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## QUANTIFYING SOCIAL CAPITAL AT SCHOOL

*Sense Publishers*

### *Introduction*

Because schools operate in such complex environments the effects of various forms of social capital on outcomes is difficult to delineate without careful and detailed analysis. Therefore the challenge to be faced when addressing the quantification of Social Capital at school is considerable. This has led some to argue that qualitative research is necessary to achieve an understanding of the complex networks that operate in and about schools (e.g. Horvath et al). Whilst not disputing the value of such research, social capital has attracted interest from policy makers at least in part because various analysts have quantified social capital and have reported correlations between social capital and other desirable outcomes. For example Putnam and Feldstein (2000, 4) made the following claims for the effects of social capital:

*Economics studies demonstrate that social capital makes workers more productive, firms more competitive, and nations more prosperous. Psychological research indicates that abundant social capital makes individuals less prone to depression and more inclined to help others. Epidemiological reports show that social capital decreases the rate of suicide, colds, heart attacks, strokes, and cancer, and improves individuals' ability to fight or recover from illnesses once they have struck. Sociology experiments suggest that social capital reduces crime, juvenile delinquency, teenage pregnancy, child abuse, welfare dependency, and drug abuse, and increases student test scores and graduation rates.*

This quote should raise scepticism among researchers and policy analysts. It is based upon correlations between various social indicators, but lacks evidence of causality. A problem with the macro-definitions of social capital on which claims such as those made by Putnam and Feldstein are based, is that they include secondary indicators of social capital. These secondary indicators can be critiqued as relying upon middle class norms and values, rather than underlying social capital. Hence, an alternate explanation for the observed relationships is that the outcomes and the proxy measures of social capital both reflect the advantage of the

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middle class in all areas of social and educational well being. Furthermore such indicators do not differentiate between the various forms of social capital that operate within and about a school. Therefore macro statistical analysis cannot indicate what changes by policymakers managers and teachers might enhance outcomes for pupils.

In this chapter, the relevance of social capital for education policymakers is explored, the challenge of defining and quantifying social capital in schools is described, examples of attempts to quantify it are analysed, findings about forms of social capital and various outcomes of schooling are explored, and questions are posed about how to quantifying the various forms of social capital in schools for use in making and evaluating policy.

The evidence on which this analysis is based is drawn from recent published literature and also from current work in the Schools and Social Capital (SSC) Network in Scotland. This is a collaborative group of researchers formed in 2004 as one of the research networks in the Scottish Applied Educational Research Scheme, with funding from the Scottish Funding Council and the Scottish Government. The SSC Network has a substantial and growing list of publications which can be accessed beyond 2008 through the web site of the Scottish Educational Research Association (SERA).

### *Defining Social Capitals*

There are many views about what constitutes social capital. The concept has been popularised in terms advanced by Putnam (1993, 167) as ‘features of social organisation, such as trust, norms, and networks, that can improve the efficiency of society by coordinated actions’. According to Putnam (1993, 177), stocks of social capital are ‘self-reinforcing and cumulative’.

While social capital is a resource shared among people, Coleman (1990, 300) argued that the benefits of access to social capital are derived by individuals. Use of social capital can provide an ‘important advantage for children and adolescents in their development of human capital’. He also concluded that bridging social capital can be utilised to gain occupational mobility (Coleman, 1990, 302). In his analysis, Coleman acknowledges that individuals access different forms of social capital including that formed among family, friends and through work experiences. Coleman conceives social capital as providing a basis for a form of bartering in which individuals gain notional credit slips by providing others with assistance. Two elements that are critical in Coleman’s conception of social capital are the level of trust between people and the number of obligations held. These elements can operate both within bonded groups and within bridging groups. Coleman also identifies norms as another form of social capital that can have either positive and / or negative effects on opportunities for individuals. He suggests as an example that the norms that allow women safe passage in the streets might also involve obligations to be subservient to men in economic or social contexts. Coleman also places value on reciprocity, and especially on closure in extended networks. He argues that the value of social capital held by individuals within groups will vary

depending on the extent to which others perceive themselves to be beholden to an individual.

Coleman considers the benefits of social capital from an economic perspective as an intangible asset that can assist opportunities for employment and economic advancement, when used in conjunction with human and economic capital. From Coleman's perspective, the correlation between indicators of social capital and levels of school qualification justify addressing social capital as part of schooling policy, because its inclusion can lead to economic benefits both for the individuals and for society as a whole.

In contrast others argue that social exclusion stems from the use of social capital to sustain and transmit between generations an inequitable distribution of economic capital. This perspective draws on the socio-cultural critique of Pierre Bourdieu. He argued that elites in society maintain their economic advantage by their use of both cultural and social capital. Social capital, he said, is found in social networks and connections, and in contacts and group memberships that potentially support access to valued resources (Bourdieu 1993, 68). Thus class advantages are reinforced by the link between culture and social networks (for example; bingo or bridge groups), which reinforce class inequalities, and he concluded that social capital can be used to preserve and transmit between generations the benefits of economic capital and power. It is further argued by Allard (2005) that attempts to manipulate social capital to increase access to education and employment for those lacking economic power may reinforce a culture of 'blame' of those who fail to observe middle class norms.

#### *The inter-related roles of cultural and social capital*

Bourdieu (1979, 80 cf.) identified both the strong dependency of educational outcomes on inherited cultural capital, and also the complex relationship between inherited cultural capital and social capital. He concluded that inherited cultural capital has a substantial influence on the opportunities people have to access and utilise social networks that are linked to high status employment. This critique provides insights into both the power and limits on the capacity of the school to foster the economic enhancement of pupils. Teachers can complement the cultural capital that a pupil derives from their home by the emphasis that teachers place 'on manners (which) gives the recognised process of legitimate manner an absolute power to recognize or exclude' (Bourdieu, 1979, 95). Thus while teachers can consolidate inherited cultural and social capital, the power of teachers is not absolute, especially where the norms and values at home conflict with those at school. Bourdieu (1979, 91) argues that in prestigious markets what is required 'is not scholastic achievement but posture, diction, (and) manners usage which schools never or fully teach'. This he argues is why people with equal academic capital have different outcomes in employment, in part because in selection interviews inherited cultural capital is what differentiates. The family cultural capital 'through the encounters they provide and the social capital they help to accumulate, no doubt explains subsequent differences in career'. Thus, Bourdieu

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concludes that social capital is in part determined by cultural capital. Therefore in seeking to measure social capital and to explain its effects, the effects of cultural capital need also to be taken into account.

### *Social Capital and Adolescent Development*

The adolescent stage of development is characterised by establishment of identity and learning multiple roles and the key people in this process are peers (Erikson, 1963). Parents continue to play a role which can include ensuring a safe and nurturing environment and sanctions to guide learning of adult roles. Teachers and other authority figures may play a supporting role (Coleman, 1961). The form of these various sources of social capital that an adolescent can access is therefore of importance and the sites where social capital is normally located include the family, the neighbourhood and wider community, at school, and with an extended peer group. Access to these sources of social capital, and the manner in which these forms of social capital operate, are likely to be salient contributors to a young person's opportunities to develop a positive identity, and to acquire access to networks that can provide opportunities for employment, further education and other forms of positive social engagement such as volunteering and participating in community groups.

With limited resources and a multitude of responsibilities to address, secondary schools may benefit from the use of quantitative tools that can scan large numbers of adolescents and identify those who may be at risk due to lack of any of these forms of social capital. To gather evidence requires a measurement model that can identify enhancements in desirable forms of social capital, clear and measurable outcomes, and a process evaluation that can distinguish effective implementation of interventions or policies. In addition the outcome indicators need to focus beyond short term performance. Evidence of medium or long term effects are required to establish that either skills training or enhanced social capital are likely to enhance outcomes. This approach is advocated in contrast to the macro studies that were critiqued above which rely on indicators applied at a single point in time. An example from a post-school training programme for early school leavers illustrates the issue of performance indicators. A young person was placed in a work readiness programme and entered the course with a job already agreed. The purpose of the placement was to benefit the individual financially while waiting for the job to start. This also could benefit the provider by providing a successful outcome. Neither of these are necessarily inappropriate outcomes, but this example illustrates the problem with reliance on a limited set of performance indicators. However, in another case in the same programme, successful completion of the course was the criterion for confirming an offer of a job with further training. In this case the criteria of success in the programme is linked to the outcome, but in both these cases the social capital generated in the course could not be considered as causally linked to the outcome.

*Measuring the Effectiveness of Government interventions*

So called ‘third way’ government policies adopted by social democracies are based on the expectation that the use of the resources of the state can enable those people living in deprivation to access social networks that will allow people to gain education and employment. These interventions include actions aimed at improving the quality and access to training, and the provision of support through social and community workers to those individuals considered at risk (Strathdee, 2005, 58 cf). Some of these initiatives focus specifically on enhanced social capital in schools. The problems for policy makers in deciding how to enhance outcomes through social capital include conflicting evidence of the effectiveness of initiatives from various studies, and a dearth of large scale studies that quantify evidence across a school district or larger education system. A typical example is the evidence about a programme aimed at supporting schooling outcomes for children from vulnerable families. The ‘Families and Schools Together’ (FAST) initiative is a primary school intervention explicitly focused on strengthening bonding, bridging and linking social capital to enhance networks within and around vulnerable families (Terrion, 2006). There have been several evaluations of this programme in Canada and the USA. As noted by Terrion, the external evaluations have produced conflicting results. The qualitative study she conducted relied upon a purposeful selection of informants to identify how bonding, linking and bridging social capital can be enhanced through the FAST programme. The problem is however that a qualitative study of this type cannot determine whether the initiative is effective over the whole target population.

Another Canadian programme called ‘Together We Light The Way’ (TWLWTW) was aimed at children aged four to fourteen, and sought to influence home, community and school social capital to counter bullying at school (Dean et al 2004). This three year study sought to foster the resilience of children and to establish effective sanctions to counter bullying. Over the three years of operation of the TWLWTW programme, Dean et al (2004) found both a reduction in reported incidents of bullying and improvements in academic attainment. They interviewed parents and teachers who confirmed that there was a changed environment that was more caring and supportive and the authors attributed this change to the effects of the TWLWTW programme. They did not however collect systematic evidence of changes in the home, community or school social capital. It is therefore not possible to determine whether outcomes were caused by the TWLWTW intervention, and if so which of the home, community or school aspects were salient. It is possible also that the changes were the result of raised awareness of the issue and not a consequence of any of the specific elements in the intervention.

*Social Capital – an Individual and a Shared Resource*

There are two types of benefits that policy makers expect from the development and use of social capital. One dimension is the value of shared norms and values for community well being and the other dimension is the use that an individual can

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make of the networks to which they belong. In community development, policy implementation is about creating or strengthening networks between people within formal or informal organisations. An example of the importance placed on perceived community well being is an analysis of facilitating community strength by Hesse and Adams (2007, 41) who claim that the way links are established is important to the success of local institutions and partnerships in building 'networks which facilitate local-level cooperation'.

In contrast, the focus in most education policy documents is on the attainment of the individual. For instance the Scottish Government policy goals for education are to achieve individuals who are 'successful learners, confident individuals, effective contributors, and responsible citizens' (Scottish Executive, 2004). It should be noted however that in expressing these expectations of individuals the government does not overtly assign a role to social capital (Arshad et al 2007). Rather the role of social capital is implicit in policies such as for example the expectations about the role of leadership in building the ethos of 'schools of ambition' (Scottish Executive, 2005).

The lack of explicit reference to social capital may in part be explained by the difference between a collective responsibility for policy implementation and an individual responsibility for achieving outcomes of schooling. For instance, in Scotland the implementation of the 'schools of ambition' policy is a collective responsibility of school staff in partnership with the school community, but the purpose is to facilitate individual attainments. Likewise the development of effective local communities envisaged by governments is a shared responsibility between government agencies and local institutions, but the objective is for individuals to feel safe and respected in their homes and workplaces. Falk (2007) has identified interactivity as an essential component of policy development, implementation and evaluation. By this he means that for policy to have an effect on behaviour there needs to be engagement between the proponents of policy and those who deliver or receive the benefits of policy actions.

A question that follows is whether analysis of the expected benefits of social capital for collective policy implementation requires a measurement of group social capital, while the attainment of policy outcomes implies measurement of social capital at the individual level. Fieldwork that is aimed at understanding social capital with at risk youth that is being undertaken in 2007 and 2008 in Scotland<sup>1</sup> suggests that there are two ways in which social capital can enable employment outcomes. First there are opportunities for employment through access to networks in which jobs are available, which is primarily a sociological model of employment. Secondly there is the mobilisation of social capital by each individual. Some have the confidence to ask for assistance from their network members, while many do not, and a few may have unreasonable expectations about the extent to which others recognise an obligation for their welfare. Thus policy outcomes seem to rely on a socio-psychological model of individual behaviour.

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<sup>1</sup> See Schools and Social Capital Network site at [www.aers.ac.uk](http://www.aers.ac.uk)

*Measurement of Social Capital in Schools*

Work to develop social capital indicators suitable for schools include two recent published studies that have measured aspects of social capital in schools and shown relationships with schooling outcomes. Findings from some of the case studies in the SSC Network have also provided insights into aspects of the quantitative measurement of social capital in schools, and are presented to supplement this published evidence.

In a study focused on the social capital of teachers and head teachers, Leana and Pil (2006) studied a district with 95 schools and demonstrated that both the nature of the relations among teachers within a school, and the links between the head teacher and outside agencies, were each related to academic attainment in Mathematics and English. Within the school, the effect of teacher social capital was mediated by the quality of instruction (as perceived by parents) in Mathematics, but not in English. In this study teacher social capital was operationalised using three constructs which were found to be strongly inter-correlated. These components were termed ‘information sharing’, ‘trust’, and ‘shared vision’ and congeneric factor analysis demonstrated that these components provided a structural equation model of teacher social capital which satisfied standard criteria for fit. It is important to note that teachers self-assessment was based on ‘the school as a whole’ rather than on their perception of their personal level of practice in each component. However, a notable relationship not discussed by the authors was that the single best predictor of mathematics and reading attainment was a dichotomous indicator of deprivation, namely entitlement to a free school meal. Sixty-five per cent of the cohort was in receipt of this benefit. This finding is a reminder of the limits of the effects of enhanced teacher social capital in the context of the absence of pupils’ access to economic capital.

The measure of the external social capital was the time spent by the head teacher in external contacts, mediated by the total time spent on work by head teachers. The reliance on a measure of the proportion of time spent on external relations is of interest because in this study Head Teachers spent between 37 and 61 hours a week on work (mean 47.6 hours)<sup>2</sup>. The results indicate that the total time spent at work by a head teacher was not correlated with student attainment, but the proportion of their work time spent in external contacts was correlated with pupil attainment. The level of contact between the Head Teacher and the community might be considered a critical component in its own right if one follows the model of leadership of schools that attributes the role of the Head Teacher as central. However, it might equally be considered to be a proxy variable for the degree of interaction of the school staff as a whole with the community. This might be measured for the school overall by an extension of the model for measuring teachers’ social capital adopted by Stevens et al (2007) as outlined below.

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<sup>2</sup> It may have been of interest to correlate the total hours spent by the head teachers with the index of deprivation for their school.

The study did not delineate the nature of ‘external contacts’ and it would be intriguing to know what component of this ‘external’ contact time was with parents. Therefore it may be useful to distinguish contact with community groups from contact with parents. The networks between schools and parents might be assessed by either direct self report by teachers and by parents, or by student perceptions as measured by Wong (2007). However, on the basis of the relationship between external social capital and attainment reported by Leana and Pil (2006), the measurement of links between school staff and both parents and community agencies needs to be included as dimensions of school social capital.

Another recent study (Stevens, et al 2007) has provided useful information about the contributions of young people’s social capital and their socio-psychological resources to their schooling outcomes. In a study focused on the social capital of adolescent students in two ethnically diverse secondary schools in an inner London UK borough, they concluded that economically disadvantaged white adolescent males have less peer social capital, while white girls have less socio-psychological resources than other students. This finding indicates that there are separate contributions to achievement outcomes made by social capital, and by the socio-psychological capacity of an individual to utilise the social capital to which they have access. This mixed methods study included the collection of quantitative data on ‘school belonging’ and on attitude to diversity, access to support and strength of bonds with family, other adults and peers. It was important to note that a factor analysis distinguished three components of support and closeness namely with family, friends, and non-family adults (Stevens et al 2007, 23). Another feature of this study was the consideration of the nature and levels of extra-curricular activity. This was divided into two specific categories namely sport, and aesthetic activities (art and music). There were in addition four other extra-curricula activities namely participation in youth clubs, volunteering in community activities, ‘uniformed activities’ (e.g. scouts), and ‘other activities’. Surprisingly church attendance was not recorded. In terms of potential for linking and bridging social capital, access to social capital through extra-curricula activities may warrant further elaboration. Stevens et al (2007, viii – ix) concluded that school context (or ethos) can affect social capital. This includes both the school policies and practice, and also the composition of the school population in terms of ethnicity and the proportion of people from areas of deprivation. The schools studied were ethnically diverse and senior students held positive attitudes toward issues of diversity. However the ethos of the school impacted on the outcomes with a ‘strict ethos’ generating more academic support, while a focus on supportive relationships enhanced socio-emotional support and supportive relationships among peers. An additional finding of interest was the interaction between school ethos and ‘sense of school belonging’ among boys and girls. In the school that was described as having a strict ethos, boys had higher attachment to the school than girls, while the converse was the case in the school with a more supportive ethos. This confirms that gender must be included as an independent variable when investigating the effects of school social capital on outcomes of schooling. The diverse goals of schooling may involve a choice between



encouraging responsible citizenship and confident individuals on the one hand, and successful learners on the other.

Smaller current studies within the Schools and Social Capital Network, which were designed to explore the nature of social capital in schools, have also contributed findings that may inform quantitative studies of the effects of social capital in schools. A study in Hong Kong compared the social capital of minority students with that of students from the dominant Chinese community (Wong, 2007). The school in which the study was conducted was atypical because the majority of the students were drawn from minority communities and the school incorporated Islamic teachings in the curriculum. Nonetheless, the performance of the measurement model provided insights for further consideration.

The survey was developed from interviews with students and from examples of indicators of social capital in the literature. The sub-scales addressed home school interactions, students' perception of school life, sense of community, peer and social support, and perception of presence of negative life events. The respondents were students in secondary forms 1 and 2. Responses to the survey were received from 132 ethnic minority students and 98 Chinese students. The analysis indicated that coherent subscales were identified for school attachment, sense of community, home school interaction and peer support. These scales all had reliabilities above 0.7 suggesting that with refinement they could be used as indicators of these aspects of social capital in schools. Items that illustrate these sub-scales include:

- a) attachment to school: supportive teachers and commitment to studies;
- b) sense of community: safety and trust in neighbours;
- c) home school interaction: parents expectations, interest in studies and contact with school and other parents;
- d) peer support: items about help if in need.

A second example of relevance arose from another exploratory case study within the Schools and Social Capital Network in which staff in a secondary school were interested in pupil attachment to school. They had administered a survey anonymously to 160 males and 167 females. This study was restricted to pupil experiences of school and hence did not provide information about the measurement of family or community social capital, or of teacher social capital. The three hundred and twenty-seven respondents were drawn from secondary year 2 (171) and year 4 (156). An exploratory factor analysis revealed three factors namely, 'formal attachment to school', 'feeling unsafe at school', and having a peer 'group of friends' at school'. Items that illustrate these three factors include

Attachment – academic success, making an effort, and liking teacher.

Unsafe – being teased, hurt, or having things stolen,

Peer group – friends that listen or understand

A further dimension of social capital in schools is the set of networks shared between pupils and teachers. In a pilot case study observing the changes in social capital in the transition from Primary to Secondary schooling Stelfox and Catts (2007) reported that in the last year of primary schooling, twenty of twenty-three

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pupils in a class group reported that they considered at least one of the staff in the school to be a friend they could trust. For some this was a teacher while for others it was a member of the support staff. In contrast, none of a group of students followed up in their first year of high school identified a member of the school staff in their mapping of their friends at school. This might either be a consequence of the transition process or it may represent a substantive shift in the nature of the relationships between pupils and school staff in their early adolescent years. The data on which this observation was based was gathered by asking pupils to map their network of friends, and then analysing the responses. This data can be quantified in terms of number of friends and in terms of number of reciprocated friendships, which provides the opportunity to distinguish between what the authors referred to as unreciprocated aspirational social capital, and reciprocated social capital. It was noted that when asked to give an example where someone had supported them in times of trouble at school, none of the pupils identified a peer with whom there was an aspirational link, and one identified a peer who they had not identified in their network analysis. Hypotheses to be tested include whether reciprocated social capital is more durable and of more benefit in terms of feeling safe and secure at school, or whether loose linking social capital is important.

#### *The Metrics of Social Capital*

Social capital cannot be measured in the same manner as is used to assess economic capital. Whereas the monetary value of assets can be determined in the market, and hence an absolute comparison can be made between the levels of physical (economic) capital possessed by individuals and by organisations, this is not the case for social capital. Likewise, the value of human capital can be measured in part through the recognition of qualifications. Either the level of qualifications or years of schooling are often used as proxy variables for human and cultural capital. However, social capital is less tangible and hence we need to interrogate the validity of social capital constructs in various contexts. The context is important in efforts to measure social capital because, as Coleman (1990, 307) points out, social capital unlike physical capital, is not necessarily fungible. That is to say, the social capital shared among a group of people is not easily or wholly exchangeable for social capital in another group. In bonded groups, the social capital shared among the group may not be of any value beyond the group, whereas bridging social capital may enable access to opportunities for people across groups.

The manner in which social capital is quantified is of importance for the interpretation of findings. Sabatini (2005) argues the evidence of a link between social capital and economic outcomes is confounded when social capital is measured indirectly by evidence of out puts of social capital like voting behaviour, reading newspapers, and blood donation. In a broad sense the claims for the benefits of social capital derived from such indirect indicators are open to alternative explanations. In the context of outcomes of schooling, these measures may similarly confound the interpretation of cause and effect because the outcomes used to measure social capital may reflect the economic power of individuals.

It follows that direct indicators of social capital are necessary to provide a quantitative description of the construct. It may not be feasible to entirely disentangle the construct from its effects since by definition social capital is shared with others, and hence is evidenced in terms of shared behaviours. However, the way people interact is a step closer to the construct than are indicators of individual behaviour, like voting or giving blood. Indicators of social capital in schools therefore should provide data about the behaviours of groups of people in and about schools rather than about individual behaviour. This then means thinking about peer groups, school staff, family relationships, links within the immediate neighbourhood and wider community, and about the networks between parents and staff, and also about links between pupils and school staff. The importance of neighbourhood in the formation of school social capital by young people was identified by Coleman (1961, 84), who observed that neighbourhood was 'identified in 9 out of 10 schools as an important determinant of 'leading crowd' with the focus on a good neighbourhood in terms of income and class'.

Each of the communities that are part of the school environment has sets of interests and goals which may be shared or in competition, and each network may cooperate with or oppose the interests of other groups. Furthermore the relative importance of each of these diverse communities may vary both for groups of students, and for individuals. This observation is born out by a study of groups of pupils in two English schools that focused school policies on different norms and values (Haynes, et al 2006). They compared groups of students whom they described as white and as black Caribbean pupils and found, especially for boys, that there was often peer pressure to appear tough and dismissive of school objectives, even if they and their families wanted to achieve school outcomes. How such communities interact may have significant implications for the opportunities that young people have to achieve satisfactory outcomes from schooling. Therefore, the measurement model for social capital as it operates in relationship to schooling has to recognise the multiple dimensions of social capital in schools.

Finally various forms of social capital can be considered to have positive or negative effects depending upon the desired outcome. For instance, those pupils included in a peer group orientated toward success at school will, in all likelihood, be influential in setting norms, values and expectations that foster success in school outcomes. In contrast, a peer group who adopts a counter-school culture is likely to discourage an individual member from aspiring to successful school outcomes. Academic outcomes of schooling are not the only forms of cultural capital that can lead to economic advantage. In the above example, if the counter-school culture is focused around sport then, as was evidenced in a study of Afro-American adolescent males (Eitle & Eitle, 2002), the counter-culture network is likely to be associated with positive outcomes through sport, but negative outcomes in terms of formal educational.

It follows that the directionality of the norms and values of social networks need to be considered in relation to the form of the outcome of interest, and that the social capital of a group may have a positive effect in relation to one outcome and a negative in relation to a different outcome. It is important therefore to be mindful

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about middle class values pervading the analysis. For instance, Bourdieu (1979, 272) has pointed out that most teachers give preference to academic values and are unlikely to value non-formal cultural tastes.

#### *Implications for Quantitative Research into Effects of Social Capital*

A multivariate multilevel model is necessary for analysis to explain how social capital in schools can operate to influence both policy implementation and policy outcomes. In addition, the assumption of linear relations among variables needs to be tested. A linear relationship would imply that at either the individual or group level, for every new link or bond there is an increment in social capital and a change in outcomes of schooling. However, it is possible that for some of the various forms of social capital that operate in schools there are threshold levels needed for social capital to have an effect. The absolute absence of any of the dimension of school social capital may mean social exclusion from the benefits of schooling. If the outcomes of schooling are achieved through social interactions with teachers and peers, then a child who rejects the cultural norms of the school and is consequently isolated may not have access to the social processes through which schooling outcomes are achieved; especially the wider outcomes of self-esteem, responsibility and social participation.

However, media reports remind us of the exceptional cases where children who seemingly lacked access to school social capital have nonetheless succeeded in securing economic success in the longer term. These exceptions might be explained by the argument that the school cannot ensure the transmission of advantage (or the converse) given the dominant influence of family and neighbourhood (Bourdieu, 1993). From the perspective of inferential quantitative research these exceptions illustrate the need to include forms of social capital outwith the school including family, neighbourhood and community social capital. It is essential also that other variables of known relevance to the outcomes of schooling are incorporated into quantitative analysis. The effects of economic deprivation need to be considered, as does the socio-psychological capacity of individuals which affects the resilience of an individual (Knight, 2007). This conclusion is supported by the findings of Stevens et al (2007).

#### *Questions.*

In considering the process of making schools social capital operational in quantitative terms, the following questions can inform thinking. Answers will guide how social capital is used as a construct and how it can be operationalised as a quantitative variable in social research:

Do operational definitions of social capital promote a particular moral agenda that suggests that middle class norms are intrinsically good and that deviation from those norms is undesirable or blameworthy?

Is it possible to identify and agree on norms that are acceptable to all including parents, young people, community workers and policy makers? If so what are

included in these norms? For example is engagement with lifelong learning, active citizenship, well-being, and access to employment acceptable? If so, do these terms have common meanings to all?

Can social capital be manipulated at individual, community, institutional or system level to enhance outcomes of schooling? If so, how can this knowledge be utilised by policy makers and practitioners?

### *Conclusion*

The complexities of quantifying social capital in schools may lead some to conclude that the task is too difficult and that consequently research into social capital in schools is best attempted through qualitative means. Qualitative methods are indeed essential to describe the complexity and to develop an understanding of social capital as a construct. If however, the roles of social capital in policy implementation are considered important, and resources are allocated to enhance social capital in schools, then the effects of social capital on individual outcomes need to be demonstrated across whole school systems. By its very nature, qualitative analysis cannot provide the timely evidence of effectiveness of policy impacts across the hundreds of students within each school, let alone the thousands within an education authority and the multitudes across a national system of education. Multilevel multivariate statistical analysis is necessary to achieve this end and this will depend upon the development of widely accepted operational definitions of social capital within schools.

The conclusion derived from various attempts to formulating indicators of social capital in schools that have been reviewed in this paper is that various forms of social capital need to be elaborated including peer social capital; teacher networks; and community networks. For peer networks, evidence of reciprocal relationships is needed to distinguish effective forms of peer social capital from individual aspirations for inclusion in peer networks. For community networks, the role of the immediate neighbourhood is an important source of social capital which may enable or limit bridging social capital. The role of teacher networks needs to be considered both in terms of their impacts on learners, and also in terms of their effects on continuing professional development because both aspects are likely to have consequences for the outcomes of schooling.

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