital. For example, there could be more social connections, the nature of these social relationships could be more positive, there could be more shared understandings, stronger social norms of collaboration, reciprocity and trust, there could be more effective social structures, rules, and more effective and just enforcement of these rules. Similarly, any social grouping could have less social capital if there were fewer connections, the nature of these relationships was less positive or even negative, if there were less cooperative or even uncooperative norms, or if there were betrayals of trust or ineffective social structures. This suggests there may be no upper or lower limit to social capital, that investment or sabotage, or virtuous or vicious cycles, could drive social capital to higher and

***“Few groups have low or high social capital, and most groups have a normal amount”***

higher or lower and lower levels without limit. However, there are various interrelationships

that mean this is unlikely. Unfortunately, we currently know very little about these processes and relationships.

Figure 6 attempts to graphically represent the number of social groupings that have low, normal, and high levels of social capital. The shape of the curve in Figure 6 is unknown and may be unknowable due to the dynamic nature of social capital and the challenges of measuring it. The curve may be skewed left or right; however, this shape of the curve is not important. My point is that few groups have low or high social capital, and most groups have a normal amount. The reasons for this will be explored below.

Few groups are likely to persist towards the lower limit because there tend to be vicious cycles that drive groups near the lower limit towards disintegration or this dysfunction provides sufficient reason and motivation to

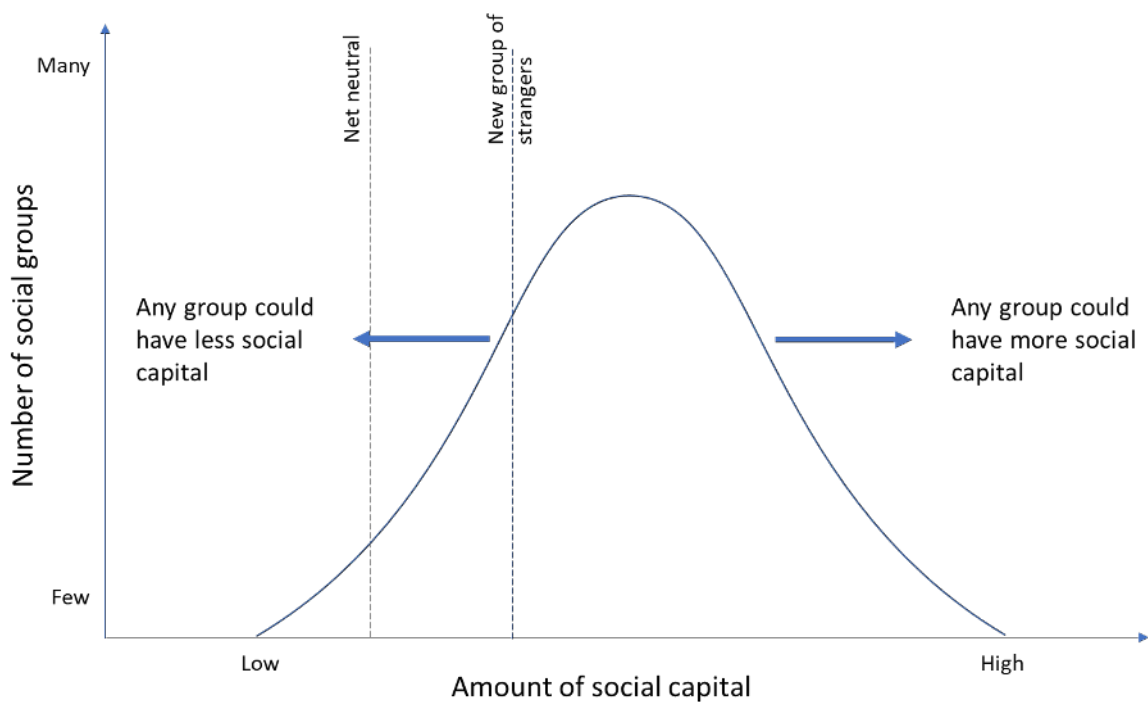


Figure 6. Graphical representation of the social capital of social groupings

improve their social capital. The relationship between action and reaction tends to create positive and negative feedback loops that can drive some aspects of social capital towards lower or higher levels. For example, a betrayal of trust has ripple effects through a social grouping. It changes perceptions of trustworthiness and increases suspicion, and can make people reluctant to engage in the trusting behaviours necessary for effective cooperation. It may also influence people to act with self-interest rather than collective interest, which may also represent or be interpreted as further betrayals of trust, creating a vicious cycle. This dysfunction may, however, provide the motivation to make changes to improve social capital. Efforts to improve social capital can create virtuous cycles that reinforce and magnify the improvements in social capital. For example, efforts to establish shared goals and narratives can lead to shared norms and obligations and enhanced feelings of trust and identity (Rao and Gebremichael 2017) that may create changes that improve social capital rapidly. For these reasons, few groups are likely to persist near the low end of the spectrum.

When I started developing this idea, I thought the lower limit would be the point where the benefits of the group's existence outweighed the costs of negative social capital outcomes. I incorrectly assumed that group members would not be part of a group if there were no net benefits. However, I realised that many groups do not exist for members' benefit and that there are other reasons to be part of a group. For example, for an employee, their salary may offset, to some extent, a negative social environment in their workplace. There are numerous other examples where membership in the group is required for other reasons other than the group's productivity. On the graph in Figure 6, I have indicated a 'net neutral' line to indicate that some groups are likely to exist below this line. However, as previously noted, being below this line may provide the reason and incentive to improve.

Few groups are also likely to persist towards the upper limit. There are numerous reasons for this. I will identify some of the obvious

reasons here, and the following sections will explore the reasons in greater detail. Some aspects of social capital are fragile, such as trust, which can be built through investment over a long period of time only to be damaged by a single act (or even how an action is interpreted). Because of that fragility, groups with high social capital could easily be pushed back to the left in Figure 6 toward lower levels of social capital. Other aspects of social capital require investment but involve diminishing returns, making it difficult and expensive to reach very high levels of social capital. And finally, some aspects of social capital have non-linear or inverted U-shaped relationships with outcomes meaning that higher levels may result in worse outcomes.

Most social groupings are likely to have normal levels of social capital, representing something approximating the normal distribution in Figure 6. Building on the idea that new groups have some social capital, I have added a line to indicate that in most societies, new groups would have a little less social capital than the average since we would expect most groups to improve their social capital from this starting point (although some groups may decrease from this starting point).

## 4 Methodology for exploring the limits to social capital

Extensive research has investigated social capital in contexts that represent 'normal' levels of social capital. By normal, I mean contexts found in society that may or may not be particularly positive or negative. This body of research has observed and attempted to measure social capital in these contexts and investigated its relationship with various factors and outcomes.

However, empirical investigation of real groups is unlikely to illuminate the limits of social capital and the factors that ultimately constrain higher levels. It may be possible to conduct research on groups that have very high social capital. However, will the existing conceptual tools found in social capital literature be suitable for such an inquiry? Instead, I believe the best and perhaps only

approach is to make theoretical connections between the recognised aspects of social capital and various factors and processes that potentially limit them. This approach may allow us to understand better how to change social capital.

I used the following methodology: I started with the dimensions of social capital and their components, and for each, I considered how it is developed, strengthened, or changed and what may limit its continuous improvement. From hundreds of ideas, I created themes and made connections to the existing body of knowledge across a variety of disciplines. The following sections will explore the key themes I identified from this process. This should not be considered an exhaustive investigation since discipline-specific

understandings across all social sciences may be relevant to understanding the social capital limit.

## 5 An initial exploration of the limits to social capital

I believe social capital is typically suboptimal, its potential constrained and ultimately limited by various factors and processes. The key themes I identified in this research include the limits of human cognitive abilities, the ability of humans to properly observe rules and live up to moral values, the physical limitations of space-time, the constraints of social structure and organisation, and the effectiveness of human languages to accurately and fully communicate meaning and significance. Many of these limits are likely context-dependent since they can be mitigated to some extent. For example, cognitive abilities can be supplemented and extended by tools, systems, and technologies; cognitive abilities can be learnt, developed, or improved; the

***“The best and perhaps only approach is to make theoretical connections between the recognised aspects of social capital and various factors and processes that potentially limit them”***

effects of outgroup bias can be reduced by changing social structures and our perceptions of them; and the costs of space-time in the development and maintenance of relationships can be reduced by the built environment and information communication technology. These are just a few examples of how exploring the limits of social capital may improve our understanding of social capital and how to build or improve it.

This understanding is not just applicable at the extremes since it can be used to improve social capital in any context. For example, an improved understanding of how cognitive abilities can be supplemented and improved can be used to improve social capital in virtually every context, regardless of the amount of social capital that exists in that context. These

are generalised examples of the rich understandings that may come from exploring the limits of social capital. These understandings have applications across every aspect of human activity since social capital has importance and benefits to virtually every aspect of human endeavour. Highlighting the importance of social factors allows for the reprioritisation of values and the opportunity to shift the curve in Figure 6 to the right. This approach contributes to the

theoretical understanding of social capital by linking interdisciplinary understanding of concepts related to social capital.

The following sections will discuss some of the most relevant factors limiting the social capital maximum. These factors are neither an exhaustive list nor an

exhaustive examination of them. There are likely numerous other factors; however, I feel these key factors deserve further examination. This analysis is intended to introduce the approach and demonstrate the potential

***“Social capital is typically suboptimal, its potential constrained and ultimately limited by various factors and processes”***



understanding this process could generate to help us to better understand social capital and how to improve it.

### 5.1 Physical limitations of space-time

Many aspects of social capital require investment or effort to build and maintain and therefore are limited by the physical constraints of space, time, and space-time<sup>6</sup>. The role of space and time in social action is something that is central to the study of human geography and has been explored from a variety of different perspectives (for example, Harvey, 1996; Massey, 2005; Thrift, 1996). Thrift (1996) called for social interaction to be conceptualised in terms of space-time. "It is neither space nor time that is central to the study of human interactional orders, but time-space" (Thrift, 1996 p.1). The development and maintenance of relationships and shared understandings have both temporal and spatial dimensions, and although technology has partially mitigated the costs and limitations involved, these factors remain important.

There are numerous examples of how the space-time limits or constrains aspects of social capital, including the fact that building and maintaining relationships requires interaction, taking place in space and time; that shared understandings are reached and maintained through interaction and communication; social structures need to be established and maintained; people need to execute the duties of their roles; and rules need to be designed, documented, and enforced. These examples take time, and many of them have a spatial dimension since

many social actions require or are enhanced by physical presence where face-to-face (FtF) interaction or exchange can occur. In-person interaction requires travel, which has a temporal component. Therefore, it is useful to consider social action occurring in four-dimensional space-time, although it is important to acknowledge the role of technological developments that reduce or eliminate the need for some forms of FtF social action. Regardless of technological developments, building and maintaining relationships takes time and the limits of time result in trade-offs (Takano and Fukuda 2017) which ultimately limits the social capital maximum.

In the last two centuries, technological developments have significantly reduced the costs associated with space-time. Travel times and costs have decreased, and technologies have facilitated non FtF interaction that, for many social actions, essentially removes space from the equation. However, not all communication technologies have the same effect on various aspects of social capital. For example, computer-mediated communication (CMC) has a significantly different influence on social norm development, primarily because of the differences in sanctioning mechanisms. Cummings et al. (2002) found that CMC is less valuable for building and sustaining close social relationships than other means, such as FtF contact and telephone conversations. This is often explored from the perspective of the theory of social presence (Short, Williams, and Christie 1976) or other theories such as media richness theory (Daft and Lengel 1983), the



Figure 7. Social presence of different communication media.

<sup>6</sup> Space and time can be thought of separately, but there is value in considering them together in terms of a four-dimensional space-time (Merriman 2012).

reduced social context cues model (Sproull and Kiesler 1986), and the social information-processing model (Walther 1992; Walther, Anderson, and Park 1994).

The theory of social presence proposed by Short et al. (1976) posits that different communication methods and technologies result in different degrees of social presence, or "sense of being with another" (Biocca, Harms, and Burgoon 2003). On a continuum of social presence, the in-person FtF medium is considered to have the most social presence, while written text-based communication has the least (refer to Figure 7).

***“Spatial proximity and the nature of the built environment provides important motivation and opportunity for social interaction”***

Social presence theory suggests that the low social presence forms of communication result in reduced social influence when compared to other higher social presence media such as FtF communication. As technology improves, it may allow remote interaction to increase and approach the level of presence of FtF interaction. However, differences will remain that will continue to influence the nature of social capital. For example, the previously mentioned differences in social sanctioning mechanisms. This does not necessarily weaken social capital because other sanctioning mechanisms could exist or function differently. These mechanisms may need to be deliberately created and their role in social capital formation and maintenance investigated.

Most researchers agree that physical space plays some role in the formation of the sense

of community, although it is only one of many factors that create a sense of community (Lloyd, Fullagar, and Reid 2016). Before the development of modern transport and communication technologies, physical space was very important to the frequency and quality of social action since interaction and exchange were predominantly FtF. Social action was constrained to the local area because travel times (and lack of communication technologies) limited long-distance interaction. Things have changed, but spatial proximity and the nature of the built environment still provide important motivation and opportunity for FtF social

interaction.

There is a significant body of knowledge in urban planning about the role of urban design in sociability and the ways in which spaces can support social action (Aelbrecht 2016). There are a variety of spaces in a built environment that can be 'social spaces'<sup>7</sup>, such as the more private or semi-private spaces, such as inner-courtyards, stairwells and lifts, to larger public spaces, such as the street and the square (Lawton 2013). The mix of public and private spaces is important, particularly the role of privately owned spaces in providing goods and services that facilitate longer stays and more and different forms of interaction (refer to Figure 8). For example, a beautiful public garden is an important meeting space, but without other types of social space and associated facilities, the total amount of

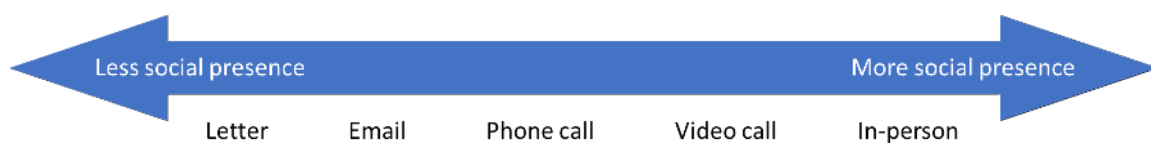


Figure 8. Continuum of different social spaces.

<sup>7</sup> The term 'social space' was coined by Émile Durkheim and emphasised the idea that in human society, all space is social and that different spaces

span the divide between "public" and "private" space.

interaction may be limited. A public garden surrounded by other types of social spaces such as shops, cafes, restaurants, art galleries, theatres, etc., would facilitate much more social interaction.

When considering physical spaces for interaction, it is useful to consider the role of ownership and privacy in creating different types of spaces. For example, the public garden discussed above is publicly owned and is public in terms of privacy (refer to Figure 9). A café is privately owned but public privacy, a meeting room in a public library is publicly owned but private in terms of privacy, and someone's home is privately owned and private privacy. A mix of different types of social spaces facilitate opportunities for different types of interactions that are important for social capital development, maintenance, and manifestation. When people occupy a physical space, there is the opportunity for new connections and the maintenance of existing relationships. However, the presence of a high density of individuals in a space could lead to perceptions of congestion psychological that can limit interaction (Zare 2015). Therefore,

having more people in a physical space does not necessarily improve social capital, making this another example of non-linear causality.

Most of our urban spaces are designed for purposes other than social interaction but nevertheless, they are important spaces for interaction. For example, the primary function of streets is the movement of vehicles and people, but streetscapes can be important places for incidental interaction as people go about their lives (depending on the design of the streetscape). The design requirements of form, function and sociability can involve trade-offs. Changes to existing urban spaces can result in improvements in social capital. However, there are likely to be diminishing returns, various trade-offs, and ultimately limits to how much the physical environment can enhance social capital.

## 5.2 Nature and limits of human cognitive abilities

Another important category of factors that limit social capital is the nature and limits of human cognitive abilities. The human brain is an amazing organic supercomputer, but it is overwhelmingly underpowered considering

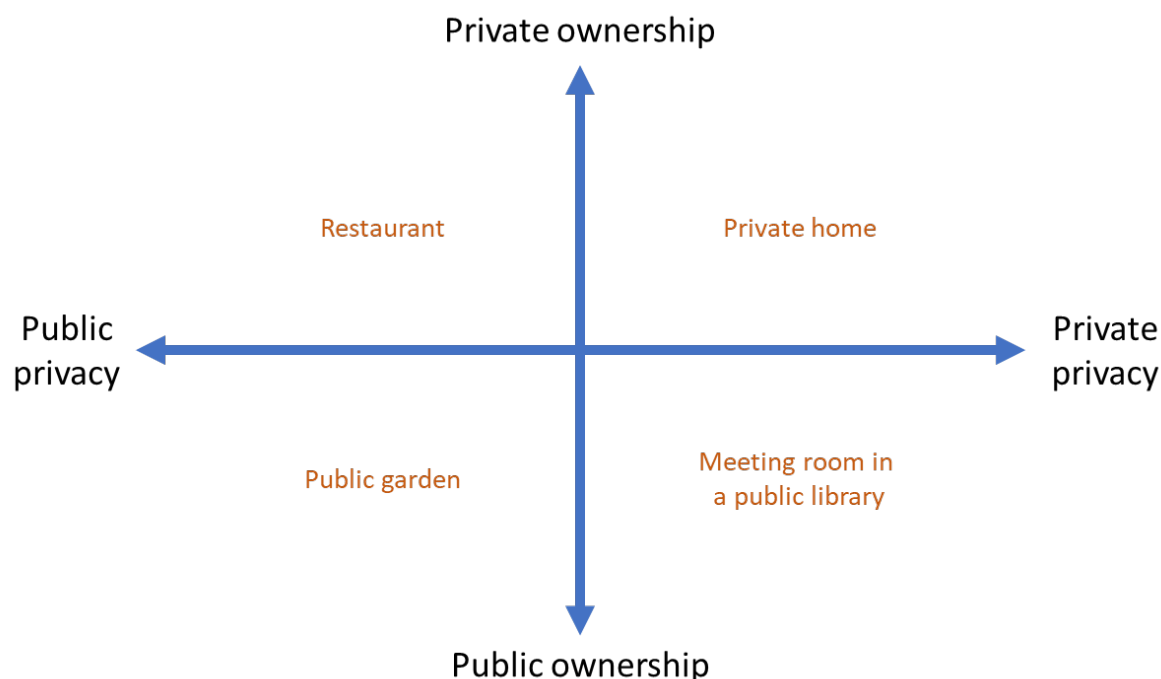


Figure 9. Matrix of ownership and privacy, and public and private spaces.

the amount of information it must receive and process to find meaning and make decisions in a fast-paced world. There is just too much information. There is too much to read, see, hear, taste, smell, and touch, so we have no choice but to filter out almost all of it. We struggle to find meaning from the tiny amount of retained information. Thus, we tend to fill the gaps to make some sense of them in order to make decisions. With limited information and understanding, we jump to conclusions else be paralysed by uncertainty. We remember what we can for future reference, but there is too much information. Therefore, we tend to remember generalisations that often reinforce errors. There are three broad categories of factors related to human cognition that impact social capital; 1) memory and mental models, 2) capacity to understand others, and 3) cognitive biases. The following sections will discuss each of these in more detail, although it must be acknowledged that more research is required to understand the impacts of these factors on social capital.

### 5.2.1 Memory and mental models

Our ability to remember things can limit social capital in several different ways. Two main features of memory are relevant, 1) long-term memory maintaining mental models of social details, and 2) working memory to develop coherent mental models required for effective listening and comprehension (Cowan 2014). Long-term memory is required to remember names, faces, and other details of individuals, but more importantly, it is required to remember social relationships and their qualities. Simply recognising someone can be easy; however, remembering how you know them, where they work, whom they are connected to, their past actions (similar to reputation), and many other details can be much more difficult and requires good long-term memory.

Working memory is also important since, without sufficient working memory, information would be lost before you could combine it into a coherent, complete thought

***“We are limited by the ability to manage our social relations at the cognitive level”***

(Cowan 2014). Working memory could be limited in terms of how many items can be held at once, and it could be limited in the amount of time for which an item remains in working memory (ibid). It is not clear to what extent an individual can improve their working memory; however, there is clearly a limit.

We are limited by the ability to manage our social relations at the cognitive level (Barrett, Henzi, and Dunbar 2003). In order to maintain social relationships, we need to remember much more than names and faces; we need to integrate and maintain a mental model of the social relationships among the members of a network (Stiller and Dunbar 2007). We need to remember personal details and the nature of these relationships, such as trustworthiness, reliability, goodwill, and numerous other characteristics. Dunbar explained it as "the number of people you would not feel embarrassed about joining uninvited for a drink if you happened to bump into them in a bar" (Dunbar 1996, p. 77).

There is considerable individual variation in social network size for various reasons; however, cognitive capacity appears to be a limiting factor (Stiller and Dunbar 2007). Hill and Dunbar (2003) found that, on average, humans tend to have a social network (people who are known individually and with whom one has a personal relationship) of approximately 150 people. Other research found an average social network size of 611 people with a significant variance – 90 percent of people had between approximately 150 and 1500 (McCormick, Salganik, and Zheng 2010). The substantial differences in results seem to stem from the way in which a social network is defined and the methods used to quantify them.

These numbers do not attempt to qualify the nature of social relationships. Research by Dunbar and others postulated that an individual sits in the centre of a personal social network with social contacts located at varying distances based on emotional closeness and frequency of contact. The "inner

circle" may include just a handful of people with whom there is a deep personal connection and frequent contact, while the outer circle of acquaintances may include up to 1500 or more people (Dunbar and Spoor 1995; Hill and Dunbar 2003).

The size of one's social network is not just a function of cognitive ability since it also relates to one's inclination and motivation for social interaction. For example, someone whose career success is related to developing and maintaining a large social network would likely have a large network. A realtor would have a large social network because of the amount of time they invest in social activities and the skills and strategies they utilise to build and maintain relationships effectively.

While cognitive abilities clearly play an important role, they can be supported or supplemented by non-cognitive systems and tools. Even something as simple as handwritten records can complement memory. Technology can extend this much further and even bolster reputation and facilitate low-cost connection and communication. Regardless, there is a maximum associated with the trade-off between network size and relationship quality and space-time constraints.

Another factor in social network size is the role of power and status, which are often neglected in social capital literature (notable exceptions being Bourdieu 1984, 1986, 1992). Power and status carry obvious reputational advantages and can intrinsically enhance network size. Power and status effectively shift the onus of relationship establishment and maintenance to others since others are likely to pursue the benefits of ties with powerful individuals. This allows privileged individuals to have a larger network size for the same investment of time and cognitive effort. They also have more to offer by virtue of their position and status in instrumental and non-instrumental trade. For example, many people would want to have a relationship with the local city mayor, placing a greater onus of

building and maintaining relationships on others rather than on the mayor.

The role of power and status has the most significance at the individual level since it relates to the uneven distribution of social capital. It does not necessarily aggregate to the social capital of larger social groupings, except where many individuals in the group have power and status relative to other individuals outside the grouping. For example, status would be an important factor in the social capital of a group of politicians (since they have status relative to others in society). However, it would not be an important factor in the social capital of the entire society since the inequity of high and low-status individuals would effectively neutralise net benefit. It

***“Power and status effectively shift the onus of relationship establishment and maintenance to others”***

could be argued that societies with low levels of social stratification have less social capital because of the lack of high-status individuals who enable the activation of social capital benefits. The counterargument is that inequity typically creates more individuals with low status than

individuals with high status, consequently the net social capital outcome is negative. Considering social capital is a highly complex multi-dimensional concept, it is difficult to investigate the legitimacy of these claims.

### 5.2.2 Capacity to understand others

Humans need much more than memory to manage our complex social world. We need the capacity to understand others' beliefs, desires, intentions, and perspectives. This understanding is crucial for everyday human social interactions and is used when analysing, judging, and inferring others' behaviours (Gweon and Saxe 2013). This ability is referred to as 'theory of mind' (ToM), mentalising or cognitive empathy and is the ability to attribute states of mind to others (Davis 1996; Whiten 1991). ToM allows us to explain, judge and predict people's actions (Gweon and Saxe 2013). ToM is required to understand the social world and our place in it, to form relationships with others. Meaningful interaction with others is only possible when we can interpret

each other's points of view (Johnson, Cheek, and Smither 1983).

ToM is a competency that limits the formation and maintenance of social relationships. While ToM is an innate human potential, it requires social experience over time to develop and does not develop equally in everyone. Different people may have a more or less effective ToM, and some people have a significant deficit, for example, people with autism spectrum disorders (Baron-Cohen, Leslie, and Frith 1985). Although there is uncertainty about how ToM is developed, it appears that it can be improved with practice, and there may even be strategies and exercises that could help improve it. Individuals with a less effective ToM would likely have difficulty forming social relationships, which would logically impair their ability to develop a large social network. It would also impede the quality of their relationships.

***“Empathy is essential for reaching shared understandings, but empathy also requires shared understandings to be effective”***

Empathy is a component of ToM that involves the recognition and understanding of others' beliefs, desires and particularly emotions. Empathy is an important component of emotional intelligence (EI) which is the ability to recognise and identify different emotions and their meaning and to reason and problem-solve on the basis of them (Mayer, Caruso, and Salovey 1999). Emotional intelligence involves the ability to accurately perceive emotions in oneself and others, use emotions to facilitate thinking, understand emotional meanings, and manage emotions (Mayer, Salovey, and Caruso 2004).

It enables us to recognise our own emotions and those of others and to use this emotional information to guide our thoughts and actions. EI allows us to understand another person's perspective, and this enables stronger and deeper connections embedded with trust, goodwill, and shared understandings. People with high EI require less cognitive effort to solve emotional problems (Mayer et al. 2004). They tend to be good at establishing positive social

relationships with others and avoiding conflicts, fights, and other social altercations. They tend to be more open and agreeable than others and have more positive social interactions (Mayer et al. 2004). They are generally more satisfied with their social networks and appear to receive more social support. They tend to coach others around them, so they assist other individuals and groups of people to live together with greater harmony and satisfaction (Mayer 2004).

As with many other cognitive abilities, individuals can improve their EI, and it has been found that empathy training can be very effective (Teding van Berkhout and Malouff 2016). However, empathy is fragile since it is not universally applicable to everyone in every context. There are various factors or circumstances that prevent or impair empathy, such as when someone is perceived to be an outsider or in competition with personal interests (Hoffman 2008), when one feels anger or dislike towards the other person or that their situation is deserved (Hareli and Weiner 2002), or when affective empathy creates emotions so aversive that one disengages (Hoffman 2008). In this way, empathetic ability is not universally applied to everyone in every context.

Empathy also relies on the salience of cues. Although ToM is sometimes referred to as mind-reading, it is not a superpower. It relies on the observation and interpretation of cues, which may not be overtly expressed, or not expressed at all, or maybe misinterpreted. Although some cues are universally understood, others are culturally prescribed based on shared understandings. Even language cues must be interpreted within the context of background understandings to find meaning. For example, when someone says something, we must rely on shared understandings to fully understand the meaning and implications to provide a basis for empathy. Empathy is essential for reaching shared understandings, but empathy also



requires shared understandings to be effective. Empathy creates shared understandings, and shared understandings facilitate empathy.

The tendency to care about and help one another forms the foundation of human society (Levenson and Ruef 1992). However, we do not tend to feel empathy universally. We are far more likely to feel empathy for an ingroup member than an outgroup member (Bruneau et al. 2011; Bruneau and Saxe 2011). People tend to empathise more with kin, friends, and their own ethnic group (Hoffman 2008). We feel empathy for people with whom we identify or feel belonging. We find it easier to feel empathy for someone whom we believe is similar and has similar life experiences since it is not difficult to imagine

oneself in their place. It is much easier to create mental images that provide an understanding of their experience and emotions (Hoffman 2008). When we experience social exclusion from our ingroup, we temporarily have an impaired

capacity for empathic understanding, and as a result, the inclination for cooperation is undermined (Twenge, Baumeister, and Ciarocco 2007). There tend to be powerful motivations not to care about or help outgroup members, and recent research has found that outgroup members' suffering elicits dampened empathic responses as compared to ingroup members' suffering (Bruneau and Saxe 2011). In fact, outgroup suffering can elicit pleasure where there is sufficient social separation or an "us and them" mentality or victim dehumanisation (Cehajic, Brown, and González 2009).

In this way, empathy is a cognitive ability grounded in shared understandings and highly subject to context. Since empathy is the capacity to 'think in the mind of another', it is a prerequisite for cooperation (Assmann and Detmers 2016) and is therefore vital to the development of social capital. It plays a key role in the development of trust and the assessment of trustworthiness and reciprocity through the ability to understand other

people's perspectives and the likelihood of reciprocity (Nootboom 2006; Preece 2004). The ability to understand mutual aims and goals allows humans to coordinate complex activities and cooperate in the pursuit of these goals. Empathy is a key requirement for moral consideration and prosocial behaviour (Hoffman 2001). Psychologists widely agree that empathy is a major determinant of prosocial and altruistic behaviour (Eisenberg and Miller 1987).

Since empathy is critical to prosocial behaviour and the development of shared understanding and quality relationships, a lack of empathy logically creates sub-optimal conditions for social capital. However, we do not know much about the optimal level of empathy. Measures of empathy have found a

roughly normal distribution on a continuum (Baron-Cohen and Wheelwright 2004) which suggests that high empathy is relatively rare. However, no research has investigated the maximum possible level of empathy and what may limit

this maximum. It is not clear whether high empathy is associated with any costs that may impair other factors that may negatively affect social capital (such as empathic distress see Hoffman 2008). Without this understanding, we can conclude that empathy is a vital cognitive ability and that, in general, more empathy is associated with improved conditions for social capital.

This discussion would suggest that the social capital of a group could be improved by improving the empathy of group members. The extent of improvement would depend on various factors, including the initial level of group empathy. Investment in empathy improvement would likely have diminishing returns, although little is known about the relationship between improved empathy and social capital. It must also be noted that empathy is activated in specific contexts, and therefore it is not universally applicable. An individual may possess empathetic abilities, but for this talent to be utilised, they must have sufficient interest, motivation, or

***“A lack of empathy logically creates sub-optimal conditions for social capital”***

inclination to empathise with a given person. As previously discussed, psychological experiments have found dampened empathic responses to outgroup members and even pleasure instead of empathic distress (Bruneau et al. 2011). Empathy is an innate human ability, but to understand the limits of social capital, it is important to understand how it is activated or not based on other factors.

The ability to empathise is an important factor that influences the extent of comprehension. One of the key aspects of social capital is the shared understandings that are essential for interaction and exchange. Because we each experience different aspects of reality and interpret them differently, we must bridge these separate and distinct realities to reach shared understandings. To create this overlap, we must be able to communicate, listen, and comprehend effectively. Comprehension requires establishing a coherent mental representation called the situation model and involves integrating the content with prior knowledge (Kintsch 1988). Empathy plays a key role in developing the intersubjective nature of situation models required for social capital. Meaning is a polymodal, context-sensitive, constructive, spatially distributed and temporally extended process (Kutas and Federmeier 2000). This discussion highlights the complexity and context-specific nature of social capital.

### 5.2.3 Cognitive biases

The human brain has developed tools to deal with the various problems discussed above. Psychology has identified approximately 175 different cognitive biases that help us to deal with these problems. However, these biases mean that our perception of reality is incomplete, biased, and often flawed. Everyone's experiences and perceptions are different, which means we need to invest time communicating with each other to reach shared understandings. The role of cognitive biases in influencing or limiting social capital has not been systematically explored. An

improved understanding of the role of cognitive biases may be extremely helpful in improving initiatives designed to build social capital. This is an emerging area of research, connecting with existing theories in psychology and social psychology.

Many of the cognitive abilities mentioned above that can be improved or developed with practice or training. Some tools or techniques can be used to supplement or improve our cognitive abilities. These can be as simple as writing notes to help us remember things, doing memory exercises, empathy training, ToM exercises, and working to breakdown cognitive biases that negatively influence social capital. The role of technology is important in changing the importance and types of cognitive abilities that are important for social capital. For example, social media has supplemented the need to remember many social details. The factors identified in this section have not been thoroughly explored and represent a significant opportunity to deepen our understanding of social capital processes and factors that may ultimately limit social capital.

*“Inhibitory control is essential for effective social interaction”*

### 5.3 The ability of humans to properly observe rules and live up to moral values

Another theme I identified was the ability of humans to properly observe rules and live up to moral values. Many aspects of social capital are related to morality, and this was a recurring theme found in my analysis of limits. Humans have evolved to be social, to be cooperative, and consider the needs of others. However, we are independent beings, capable of independent thought, and free to pursue our individual desires and needs. This results in competition between individual and collective needs in some situations. We have the capacity to consider the relative efficacy of various courses of action and make decisions in complex situations of competing needs. We are capable of putting group interests before our own. We are not limited to acting on instinct and impulse. This ability, referred to as inhibitory control, is essential for effective

social interaction (Kim and Phillips 2014). Humans have the capacity to suppress instinctive or dominant responses and consider alternative actions that fulfil other goals. Without this ability, social life would not be possible since individual needs would undermine common goals. Cooperation would not be possible since individuals would only be interested in pursuing their own goals.

Not only can we consider alternative actions, but we are also capable of assessing the morality of actions. Humans have the urge and predisposition to judge human actions as either right or wrong in terms of their consequences for other human beings (Ayala 2010). Morality is a social phenomenon that arises out of the social need to consider others. Social life would not be possible without the ability to judge our own and others' actions as moral or immoral. Morality is so important to human existence it has been suggested that humans are not only *Homo sapiens*, but also *Homo moralis* (Ayala 2010). The need to consider the impacts of our actions on others is fundamental to our justice system and is a key aspect of most religions. We create social structures that include rule and enforcement systems that encourage moral action and sanction for deviation from established norms. As such, morality is normative since rules are socially defined. If

humans were not social, there would be no need for the concept of morality. We accept that many other animals operate according to a natural order that favours survival actions. Some animals kill each other for sexual selection, carnivores kill for food, and many species leave their young to fend for themselves against great odds. Morality comes about out of necessity to create society.

Our ability to exhibit inhibitory control and to consider the morality of our actions means humans can act in the interests of the collective, not just their own self-interest. However, sometimes individual and collective interests conflict, and when individuals choose to pursue self-interest at the expense of

collective interest, social capital is undermined. In even the most cooperative social groups, there tend to still be some individuals who seek to take advantage of others' goodwill. This could take many forms; free-riding, failing to fulfil normative or contractual obligations, theft, corruption, or fraud. This prohibits the possibility and desirability of unconditional cooperation. It relates to the tension between individual and collective good. At times humans tend to place their own interests above collective interests. I am not suggesting that collective interests should always be prioritised above individual interests in all cases. I am not sure this is a desirable situation and one that may lead to the loss of individual rights. However, the trade-offs between individual and collective interests have implications for social capital. The pursuit of self-interest is an important factor limiting social capital that will be discussed further below.

Religion is extremely important for many people since it gives purpose and explanation to life and provides a moral code for action. Virtually all the major religions include some version of the Golden Rule: do to others as you would wish them to do to you. This is the cornerstone of moral consideration. For many people, their religion provides the structure and motivation

for a moral life. For some, it is required to get into heaven or to have a favourable afterlife. This belief provides a powerful force for prosocial actions and provides a positive influence on social capital.

Yet despite all these reasons for moral action, there is still immorality in almost all societies and social groupings. In many ways, this is not surprising, considering morality is judged based on the consequences for other humans, and often one's own needs are in competition with the needs of others. In these situations, individuals need to make complex value judgements that take into account their needs, the needs of others, and the consequences of their actions, for themselves

***“Social capital can be improved where misconceptions and unhelpful beliefs are identified and debunked”***

and others. The average individual is poorly equipped to make these judgements. We operate with imperfect information, without the benefit of retrospection, and often our behaviour is habituated, resulting in actions that are inconsistent with our values. Our reality is constructed and often does not allow us to make the best decisions. How can robbing a bank be logical? Yet, for some people, in the reality they have constructed, it is the most logical action at a given point in time. How can someone be a purse-snatcher? Do they not think of the impact of their actions on their victims? Are they not aware of, or care about, the consequences if they are caught? To most people, this type of behaviour is wrong and illogical. However, for those who perpetrate these actions, it is justified and therefore appropriate. The flaws in an individual's constructed reality create errors in judgement that precipitate immoral actions.

***“Individuals are embedded in structures that enable, constrain, and provide context for action”***

The ideas discussed above are related to those discussed in the section on the limitations of human cognitive abilities and particularly to the impact of cognitive biases. Social capital can be improved where misconceptions and unhelpful beliefs are identified and debunked. In general, when people understand the importance and value of moral action and incorporate these beliefs into their value systems, they are more likely to act morally and in the collective interest. Often our own preconceptions or predispositions negatively influence our actions towards others, impairing social capital. Logically, strategies to change these predispositions could improve social capital.

#### 5.4 Trade-offs between the benefits of social structure and the costs and constraints it produces

The previous sections have discussed the attributes of individuals that may limit social capital. Individual attributes are important

since social capital comes about primarily through the actions of individuals. However, individuals are embedded in structures that enable, constrain, and provide context for action (Cardinale 2018). Social structures such as institutions enable ordered thought, expectation, and action by imposing form and consistency on human activities (Hodgson 2006). Giddens (1984) recognised the structural constraints within which actors operate and the non-reflexive nature of most everyday practice. While social structure is essential and beneficial in many respects, it also constrains action and carries numerous costs. Social

structure is central to many conceptual approaches to social capital<sup>8</sup>, and creating, maintaining, or changing the nature of social structures are common strategies for social capital interventions. For example, the World Bank approach typically focused on establishing groups such as producer cooperatives or savings groups or strengthening existing groups.

Various aspects of social structure are components of social capital, such as networks, roles, rules, precedents, procedures, and coordinating institutions. We can create new roles, rules, institutions, laws, enforcement, etc. but does this produce more social capital? Each of these components requires investment to establish and maintain. The benefits of these investments must be balanced against their costs. Most of these components of social capital do not involve a linear relationship between investment and benefits. That is, beyond some level, further investments result in diminishing returns and may eventually become counterproductive. For example, we can create new rules in social structures to organise and facilitate social action. However, rules involve various compliance and enforcement costs and can limit innovative, creative, and problem-solving action. These considerations have been widely

<sup>8</sup> Coleman (1990) believed that all social capital entities consist of some aspect of social structure.

explored in institutional theories and provide a rich opportunity to understand the processes involved in social capital creation and maintenance. Although further discussion of this topic is beyond the scope of this article, I would encourage further work in these areas.

### 5.5 Effectiveness of languages to accurately and fully communicate meaning and significance

The final theme emerging from my analysis was the effectiveness of languages to accurately and fully communicate meaning and significance, which is essential for developing shared understandings. Shared understandings are fundamental to the nature of social capital and are created and recreated through interaction and communication. Language allows us to communicate our thoughts, ideas, experiences, and desires with others. Communication is an essential part of social connection because relationships cannot be made and maintained without it (Jamieson and Terrion 2016). However, language is rather ineffective at accurately and fully communicating the complexity of human experience. We are only able to encode a small part of the information we have available, and the accuracy of the decoding by the recipient relies on shared understandings. Our linguistic utterances are sparse (Boroditsky 2009), requiring interaction over protracted time periods to effectively bridge the divide between individual consciousnesses. Bridging the divide between individuals and creating shared understandings is essential for interaction and exchange. For interaction to be effective, there must be common ground; a background consensus of what are the relevant facts in a situation and what are legitimate courses of action (Sitton 2003: p63). Without shared understandings, there are barriers to effective communication and difficulty finding meaning in others' actions. There is uncertainty about how others will act in a given situation and a tendency for

***“Language is rather ineffective at accurately and fully communicating the complexity of human experience”***

individuals to employ defensive strategies that obstruct social interaction and exchange.

Even language is a shared understanding. Both participants must understand the sense of words and phrases and have a sufficient understanding of context to derive meaning and significance. Have you been in a situation where someone is speaking the same language, but the other person's life situation and cultural context are so different to your own that it is difficult to find meaning in words? This is an extreme example, even in similar cultural contexts, often the subtle meaning of individual words can be very different between individuals. For example, I was speaking with a friend and used the word suspicion, which he understood to be an undesirable negative condition. What I actually meant was more like a healthy suspicion that is required for accountability. This highlights how specific words, even when used in a sentence to place them in context, can carry very different interpretations depending on one's lifeworld.

Between people who know each other well, words carry meaning beyond their specific definitional meaning. For example, when my colleague knocks on my office door and says, "I'm going to get a coffee" I understand that this is an invitation to go to the local café where he will seek advice on his latest work-related challenge. He does not even need to use a questioning inflection, and he does not need to provide any other details. Our shared understandings allow me to find meaning from this simple statement. Where close relationships exist, much more detailed meaning tends to be conveyed. I may understand his need for conversation, the nature of his current emotions, likely events that occurred prior to the interaction, and much more that is difficult to fully communicate here. These shared understandings are developed mostly in interpersonal relationships but grounded in cultural understandings that are widely shared in a group or society. Shared

understandings are reached by spending time with others. Through observation, interaction, and exchange. If my colleague had said the same thing to me on the day we met, I might have been confused about his meaning. Was it an invitation to go with him, or was he informing me he was going to be out of the office?

The everyday language of a social grouping can blur meaning because the same words are attributed different meanings in different contexts. The following quote is an example of the same phrase having starkly different meanings in different contexts that would be confusing for anyone outside of the social setting.

"Forget about it is like if you agree with someone, you know, like Raquel Welch is one great piece of ass, forget about it. But then, if you disagree, like a Lincoln is better than a Cadillac? Forget about it! you know? But then, it's also like if something's the greatest thing in the world, like mingia those peppers, forget about it. But it's also like saying Go to hell! too. Like, you know, like "Hey Paulie, you got a one-inch pecker?" and Paulie says "Forget about it!" Sometimes it just means forget about it." Film *Donnie Brasco* 1997

Each person constructs their reality based on their experiences. Even the experiences that individuals share are experienced differently based on each person's background context. The bridge between these separate and distinct realities is communication. The extent to which we want/care to understand others, to which we assume their reality is much the same as our own. Relative to the complexity of our reality, we are only capable of transmitting a small amount of information, some of this information will be received, and it may or may not be correctly interpreted by others. This

makes communication quite ineffective at bridging individuals' realities. In an attempt to find meaning in our experiences, we construct our reality based on limited information and understanding and within the context of our lifeworld. Linguistic processes create and structure our reality according to pre-established patterns. We can only understand our experiences within the context of our existing understandings, and when we experience things that we have no foundation to understand, we feel confused, lost, scared, or uncertain.

From the above discussion, it is clear that humans are not able to fully and accurately communicate meaning and significance, and this limits the ability to reach shared understandings that are fundamental to the existence of social capital. I should acknowledge that it is naïve to suggest we know all there is to know about the human brain and how we communicate. For example, *shin-denshin* is a Japanese term for a form of interpersonal communication through unspoken mutual understanding. There may be some form of collective consciousness and sharing of information or understanding between individuals that do not rely on language; however, this is currently beyond the purview of science.

## 6 Conclusions

The preceding sections have discussed many factors that potentially limit social capital. However, there are likely various other factors that may play a role, and we do not fully understand how they may limit social capital. Further exploration of these issues would require a multidisciplinary approach that embraces pluralism and is built on clear ontological foundations that reflect human's socially situated experience. I believe this would ideally be a team effort with people from different disciplines contributing detailed expertise to each area of consideration.

The potential limits to social capital discussed above could be recategorised as (1) limits associated with individual characteristics and competencies, (2) the challenges of reaching



and maintaining shared understandings, and (3) the effectiveness and efficiencies of institutions and their leaders. The perspective outlined in this article is fundamentally different to the existing approaches to understanding social capital and has the potential to generate new knowledge. Current research focuses on the social capital characteristics of existing social groupings rather than considering the potential nature of social capital. For each of the main issues discussed above, it is obvious how we can design intervention strategies to improve social capital. Many of these issues are obvious and should already be intuitively understood by many people. This approach to social capital focuses our attention on them and provides an understanding of why they are important. This allows us to prioritise these issues and communicate their importance to decision-makers. This is one of the key promises of the concept of social capital and one that requires a strong foundational understanding of the processes involved.

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