Social and Cultural Capital in the Sociology of Education: A Conceptual Analysis

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Most important recent theoretical developments in the sociology of higher education have involved examining social and cultural capital and their relations with human and economic capital. This article reviews the four forms of capital and their interactions. Especially emphasized are: (a) the political implications of various analytical strategies; (b) the need to specify the modes and rates of exchange of forms of capital for one another; (c) the complexity of the subject demands, if not a form of "chaos theory," at least some way of dealing with a system composed of indefinitely numerous and reciprocally causal variables. This theoretical work is offered as a step on the way to building a unified theory of higher education and social stratification that might enable sociologists of education to link theory, methods, and data more productively than has been typical in the past.

Introduction

In recent years the terms social and cultural capital have been used with growing frequency in the sociology of education. However, this increased use of the concepts has not been accompanied by equally expanded theoretical efforts clarifying the concepts, nor even by much systematic work on how to operationalize them. In this paper, I compare, analyze, and synthesize social and cultural capital and related constructs. The goal of this work is to examine the constructs' value in organizing research on the social causes and consequences of educational outcomes and on the effects of educational outcomes on other outcomes such as income and social status. I hope that the paper's theoretical specifications and clarifications will help sharpen research foci, particularly on issues of education and social stratification.

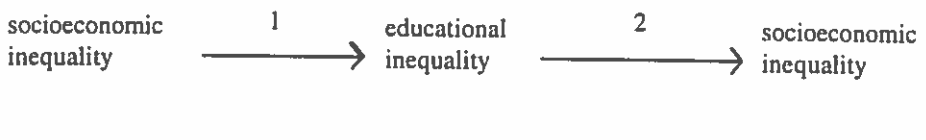
By social stratification I mean how a society structures the unequal distribution of goods among the persons and groups that constitute the society. Many categories of goods are unequally distributed in any society. One of them is education. But education is not only a good, it is also one of the means by which, or criteria according to which, other goods are allocated unequally. This duality, with education being both predictor and outcome, cause and consequence, has made social and cultural capital conceptually rich, but also confusing. The duality means that even the most simple causal diagram depicting the relation of education to social stratification will have two arrows, as in Figure 1.

The causal arrows in Figure 1 have very different ethical loadings in U.S. society. The first arrow, showing how socioeconomic background can lead to different educational outcomes, is usually considered "unfair." We tend to believe that educational opportunities should be as equal as possible, regardless of one's social origins. The second arrow, illustrating that educational attainment leads to unequal socioeconomic outcomes, is usually considered "just." We tend to believe that inequalities based on educational attainments have been *earned* and are, therefore, fair. This ethical ambiguity, both fair and unfair, of the relations of education and social inequality is a key feature of our subject.

Economic Capital

Despite some disclaimers (Bourdieu 1997), the concepts of cultural and social capital are rooted in the models of economic capital in general, and on the economists' concept of human capital in particular. Thus a brief look at how economists define capital and human capital is important background for the study of cultural and social capital. The concept *capital* is contested even in its home discipline of economics (Harcourt, 1972) where it has been used in several ways. When borrowed and revised for use in social and educational research, its definition becomes even more ambiguous. Nonetheless, most researchers using the

Figure 1
Relations of Education to Social Stratification



concept would agree on three generalizations:

1. Capital refers to a resource with which one can create or earn more resources; it is an asset that can be used to produce other assets -- as, for example, owning tools makes it possible for the owner to earn an income.

2. Capital is something that one can invest in and accumulate.

3. Capital is itself produced; it does not include raw materials or natural resources. By extension to the social and cultural realms, capital would *not* include inborn talents. To qualify as capital, inborn abilities, like natural resources, must first be developed.

Human Capital

Human capital refers to productive resources arising from the qualities of persons. It is usually thought of as cognitive skills developed through education. According to human capital theorists (Becker 1993; Schultz 1961) educational investments in people's skills can be understood and analyzed in the same way as investment in physical capital such as equipment. But human capital need not be restricted to qualities people develop in education. For example, physical strength or energy, if developed purposefully, can be thought of as types of human capital. If one drank herbal tea and doing so gave one more energy on the job, or if one exercised regularly and that lengthened one's productive life, the tea drinking and the exercise would be examples of successful investment in human capital.

Two key features of human capital help distinguish it from economic capital -- and to link it with social and cultural capital:

1. Human capital inheres in persons; as such it is not easily transferable; passing on human capital is a slow and laborious process.

2. Using human capital does not use it up. Unlike economic capital, which one *spends*, employing human capital tends to strengthen one's "portfolio"; for example, using one's cognitive skills to solve a problem tends to further develop those skills for use on the next problem.

The social or macro-economic aspects of human capital are less often discussed than individual differences in human capital. By the social aspects of human capital I mean the knowledge available in society rather than the relative distribution of knowledge among individuals in a society. Putting it in economists' terms, it is important to distinguish among the social (or public) and the individual (or private) rates of return to investment in human capital. For example, if all individuals in a society are functionally literate because of the society's investment in educational programs, the *social* rate of return to investment in education could be high, and the society might benefit considerably. But no particular individual could benefit directly. His/her literacy would not give him/her a productive advantage over others (Vogt, 1992). The direct *individual* rate of return to investment in elementary education would be nil. (See Hollingsworth et al., 1996 for an example of a social and macro approach to human capital.)

The idea of human capital is about as old as economics itself and, to a very great extent, the economics of education *is* human capital theory (Sweetland, 1996). Sociology of education is somewhat less focused, but the main problem of the sociology of education is related; to a large degree sociology of education *is* the study of education and social stratification (Bidwell & Friedkin, 1988). Sociologists' models for explaining education and social inequality are more dispersed than those of economists. There is less of a disciplinary consensus among sociologists. Some sociologists are persuaded by human capital arguments, but most of them are proponents, either of explanations based on cultural capital or, increasingly in recent years, of analyses featuring social capital.

Cultural Capital

Cultural capital refers to social advantages arising from individuals' social status (i.e., their location, standing, or rank) and the cultural characteristics associated with such status. Cultural capital tends to be "emblematic," having to do with social, culturally arbitrary, valuations of attributes that lead to status or prestige (Bourdieu, 1977, 1981). Bar-

riers to educational equality are not only economic. The advantaged have cultural resources (capital) that they may "inherit" and pass on to their children. Cultural capital consists of habits of the dominant classes (*habitus* in Bourdieu's and Weber's terms). Those culturally valued habits are also usually valued by educational institutions, which convert them into educational credentials. Non-dominant classes have culture, of course, but they have more difficulty converting it into capital. Cultural capital produces advantages that accrue to persons as a result of their participation in high-status culture. It can involve a wide range of phenomena, including: "attitudes, preferences, formal knowledge, behaviors, goods, and credentials" (Lamont & Lareau, 1988, p. 156). Proponents of cultural capital often claim to be uncovering the *real* reasons behind socioeconomic inequality, which they believe are concealed by human capital theory.

Indeed, Bourdieu (1997) dismisses human capital theory with hardly a second glance, while extensively discussing both economic and social capital. Yet, his main focus is on cultural capital. In an increasingly (or purportedly) meritocratic society, cultural capital is the last refuge of those who wish to pass their status on to their children. And as the importance of cultural capital grows "the scope of the education system tends to increase" (Bourdieu, 1997, p. 55).

Social Capital

Social capital is the newest of the three theoretical approaches to the study of education and social stratification (although Bourdieu has long referred to it as an aspect of or in conjunction with cultural capital). Social capital refers to resources which originate in social interaction. The key defining characteristic of social capital is that it "exists in the *relations* among persons" (Coleman, 1988, pp. 100-101). Networks or "connections" are the most obvious examples at the micro level. These can make information about employment opportunities available to those in the networks, for example (Granovetter, 1995). Thus, alumni who remain in touch in part to promote their business goals are maintaining their social capital. At the macro level we find another often discussed type of social capital: trust. A group or a society in which the members trust one another can accomplish more because the members will not have to waste resources monitoring one another (Granovetter, 1985). Consider, for example, the potential higher quality of the learning environment in schools with few discipline problems. Another example of social capital at the macro level is toleration, that is the institutionalized rights and liberties of diverse groups in a society. Toleration can enable a society to handle diversity and even draw strength from it (Vogt, 1997).

Proponents of social capital have often focused on the supposed decline of traditional values, such as trust, and the consequent undermining of social and human capital (Putnam, 1995a, 1995b). These values and norms have declined because of the decline of traditional social ties. As Coleman (1988) points out, at the macro level, social capital is a "public good" like clean air. This causes problems when social structures make it unlikely that private individuals will invest in public goods. The social ties of community that encouraged them to do so in the past are less common today.

Discussion

At this preliminary stage of the research, it is best to state points for discussion as a list of propositions and observations, rather than discursively. The pages that follow note points of convergences and divergence among the types of capital and suggest lines of theoretical and empirical investigation that seem ripe for development. This discussion leads to the final section of the paper in which operationalizations of the concepts social and cultural capital are suggested. These operationalizations are meant to aid in developing empirical research based on causal models. Multivariate research models incorporating the various domains of capital and their elements are crucial to a fuller understanding of the relation of education to social inequality.

All three "capitalist" analyses agree that there are strong statistical associations between educational success and occupational success. They differ mainly in their explanations for it. The case that most clearly highlights differences among the three types of explanation is the strong correlation (strong, by socio-behavioral science standards) between education level and income. Human capitalists would explain this statistical association by the productive skills learned in the higher levels of education. Cultural and social capitalists would stress advantages gained through education that are distinct from productive knowledge strictly speaking. Examples include the prestige value of holding advanced credentials or the social networks formed in educational settings. The three are not mutually exclusive explanations, of course. But most researchers tend to treat them as distinct or prefer to focus on one while controlling for the effects of the others.

Yet, it is as easy to discover relations among the types of capital as distinctions among them. For instance, one reason a credential could have prestige is that people *correctly* believe that it symbolizes productive knowledge. Much hangs on the correctness of that judgment. Cultural capital is the main causal variable only if few productive skills are learned. But, if real productive skills are learned and they account for the increased income associated with schooling, then cultural capital at most reinforces the main effect of human capital. Most often both capital effects (skills learned and credentials earned) are probably involved. The balance or mix of human and cultural capital will differ In particular instances, but it is hard to imagine real productive skills that carry no prestige or prestigious educational

Figure 2
Simplified Causal Diagram

credentials that can be obtained while learning no productive skills.

Theoretical simplification

Using these "capitalist" analyses can aid, at least initially, in theoretical simplification of very complicated causal models. Typical path/causal diagrams in social stratification research can be reduced, at the outset of theoretical discussion, to the simple diagram of Figure 2. Collapsing the differences among human, cultural, and social capital greatly raises the level of generality. Note that this diagram is very similar to that in Figure 1. Indeed the differences are mostly nominal, but these new names for old concepts can contribute to different thinking about research on education and social stratification. Later in the paper problems of the expansion of theoretical complexity due to the use of the four capital concepts is discussed.

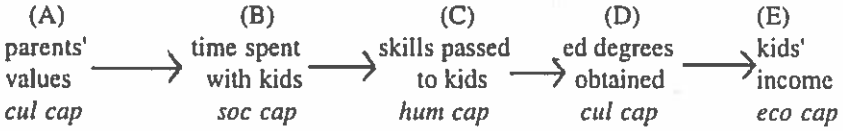
Subtypes

No one of the three types of capital is a single thing. Each is a broad category under which fits several varieties of resources people use to improve their circumstances. This means that the simple diagram in Figure 2 abbreviates complex processes. Figure 3 gives two examples of those more complex processes. In Example 1 we see parents' values (cultural capital), such as beliefs about appropriate forms of child care, leading them to spend more time with their children (social capital). This time, in turn, results in the children acquiring more skills such as bigger vocabularies or Bernstein's "elaborated codes" (human capital). This human capital makes it easier for them to obtain more prestigious educational credentials (cultural capital), and finally, the degree makes it more likely they will obtain highly paid employment (economic capital). Example 2 is similar but introduces a few of many possible variants on the theme. In this example, the variable leading to more time with kids is income, not values; also the final outcome variable (stage E) includes cultural capital as well as the economic capital illustrated in Example 1.

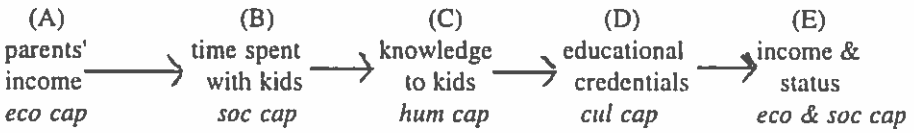
Note that variations on this theme are very numerous if not quite infinite. For example, stage (C) in the work of both Coleman and Bourdieu is usually norms or values

Figure 3
Examples of Capital and Stratification

EXAMPLE 1:



EXAMPLE 2:



Note:
(A) Parents' background variables
(B) Parent-child interactions
(C) Childhood socialization
(D) Educational outcomes

passed to kids, not knowledge which I have put in stage (C) in this example. On the other hand, norms and values can be considered forms of knowledge. If one focuses on the fact that values and norms are forms of social knowledge which it is very advantageous for individuals to acquire, the distinctions among human, social, and cultural capital can be viewed as comparatively minor, leading us back to the simple causal diagram in Figure 2. The choices we make about how best to categorize these related phenomena are likely to have important theoretical consequences.

Kinds of variables

Education creates, transmits, reproduces, and modifies each type of capital. This means that depending on the particular circumstance, education can be an independent, mediating, or moderating variable. And, indeed, in Coleman's (1988) famous article on how social capital fosters human capital, education is the dependent variable. It is, in short, hard to think of many variables in the field of education and social stratification that *cannot* be reconceptualized as a form of "capital." The main exception, and it is an important one, are biological characteristics, such as age and sex. These strongly influence social stratification, but they are not forms of capital because they cannot be increased by investment. Societies can change the value they ascribe to such biologically determined attributes, but the attributes themselves cannot be altered by education or other capital investment. Ascriptive characteristics aside, most variables in social stratification research can easily be relabeled "capital." To some extent, therefore, labeling the variables in one's research "capital" may be becoming merely an academic fashion. The best analysis of such fashions in academe is Besnard's (1988) work on "anomie," a term which, for a couple of decades, appeared in the titles of an almost unbelievably wide range of research reports before quickly fading from the picture. Something similar may happen to capital, especially social capital, which one can find discussed in news magazines and which some think of as sociology's unique contribution to social and economic policy making (Woolcock, 1997). I do not think that "capitalist" analyses are mere repackaging of old variables, but a main current in theory in the sociology of education is reconceptualizing most variables as forms of capital. At this stage it is impossible to judge with certainty how much of the change is a fad and how much a substantive reconceptualization.

Economic substructure

Economic capital is fundamental, but it is perhaps least often a *direct* educational influence (apart from tuition at private schools and the like). Often, in order to be effective for educational outcomes, economic capital has to be mobilized in one of the other forms. Most theorists of whatever persuasion agree about the primacy of economic capital, even when some think that it cannot be activated, as it were, without being passed through social and cultural filters. In short, social and cultural capital are mediating variables that link the economic advantages of one generation to those of the next.

Relations among capitals

Social capital, as expounded by Coleman (1988) assumes the validity of the human capital approach. If we compare Figures 4 and 5 below, we can see that social capital

Basic Assumptions of "Capital" Analyses

Figure 4
Human Capital's Basic Assumptions (e.g., Becker)

Figure 5
Social Capital's Basic Assumptions (e.g., Coleman)

Figure 6
Cultural Capital's Basic Assumptions (e.g., Bourdieu or Collins)

Table 1
Definitions/Examples at Micro, Macro, and Meso Levels

	Individual Level Micro	Societal Level Macro	Group Level Meso
SC	networks	trust/tolerance	ethnic differences
HC	skills	knowledge	subcultures
CC	prestige/credentials	national status	status groups
EC	individual income	national income	group income rank

Abbreviations:
CC = Cultual Capital
EC = Economic Captial
HC = Human Capital
SC = Social Capital

analyses may do little more than add an antecedent variable (social capital) to the basic human capital model.

Cultural capital analyses, by contrast, assume the fundamental *incorrectness* of human capital theory. Indeed, both Bourdieu (1977) and Collins (1979) created their theories of cultural capital as alternative explanations challenging human capital approaches. An important difference between them is that Bourdieu puts more emphasis on how education *reproduces* and legitimates cultural capital learned in the family, while Collins stresses how education *produces* cultural capital, particularly prestigious credentials (see Figure 6). This is a comparatively small difference of emphasis but Bourdieu stresses that "the scholastic yield from educational action depends on the cultural capital previously invested by the family" (1997, p. 48), while Collins (1979) gives a bigger role to universities in independently producing cultural capital.

Capital exchange

One form of resources or capital can be exchanged for others, but with varying exchange rates at different times and in different social circumstances. Rates and rules of exchange largely remain to be studied empirically. And, because they are in the same causal system, the various types of capital are often poorly distinguished. For example, spending time with one's children is creating social capital, but spending that time taking them to museums would result in creating cultural capital. To take another example, regular trips to the club to work out on exercise machines can be an investment in human, social or cultural capital, depending upon the circumstances. For an athlete whose living depends upon being fit, working out is an investment in human capital. But if one goes to the club to interact with others one is investing time to maintain social capital networks. Finally, if one wishes to be trim and fit so as to look "distinguished," to get rid of a "working-class" beer belly, one's workout is best thought of as an attempt to invest in cultural capital.

In addition to the fact that it can be difficult to differentiate forms of capital, individuals (and groups) almost always attempt to convert one form of capital into another. And in the not so long run, individuals (and groups) with considerable amounts of one kind of capital usually meet with success in the exchange process that almost instinctively leads people to seek a "balanced portfolio." Bourdieu (1977) particularly stresses this interchangeability. And it is not hard to think of examples: the daughter of an old aristocratic, but impoverished, family marrying the son of a nouveau riche manufacturer; or first generation upper-middle-class parents expending a large percentage of their newly increased income to send their children to elite private schools. The pressure to convert economic into cultural resources seems particularly irresistible when it comes to choosing institutions of higher education.

The four types of capital (and within each type, the subtypes) are empirically distinct, but in modern societies they tend to be highly if not completely interchangeable resources. This condition might lead one to conclude that there are no meaningful differences among them, but this is not so. For example, because you can sell your jewelry to buy mutual funds which in turn you can sell to pay your daughter's tuition, it does not follow that jewelry, mutual funds, and tuition are the same thing. To take another illustration, parents' values (cultural capital) might lead them to arrange music lessons for their children, but unless they expended some social capital (time interacting) they might not be able to encourage their children to practice, and, one must not forget, music lessons cost money (economic capital) as well as time. Some music students derive hu-

Causal Diagrams Comparing Relations among Types of Capital at the Macro and Micro Levels of Analysis

Figure 7
Macro Relations among Types of Capital

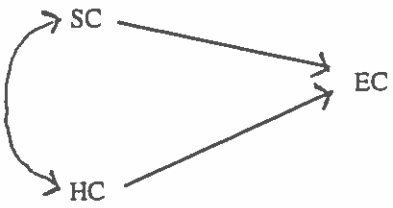
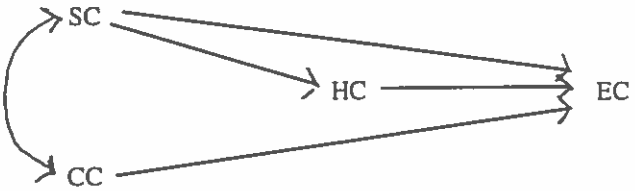


Figure 8
Micro Relations among Types of Capital (and Meso)



Note: Both Figures 7 & 8 ignore possible paths of causation running from economic capital to the other forms.

Abbreviations:
CC = Cultural Capital
EC = Economic Capital
HC = Human Capital
SC = Social Capital

man capital (saleable skills) from their lessons, though clearly most do not. The main kind of capital acquired by most music students is cultural capital. This could arise from the prestige of being a person who knows how to play (and perhaps from having had parents who valued music enough to pay for lessons). When one considers that music lessons are but one of a multitude of ways parents might pass advantages to their children, the degree of complexity becomes clear.

None of this discussion is meant to imply that people are motivated only by the desire to invest successfully. Much human activity can be done for its own sake; one can study music for the enjoyment it brings. It is harder, but not impossible, to imagine working out on exercise machines for its own sake. (See *Rational choice and markets*, below.) The fact that the same activity may be seen as a form of enjoyment (or consumption) *as well as* one of three different types of capital investment makes raises many problems for both theoretical and empirical research. For example, this complexity causes exceptionally difficult mea surement problems (see the section below). Many of th problems arise because of the high degree of multicollinerity that emerges in any reasonably complete causal model try ing to chart the relations among human, cultural, and so cial capital.

Another aspect of capital exchange and transmissio is that it always takes time. Economic capital can often b exchanged or acquired very quickly. By contrast, human social, and cultural capital are much more likely to requir substantial time for successful accumulation or transmis sion; "like the acquisition of a muscular physique or suntan" (Bourdieu, 1997, p. 48) they require sustained ef fort.

Micro and macro

Human, cultural, and social capital can be used i analyses at both the micro and macro levels -- as can ecc nomic capital, of course. Fuller theoretical analyses of th varieties of educational capital might provide importar

clues for ways to bridge the micro-macro analytic gap. Since cultural capital focuses mainly group differences within a society, it tends to be undeveloped at the macro level of analysis. It is in fact mostly a meso-level phenomenon. This lack of development shows up in Figure 7 in which I could not determine where to put cultural capital in a causal diagram depicting relations at the macro level. By contrast, Figure 8 is more elaborate. This is a reflection of the fact that much more work has been done at the micro level in all three traditions of analysis in education and social stratification. Social capital as a meso-level phenomenon can use the same model as the individual-level variables depicted in Figure 8 (see also Table 1).

Rational choice and markets

Regardless of their differences, all three forms of capital analysis assume that individual rational choice is the main mechanism of social action. Sometimes the assumptions are more intricate ones than those of the basic neoclassical (and Marxian) economics model. But, the pattern of argument in the three is similar to an almost eerie degree. Everything is the same; only the variable names have been changed. In fact, it might be more accurate to think of human, cultural, and social capital as one paradigm, not three. All three are strongly based on forms of the rational choice paradigm. The main exception is found in Bourdieu's work. He stresses that the process of acquiring cultural capital in the home is largely through not-fully-conscious processes of socialization (cf also Basil Bernstein's work).

All three approaches assume and use a market model for explaining human action. But Bourdieu and Collins see market competition not as the model for all other kinds, but rather a mere "particular case" (Bourdieu, 1997, p. 47) of a pervasive social phenomenon. But the market model like the broader social conflict and social exchange models, are, by themselves, of remarkably little help in predicting how people will behave in the face of an indefinitely large range of choices about which capital to expend in an effort to increase other forms of capital. The market metaphor is much better at post facto explanations, of course. Perhaps the market model suffers by its tendency to sweep all other explanations before it. (Think of the foolishly widespread use of the word "customer" to describe manifestly non-market and non-profit social interactions.) In sum, it may be theoretically productive to find ways to put social and cultural explanations back into the study of social and cultural capital. The almost exclusive use of models of *individual* rational choice to explain social phenomena is currently a major weakness in capital analyses.

Political implications

All three theoretical approaches to discussing social stratification are open to political critique. Human capital theory is politically controversial, largely because it is taken to imply that economic inequality stemming from education is justified, mainly on grounds of economic efficiency. This is a view that the proponents of cultural capital challenge. Human capital theorists tend to be on the political Right; cultural capital researchers are much more likely to be on the political Left; social capital is still contested terrain (see Stanton-Salazar, 1996).

These political differences are symbolized by differences in the overall "tones" of the three theoretical approaches; their "moods" are closely related to the political meanings of their proponents. There is something awfully "upbeat,"almost *jolly*, about human capital assumptions about education, progress, and meritocracy. By contrast cultural capitalists seem bitterly *cynical* about human motives and the fairness of social rules. Social capitalists, are mainly *anxious* about what they perceive as a decline in social capital and the quality of life in modern society (e.g., Bellah et al., 1996).

These political divisions, and accompanying rhetorical tones, are largely the product of historical accident. There is nothing inherent in any of the three research paradigms that necessarily or logically puts it in one ideological camp or another. Advancing our understanding of the three and especially our ability to use them more productively in research may require shaking off the ideological baggage of both Milton Friedman and Pierre Bourdieu and looking more closely at the theoretical substance of the concepts. To be sure, in current discourse on education and social stratification, selecting an analytical approach usually also means "voting" for a political position. People with different political views are attracted to the approaches (social or cultural capital) by this voting effect. And this selective attraction, in turn, reinforces the association. But, to repeat, the analytical approaches have no *inherent* political meaning and can be used by flexible researchers to gather and interpret evidence that promotes one agenda as easily as another.

Despite the tendency for the three types of analysis to have political associations, it is possible to find numerous counter examples. Kalmijn and Kraaykamp (1996) use a cultural capital explanation to account for the growing educational equality between blacks and whites in the U.S. in the 20th century. Cultural capital is "supposed to be" a critical and left-wing type of analysis that unmasks the continuing sources of inequality and dominance. But Kalmijn and Kraaykamp use an interpretation of cultural capital to talk about egalitarian trends, and they do so in a way that some of my doctoral students have found offensively conservative. Human capital is supposed to be the property of the political right, but virtually all economists, from neo-Marxists to neo-classicists readily adopt human capital models. The main difference between, for example, Robert Reich and Gary Becker is not whether they think human capital investment is wise social policy. They both think it is essential. They disagree not about human capital but about how much of the investing ought to be done by the public versus the private sector. Finally, while students of social capital often bemoan the decline of traditional values and are thus often found on the political right, some of the most innovative studies of social capital have been conducted by scholars from the other end of the political spectrum. Epidemiology provides the most interesting recent example.

Several researchers have found that social capital influences life expectancy. Wilkinson's (1996) analyses of income and health data have led him to conclude that income equality fosters social capital which, in turn, promotes longevity. In developed countries the social fabric is weakened by too much income inequality; conversely, "it is not the richest countries which have the best health, but the most egalitarian" (p. 3). The basic argument, supported by comparisons among nations and among states in the United States, is that income inequality reduces social capital, which reduces the psychological health of the population, which in turn reduces its physical health. Thus the supposedly conservative study of social capital leads to a recommendation for a more egalitarian income redistribution.

I have provided several examples that do not fit the expected political pattern to make the point that no political values are entailed by the study of one or another form of capital. It is crucial to make this point because only in that way can we liberate capital investigations from ideologues. The association of kinds of analysis with political camps, in this case at least, tends to lower the chances of their reaching their full potential.

Capitals as ideologies

Related to the political tendencies of the scholars who employ arguments drawn from the various research traditions are the uses to which the arguments are put in broader discourse about politics and education. Human capital arguments can be, and often are, used to good effect by liberals to seek financial support for education, since education is conceived as an "investment." Related to this is the fact that while human capital theory is a viable social science theory, it is also an ideology deeply rooted in U.S. society. By comparison social capital arguments are more often used to explain why the education system is *not* doing well. The schools might not be doing well because the community in which the school operates has insufficient social capital (Coleman, 1988; Putnam, 1995a, 1995b). That lack of social capital means that the schools can evade their responsibility to teach common social values, civics lessons, and morality. While human capital and social capital resonate with current ideological needs in U.S. society, this is much less true of cultural capital. Cultural capital, when it has any place in the ideological landscape, tends to be an ideology of university intellectuals. People using cultural capital arguments virtually always focus on *differences* in the returns to investment in education of individuals and groups. These studies usually put particular emphasis how the same investment (money and years of schooling) can have widely varying consequences depending on the cultural capital of the people doing the investing. This focus is not something with which the general public is comfortable. The general public appears happier with explanations for inequality that use human capital (the poor are poorly skilled) or social capital (the poor have poor values or work ethics).

Operationalizing Cultural and Social Capital

Operational definitions, indicator variables, and proxy variables abound for human, cultural, and social capital, but they tend to be inadequate because they are narrow and, in many instances, quite circular. Human capitalists are very likely to *assume* that a person who makes more money must have more skills (since the market in all its rationality only rewards things of value). Hence they assume what they ought to be demonstrating. This tendency to assume what one wants to prove seems particularly blatant among economists, but in so saying I may simply be revealing my bias as a sociologist.

Another difficulty in operationalizing the various capitals is that the same social phenomenon can be claimed by more than one. A good example, I think, is networks, which can be claimed by both social and cultural capital theories. There is no "correct" attribution of ownership. Networks are part of the social world that each studies. But it is important to distinguish between, for example, networks and prestige. It is important to keep them distinct despite the fact that each can influence the other: being in the "right" network raises one's prestige; the higher one's prestige the easier it is to gain access to the "right" network. But the prestige that allows access or that one gains by access (cultural capital) can perhaps be analytically and empirically distinct from the networks themselves and the social values to which they might give rise (social capital).

Complications mount when we add a "meso" level, which would pertain to capital possessed by groups (ethnic, cultural, class, racial, occupational, etc.), not individuals (micro) or whole societies (macro). A major problem with adding a meso level, which we must do for a full analysis of cultural capital, is that doing so often involves taking groups defined by their possession of a particular sort of capital and then talking about the sorts of capital they have. This works if we do not conflate definitional measures and ownership measures -- or in other terms, if we do not confuse our measurement model with our causal model. The only way I can think to do that is by looking only at the ownership of the type of capital *not* used for definition. For example, one could study the social and cultural capital of groups defined by their economic characteristics (e.g., class). Or one could examine the economic and social capital of groups defined by their culture (e.g., Hispanics). This is an artificial separation, but anything else violates all rules of logic. As with a series of dummy variables, there must be an excluded category in meso-level studies of the three capitals.

The reason we cannot draw the equivalent of figures 7 and 8 at the meso level is this confounding problem. The meso-level groups are usually defined by one of the capitals. This is not true, however, of groups one could with good reason wish to study. The main class of such groups would be those defined solely by birth. Sex and age are the only two clear examples. Some might add race to this list,

but doing so would be dubious at best since there is no credible evidence that biological (as opposed to cultural) races exist.

Measurement Issues

Different aspects of cultural and social capital are more or less easy to measure, of course. But, in principle, we ought to be able to measure many kinds using the two following measures of levels of access and ways of comparing their outcomes:

Representativeness Index (RI): The proportion of a group in an educational institution or sector divided by that group's proportion of the relevant population. For example, if 5% of the sophomores in U.S. higher education were from group X and 10% of the 19 year olds were members of group X, for group X, *RI* = 5%/10% = .5. If another group, group Y, was 4% of the sophomores and 2% of the 19 year olds, then for group Y, *RI* = 4%/2% = 2.0.

Difference Ratio (DR): One *RI* divided by another. To continue with groups X and Y, *DR* = *RIY/RIX* = 2.0/0.5 = 4.0, which means that group Y is 4 times as likely to place its 19 year olds in the sophomore year as group X. Group X is underrepresented, despite the fact that there are more sophomores in group X than Y.

However useful *RI* and *DR* might be, they are designed for use with categorical variables, but prestige (cultural capital) is a rank order variable. Productive skills (human capital) and network ties (social capital) are often measurable at the interval level.

When we move beyond categorical variables measuring subtypes of capital and especially when we turn to multivariate analyses, measurement problems become almost impossibly intricate. Because any one of the types of capital has many subtypes, an analysis that pays attention to this fact will have to use multiple indicators, but multiple indicators in an ordinary regression model, or an ordinary path model, render the results largely uninterpretable. This is not a mere measurement problem or a case of model misspecification. We are correct when we posit a model in which cultural and social capital have many intercorrelated components. To treat them as though these correlations did not exist in reality, merely because our statistical techniques cannot handle them easily, is the greater error. Most studies use ordinary linear multiple regression techniques and try to avoid the statistical errors by simplifying the reality that is measured. But by avoiding statistical errors, they may often be committing substantive errors. Extreme operationalists might say that it would be better to treat the subtypes as separate things rather than as multiple indicators of a more general thing. An advocate of what we might call the operationalist fallacy might conclude that if one cannot define it so that it can be measured one's definition is too confused to be accurate. The operationalist fallacy is not always fallacious, of course. But I think it is in this case where it is all too tempting, because of the difficulty of the analytical problems, to mistake for reality what we are able to measure.

The two most common ways to solve such problems, and they both help considerably, is to enter highly correlated variables as blocks for the purpose of analysis. The other way to attack the problem of a reality that is too complex for routine statistical analysis is structural equation modeling. Both of these should be used more than they are, especially structural equation modeling (see Wilson & Musick, 1997 for a good example), as it can help with the other big problem which is the fungibility of the variables that together constitute social and cultural capital. This interchangeability also means that the variables cause one another in reciprocal or nonrecursive ways, another statistical headache. Bourdieu's complicated verbiage better represents some of this complexity than most statistical models with which I am familiar. This is not, I believe necessary in principle, but it does largely describe the current state of things in the study of social and cultural capital. Currently we are better at describing social and cultural capital with words than with statistical models.

Conclusion

The concepts cultural and social capital are riddled with problems, but they hold enormous promise in the analysis of education and social stratification. The problems have been discussed sufficiently above. The promise is the possibility of a unified theory of education and social stratification that does not over-simplify the reality it is studying. At a conference where an early version of this paper was presented, I was asked "Why does a unified theory matter? More fundamental still, is it possible?" It matters because anything less probably leads to gross underestimations of the difficulties of achieving greater social equality. A unified theory may not be possible, but it is a scholarly ideal worth trying to approximate. We know enough to know that anything else misrepresents a complex reality. Understanding the complexity of social stratification gives us a better picture of why efforts at social reform so often produce very modest results. Most reform efforts are comparatively simple. They are simple, that is, in comparison to the structure of relations among the four types of capital discussed in the previous pages. The capital analyses surveyed here provide a way to investigate the full range of variation in the kinds of advantages and disadvantages individuals bring with them to, and take away from, the education system.

A rough first draft of a model (obviously not a measurement model) of how the various types of capital are related is sketched in Figure 9 (see also Table 1). In this model, "everything is related to everything else," which, it has been argued in this paper, is the reality in the world of social stratification. Building on that picture of the social world and further specifying the model raises nightmarishly intricate problems of causal and statistical analysis, but these too suggest benefits that may outweigh the difficulties.

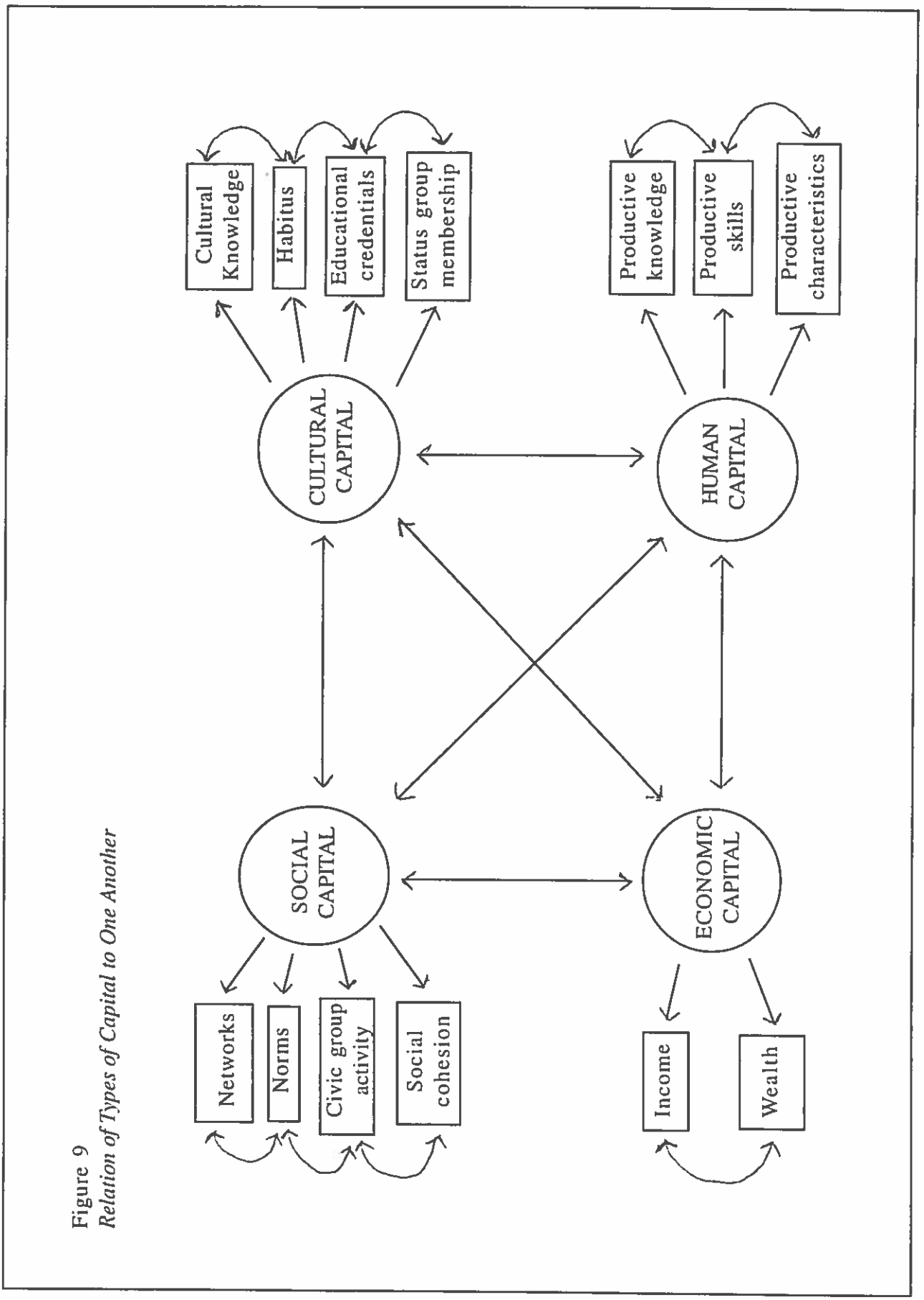


Figure 9
Relation of Types of Capital to One Another

A second kind of promise is held out by the research on capitals. These studies provide an opportunity to link more closely theoretical work and methodological investigations in the sociology of education. The sociology of education has typically been richer in its data than in its theories. The liveliest theoretical debates now occurring in the field center around social and cultural capital and their relations with human and economic capital. Because these debates are rooted partly in methodological problems, they tend to suggest ways to link data and theory to a degree comparatively rare in the sociology of education. Such links might be especially revealing as one turns to the problems involved in studying the relations among the macro, meso, and micro aspects of the relation of education to social stratification. In sum, by broadening our perspectives on the relations of education to inequality, analyses of social and cultural capital open pathways to substantive advances in the sociology of education.

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