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**Two revolutions in educational attainment research over the past 30 years:
their impact on public understanding and social policy**

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<u>Two revolutions in educational attainment research over the past 30 years: their impact on public understanding and social policy</u>.

<u>Executive summary</u>

In the past thirty years, two revolutions have fundamentally transformed the way scholars view the educational attainment process, and, amazingly, the work of scholars has transformed public understanding and social policy.

The first revolution had three components--multivariate analysis, computerization, and large national datasets. These were embodied in the status-attainment model which seeks to identify which antecedent factors best explain outcomes and what intervening factors may mediate these effects.

The second revolution was the development of new institutional and context theories to understand underlying social processes--organizational structures, social capital, social networks, and social context influences. Both revolutions had a large impact on our understanding.

This paper outlines some accomplishments of each model. Focussing on two topics, we examine how our understanding of tracking was transformed by each revolution, and how our understanding of educational influences broadened to include neighborhood effects. I will emphasize the impact of research on public understanding and social policies, both because they are important, and because thinking about concrete actions and processes forces us to consider the real meaning of our findings.

Underlying this review is a recurrent theme: that research can help us to understand the complexities of a rapidly changing educational environment, to see aspects of social reality which are largely invisible, and to see people's capabilities and the ways the social world can extend those capabilities. Social structures are especially pernicious because they are so hard to see and their impact is surreptitious--suppressing capabilities so they cannot even be detected. Good social research enables us to see these influences and to discover better alternatives. As we shall see, structures not only constrain, they also enable, and sometimes they help bring out individuals' capabilities. These results suggest that we can design social structures that will enable individuals to realize their capabilities more fully and to perform beyond the stereotypes which poor social structures have imposed on them.

<u>Two revolutions in educational attainment research over the past 30 years: their impact on public understanding and social policy</u> James E. Rosenbaum, Northwestern University 2/25/02

Although scientific information accumulates continuously, scientific understanding does not evolve, it changes radically, in scientific revolutions (Kuhn, 1962). That is a good metaphor for describing changes in our understanding of educational attainment over the last three decades.

Thirty years ago, research on educational attainment was just beginning to change. Before then, research findings were ungeneralizable, based on flimsy causal reasoning and single variable explanations, in unrepresentative samples of convenience. Since that time, two revolutions have fundamentally transformed the way scholars view the educational attainment process, and, amazingly, the work of scholars has transformed public understanding and social policy.

The first revolution had three components--multivariate analysis, computerization, and large national datasets. These were embodied in the status-attainment model that seeks to identify which antecedent factors best explain outcomes and what intervening factors may mediate these effects.

The second revolution was the development of new institutional and context theories to explain underlying social processes. While the status-attainment model described empirical relationships, the second revolution described the underlying mechanisms-- organizational structures, social capital, social networks, and social context influences. Both revolutions had a large impact on our understanding.

This paper outlines some accomplishments of each model. Focusing on two topics, we examine how our understanding of tracking was transformed by each revolution, and how our understanding of educational influences broadened to include neighborhood effects. I will emphasize the impact of research on public understanding and social policies, both because they are important, and because thinking about concrete actions and processes forces us to consider the real meaning of our findings.

Underlying this review is a recurrent theme: that research can help us to understand the complexities of a rapidly changing educational environment, to see aspects of social reality which are largely invisible, and to see people's capabilities and the ways the social world can extend those capabilities. Social structures are especially pernicious because they are so hard to see and their impact is surreptitious--suppressing capabilities so they cannot even be detected. Good social research enables us to see these influences and to discover better alternatives. As we shall see, structures not only constrain, they also enable, and sometimes they help bring out individuals' capabilities. These results suggest that we can design social structures that will enable individuals to realize their capabilities more fully and to perform beyond the stereotypes that poor social structures have imposed on them.

Any review of 30 years of research in a highly active field will inevitably miss a great deal. It is impossible and unnecessary to repeat the results

summarized in many major essays written each year in annual review volumes, and quite recently in the excellent new Handbook of Sociology of Education (Hallinan, 2000). Instead, I try to distill out a few essential concepts and lessons. I will show how sociological research has changed the way scholars think about social processes in our society. Ultimately, our ways of thinking about problems may have more enduring influence than specific findings, and it is quite remarkable that the activities of academic scholars in a small academic field have changed the way the public and policymakers understand the world and policy issues.

1. The first revolution -- the status-attainment model
Since 1960, the study of educational attainment has experienced a vast improvement in methodology, data, models, and statistics. There are three components of this revolution.
The status-attainment model was the first component. Although multivariate analysis took many forms, probably the most common version during the 1960s and 1970s was the status-attainment model, which proposed a systematic way of analyzing the multiple influences on educational and occupational attainment, comparing relative influences and comparing mediating processes (Blau and Duncan, 1967; Sewell and Hauser, 1971).
Computer technology was the second component. The study of large survey data and complex multivariate analyses only became practical after the advent of computers and statistical software.   Analysis went from simple table analyses to multivariate statistical non-linear analyses, and computing power moved from calculators and card-sort machines, to room-size mainframe computers, to desktops and even laptops. Contrary to the 1960s worries about computers giving a monopoly over knowledge to large corporations and federal governments who could own expensive mainframe computers, today anyone with a $500 PC can do research on public datasets involving tens of thousands of cases.
The third component of this revolution was national datasets. After the Coleman report, the nation realized the value of national studies. The U.S. Dept. of Education conducted national cross-sectional surveys (like NAEP), national longitudinal studies of high school students, college students, and college graduates, which became widely available. National samples are extremely expensive, and the persistence and expense of following a sample over 12 years is beyond the capabilities of most researchers. No other nation has such extensive nationally representative longitudinal data for discovering the outcomes of its youth. Given the highly decentralized educational system in this country, and the lack of any formal system for assisting career entry, this information is of crucial importance for understanding how young people's careers unfold. The nation has learned a great deal from these studies.
The status-attainment model, national data sets, and computer technology permitted the study of educational attainment to use multivariate analyses to develop, test, extend a systematic model. In contrast with the multitude of conflicting findings of small studies which seemed impossible to

reconcile in a cumulative model (Jencks, et al., 1972), this approach provided a systematic way of analyzing influences and mediating factors on educational attainment. For simplicity, I will speak of this change in terms of the "status-attainment research," however, that is an oversimplification, and much of the changes in data, computerization, statistical modeling went well beyond the status-attainment model.

These changes were a vast improvement over prior work.   In the 1960s, Talcott Parsons could make assertions about the functional operations of schools with no discernable evidence. Norms and functional "needs" were the only basis for some of his descriptions of reality, as if reality always rationally responded to the needs he assumed. Dedicated to theory, Parsons was reported to have said, "never let data spoil a good theory."

Others were strongly grounded in empirical observations. Warner and Lunt (1941) and Hollingshead (1949) provided rich insightful descriptions of the ways that schools and teachers responded to social class differences. They described status conscious behaviors, discriminatory rules, and inequities in resources, but they could not test competing explanations, or examine variations across a wide variety of schools.

National data and a systematic way of analyzing them allowed us to see educational attainment in the entire nation. National datasets permit us to see education in the nation as a whole, not just how localities operate. Race, gender, SES biases could be seen across the nation. Although each local school was governed separately, most operated in similar ways, and, taken as a whole, they could be described by a common process. National datasets and the status-attainment model helped us see the systematic operation for the nation as a whole.

While Blau and Duncan's (1967) study of intergenerational mobility and Sewell and Hauser's (1971) focus on the social psychological mediating processes were addressed to scholars, the Coleman Report (Coleman et al. 1966) brought the first revolution into the mass media and policy discussions. Funded by the federal government, with an obligation to report back to the President, the Coleman report is based on the largest survey of students ever done at that time. Among its many findings, the Coleman report showed that racial segregation was not confined to the South; that the academic achievement was lower for minorities and low SES students; and that the physical resources of schools did not explain most of these differences in achievement.

National datasets and status-attainment research vastly improved the inferential process. It made major contributions. I will list five kinds of contributions.

1a. Relative influence of various factors

The status-attainment model focused on the relative influence of various background conditions. To what extent is educational attainment determined by social class, ethnicity, and gender, and to what extent is it meritocratic? American society claimed to offer open opportunity so that individuals could

rise based on their merits, and not be held back by social background. Many small studies had raised doubts about these claims, but the small size of samples and the lack of multivariate analysis prevented systematic consideration.

The status-attainment model provided a way to look systematically at the operation of the educational attainment process in the entire nation and to assess the relative influence of factors that are important both conceptually and normatively. It showed strong influences of social background on educational attainment, and much of the effect of social background was independent of ability, and suggested social class bias. The process was clearly more strongly influenced by social background, ethnicity and gender than most Americans would have liked. However, the process was also strongly influenced by meritocratic factors such as school achievement, and this influence was larger than some small-scale sociological studies had suggested (Sewell and Shah, 1967).

Besides the influences on specific outcomes, the status-attainment model provided a way to operationalize some concepts. The status-attainment model increased our understanding of the concepts of "life chances" and "opportunity." "Life chances" refers to predictable outcomes from life circumstances, and the status-attainment model specifies the circumstances and the probabilities associated with various outcomes. "Opportunity" could best be conceptualized in terms of analyses like the status-attainment model. Opportunity is rarely evident in the present; usually it is inferred retrospectively. The status-attainment model is an especially good way to "see" the opportunity associated with particular conditions.

Race effects were also studied. Wilson's (1978, p. 168) conclusions about the declining significance of race came in part from comparing status-attainment models in 1973 (Featherman and Hauser, 1978) with the counterpart survey from the early 1960s (Blau and Duncan, 1967).

1b. Mediation

The status-attainment model provided a way to measure mediation. The status-attainment model could test Hollingshead's assertion that social background effects on educational attainment are mediated by teachers and students attitudes. A wide variety of measures were studied, and quantitative relationships could be established.

The mediating influence of school composition could also be examined. There had been conjectures about the influence of school composition prior to 1960, but the importance of the "racial composition of schools" for outcomes in a large, representative sample the nation's schools was first seen in the Coleman Report (1966), and only became generally recognized by policymakers at that time.

The concept of "peer culture" became clarified from sociological research. Peer culture was discussed before sociology, but sociologists showed its oppositional character.   In contrast with functional theory, which suggested the ways that peer groups socialized young people to fit into society,

Coleman (1960) showed that the peer group is separate from, and sometimes opposed to, adult society norms. Indeed, in contrast with the undifferentiated notion of peer group, Coleman showed the existence of different peer groups, which took different stances toward adult society.

1c.Interaction Effects

Status-attainment research also looked at interaction effects -- the ways the model worked differently for different groups of people. One of the most important from a policy perspective is the different effects by race. Research showed that blacks not only suffered an additive disadvantage, but they got less benefits for their achievements than whites did for the same level of achievement (Porter, 1974). If blacks get less payoff for the same level of achievement as whites, the problem is not in black deficiencies, but in the larger context. This is a clear procedure for examining equal treatment.

1d.The timing of the onset of problems.

Problems become obvious after they get serious, however by then they are often more difficult to address. For example, some parents only become concerned about their children's school achievement in high school, as they consider college, but by this point achievement deficiencies have been a long time in the making and are hard to reverse. Achievement problems appear in the early years of school, and they increase over time, so that it is much harder to remedy these problems in high school (Entwistle, Alexander, and Olson, 1997; Farkas,1996). Status-attainment research has helped to locate the timing of achievement differences.

1e.Errors in common sense.

Our common sense understandings are often based on unrepresentative samples and unsystematic observations. Large-scale data and systematic ways of analyzing them provide a basis for evaluating the generalizability of common sense perceptions.

Nowhere are the contradictions to perception more striking than in the study of gender. While small scale studies in classrooms raise concerns about teacher discrimination against girls (Sadker and Sadker, 1994), large studies consistently show that girls have higher educational attainment than boys (Baker and Velez, 1996). Indeed, research has indicated dramatic historical reversals. While females were less likely than males to attend college in the 1960s, forty years later the situation was reversed-- females were more likely to attend and graduate from college than males. Between 1960 and 1997, while male high school graduates experienced a substantial gain in college enrollment [from 54.0% to 63.5%], females experienced a much larger gain (37.9% to 70.3%, Digest of Educational Statistics, 2000, Table 185). By 1997, nearly one million females enrolled in college (995,000), but only 860,000 males did. In addition, the female advantage may even be even greater for degree attainment. Females are much more likely to have a bachelor's degree than males (33.6 percent versus 26.8 percent, among young

adults age 25 to 29 in 1999, Digest 2000, Table 9). Females have experienced enormous gains in educational attainment.   While policy should examine the female disadvantages raised by small studies, we should not ignore the larger picture.

2. The second revolution

The second revolution came from institutional and community context theories and new forms of research to understand underlying processes and mechanisms. Unlike the older studies of institutional and community effects, this new research responds to the findings of the status-attainment model and to issues about validity, generalizability, and problems of causal inference. But unlike the status-attainment research, it focuses on institutions, social networks, and social context, levels of analysis which are better grounded in institutional and community contexts. An institutional approach also has more practical implications, suggesting policy approaches that can alter phenomena by changing institutional practices or providing new forms of social contacts. The research summarized below provides radically new ways of looking at the educational attainment process.

The status-attainment model is not very good at examining process. Even when status-attainment research found strong statistical relationships between antecedent conditions, mediating factors, and outcomes, it had difficulty identifying the process.   Therefore, when status-attainment research finds that teacher behaviors or tracking mediate the SES effect on educational attainment, it cannot explain why or how they have these effects. The status-attainment model sometimes lost awareness of the actual institutions (schools and employing organizations) or of the procedures and mechanisms by which they work.

The status-attainment model also made oversimple assumptions about causality and causal mechanisms. Path diagrams, with arrows between variables, took on the appearance of force vectors in physics and seemed to imply that social influences worked by pushing and pulling social actors like magnets. The status-attainment model assumed a simple causal influence of parent and peer pressures. If the Achilles heel of older research was a lack of generalizability and poor causal inferences, the Achilles heel of the status-attainment model is excess generalizability, abstraction, and oversimple causal inferences.

The second revolution came from new institutional and community context theories which indicate that "social forces" are an oversimple way of looking at social processes. Institutional structures, social networks, and communities influence social action by providing information, access, trust, and obligation, not merely by social forces. These institutional and community context theories indicate the effects of qualitative distinctions (not just quantitative amounts), the effects of structural barriers within organizations, and the effects of social capital, social networks, and other enabling processes.

While the status-attainment model focused on peer, parent, and schoolwide influences, structural theories noted the internal structure of

schools, and the way it defined opportunities, access, and information. The effects of SES are "mediated much more by people's access to information about the educational system and by their overall perceptions of discrimination... [Ethnic minorities and low SES whites] find themselves similarly dependent on the educational system for resources that are not attainable elsewhere" (Stanton-Salazar and Dornbusch, 1995, p.118). Rather than focus on simple social influences and "cheerleading," this model looks at the social context and individuals' access to "tangible institutional resources and opportunities and... relationships with institutional agents " (Ibid., p. 116). The second revolution, and structural and social capital theories in particular, noted the ways that social environment constrains or enables individual capability.

Although the status-attainment model came to represent the way research on educational attainment should be done in the 1970s, and it made qualitative research seem unnecessary and anachronistic, sociologists increasingly realized that qualitative approaches are necessary for understanding variables, qualitative distinctions in variables, the processes by which variables are related, and contextual influences.

2a. Understand variables

The status-attainment model permits us to analyze the relationships among variables, but it assumes that we understand our variables and that respondents understand our questions. That is not always the case.

Educational plans are important in the status-attainment model, but the model assumes that a student's stated educational plan is a relatively durable disposition of students. This presumes that students who say they are planning to attend college understand their plans. Unfortunately, high school seniors often do not understand what college means, what college requires, and what alternatives exist (Rosenbaum, 2001; Schneider and Stevenson, 1999). This is like asking someone if they want a BMW, without telling them the price or telling them about alternatives. If a person states college plans because it is socially acceptable, because it looks like fun on TV sitcoms, because open admissions means that there are no requirements, or because they see no other alternative, then college plans do not mean very much. Their plans could quickly change when new information is provided about college requirements or the earnings benefits of attractive alternatives like apprenticeships.

Similarly, the model assumes that we know what test scores mean. Tests predict educational attainment, but we are not always sure what test scores mean. Tests may indicate intelligence or achievement, but they may also indicate other personal qualities (Jencks, et al., 1979). To do well on tests, one must have motivation-- one must prepare for tests and persist in exerting effort during the test. If test scores partially reflect motivation, which may be influenced by social norms (Fordham and Ogbu, 1986) and perceived incentives, then high test scores indicate motivation, social norms, and perceptions, not just high IQ (DeLuca and Rosenbaum, 2001). Motivation is

unlikely to be genetically determined or to be a stable attribute of individuals overtime or across different situations. Increasing incentives may have a big impact on an individual's motivation and on test performance. Consequently, even though test scores may be good predictors of success in college, their effects may be due to the underlying motivation, not due to IQ. Moreover, test scores may not be the best way to measure the qualities we care about. High school grades may be as good or better as a predictor of college performance, and introduce less racial bias than test scores (Jencks, et al . 1972).

2b. Qualitative distinctions in a rank-order scale.
       Rather than considering the amount of achievement or attainment, qualitative differences are sometimes important. The status-attainment model was initially posed to explain correlations between various rank-ordered scales. While a ranked scale has some desirable properties for statistical analysis, it has some serious disadvantages for practical purposes.
       In the policy realm, studies that use normative achievement tests as the outcome to be explained run into the Lake Wobegon problem. In Garrison Keillor's words, its presumed goal is to have "all of our children be above average."   This logical impossibility has not always been apparent to policymakers. The state of Michigan created an accountability scheme that initially tried to penalize schools that were below average (Cohen and Murphy, 1974), and other states have imitated the State of Michigan's quixotic efforts to defy logic. The answer of course is criterion referenced tests, which demand that educators specify exactly what skills and what level of skills they want students to know. It may be hard to get all students to meet the standards, but it's a lot easier than getting all students to be in the upper half of the class.
       While status-attainment research focused on which groups were overrepresented in the bottom half of academic skills, Jencks et al. (1972) questioned whether we merely want to randomize this outcome, or whether we care about absolute levels of competence. Murnane and Levy (1996) considered not only average test scores, but also whether high school graduates had sufficient skills to handle the demands of the current workforce. Discerning a skills mismatch is not easy. Berg (1971) and Freeman (1971) noted that young people had more skills than the labor market could absorb in the early 1970s, but that condition quickly turned into a skills shortage in subsequent decades. It is difficult to assess "skill requirements," and the results may be transitory, but such assessment is of great importance.
       Similarly, educational attainment was measured on a rank order scale, which ignored qualitative differences. It is not surprising that some researchers found what they called "non linearities" -- students who got 12 or 16 years of education got significantly better earnings and occupations than students with just one year less education. In addition, bachelor's degrees from high status colleges have stronger benefits than the same degree from other colleges (Karabel and Astin, 1975), and well-connected "old boy network" colleges have more benefits than others (Rosenbaum, 1984). In addition, different majors have different effects: a degree in computers and other technical majors leads

to bigger earning benefits than the same degree in other majors (Grubb, 1996). Most puzzling to the model, many students with liberal arts bachelor's degrees are returning to low-status community colleges to obtain associates degrees in technical fields (Adelman, 1999). The linear "years of education" variable that has been used in nearly all research cannot explain these phenomena.

Problems also arise for sociologists' scale of occupational status, the SES scale. Because it is a rank ordered scale from 0 to 100, it says nothing about the magnitude of the difference between two positions. Nor does it consider qualitative differences in the meaning of 10 points declines at the top or the bottom of the scale. Declining 10 points in the upper quarter of the scale may be associated with exclusion from a country club -- a hurtful, but not fatal blow. The same 10-point decline in the bottom quartile may be associated with a lack of bank credit, homelessness, and harm to health and life itself. In an era of increased earnings inequality and homelessness, this scale ignores these problems.

Occupational status is also based on our society's values. Compared to some other societies, like Germany and Japan, American society under-appreciates jobs where people get their hands dirty, ranking them lower than other societies. Yet our society has acute unmet needs for mechanics, technicians, and engineers. These occupations offer very good pay, good job security, autonomy, responsibility, and good working conditions. While social policy cannot get everyone to be above average in status, it can and should strive to improve access to skilled jobs that offer economic self-sufficiency, particularly since these jobs are in high demand.

Moving beyond the rank-order status scale, some researchers have examined a qualitative outcome-- whether students got skilled or unskilled jobs. Vocational education greatly improves access to skilled jobs, even though it does not raise students' occupational status on the rank order scale (because the scale devalues manual work; Shavit and Muller, 1998; Arum and Hout, 1998). Vocational education provides access to skilled jobs which offer strong job demand, high pay, and generally high-paying benefits. These jobs offer greater assurance that one can be self-sufficient, a distinction not reflected in the SEI scale. School is not just about advancement in rank order; it is about inclusion into society, so increases in a status scale may be less important than increased chances of holding a skilled job.

2c. Understanding social processes: How does social class influence outcomes?

How does SES influence teacher behaviors and educational attainment? The status-attainment model shows the magnitude of potential effects and mediating variables, but not the mechanism. Does the status or income of parents effect children's achievement? Hollingshead (1949) raised an image of status-conscious teachers judging children by their parents' occupational status, favoring the children of high status professionals, and ignoring workers' children. The status-attainment literature sometimes seemed to assume this interpretation. However, qualitative research suggests other processes.

A qualitative study of a kindergarten classroom found that teachers may increase social and academic inequalities among students by the ways they organize their classrooms and the ways they assess students capabilities (Rist, 1971). According to Rist, SES effects are due to the way the teacher responds to children's cleanliness, dialect, clothing, and ability to sit still on the first day of school. A teacher interprets these attributes to indicate children's school readiness, infering that parents who send their children to school dirty, sleep deprived, and badly dressed will not support children's learning and that it will be hard to teach students whose parents are unsupportive. Rist's teacher is making an inappropriate decision, one that is unfair, discriminatory, and unacceptable. However, the teacher may infer that her efforts are usually ineffective when students come to school sleep-deprived and neglected by parents. This decision is unfair and unacceptable, but it may be rational based on her experience.

Another study indicates that SES affects arise from parents' best impulses to help their children. Middle-class parents get more involved in their children's school work, they go to school and meet with teachers, they are helpful in the classroom, and these interactions create a sense of mutual understanding and responsibility, which makes teachers want to help their children, and which makes their children better prepared at home to respond to teachers' demands (Lareau, 1989). Middle-class parents have an advantage because they have better information and more confidence, and they know they need to take steps and initiative. Unlike the status-attainment model that implies that teachers' help was unfair and came from teachers' status conscious behavior, qualitative studies indicate an underlying mechanism that is not based on arbitrary favoritism. It is unfair that middle-class children get these benefits, but it is not due to some corrupt status conscious favoritism. It arises because middle-class parents actively intervene to find out how their children are doing, and how they can provide assistance to their children. All students should get this kind of help. SES effects could be reduced by teaching all parents how to help their children.

Similarly, qualitative research also provides a better understanding of the influence of high-status schools. While we tend to assume that elite prep schools improve college access due to the school's status, prep schools' advantage also comes from the intensive student assessments, advising, and trustworthy social contacts they provide. Prep schools provide detailed assessments of students' strengths and weaknesses, detailed letters of assessment and recommendation, and candid, dependable evaluations that colleges can trust (Persell and Cookson, 1986). Rather than conferring advantages only through favoritism, elite prep schools do a better job of helping students meet meritocratic standards, a better job of helping students overcome their weaknesses and demonstrate their strengths, and a better job of giving colleges trustworthy information about students. Rather than condemning these schools for giving unfair advantages, as a simple status-attainment model might imply, this research suggests that our goal should be for all students to get the kinds of help these prep schools provide.

SES effects also arise from grades and college expectations. Rather than the status-attainment model assumption that high school grades and college expectations directly lead to better outcomes, some research suggests that good grades "heighten chances for the development of supportive and instrumental relations with nonfamilial [especially school] institutional agents" (Stanton-Salazar and Dornbusch, 1995, p. 130). Effort, grades, and plans not only lead to higher outcomes directly; they are also signals to school staff about which students show a readiness to use information and contacts. Unlike the status-attainment model, which implies that social class determines effort, grades, and plans via family disadvantages, the social contacts suggests other processes that can reduce social class effects. Although schools often do not provide clear incentives to students who do not plan to attend selective colleges, teachers can provide job contacts which give students strong incentives to exert effort in classes, which can lead to increased teachers' assistance, better advice, and better career trajectories (Rosenbaum, 2001).

These results have important implications. Teachers help middle-class students, not because of social deference or privilege, but because they see students' exerting effort, because they know parents care, because they make promises to the parents, because they know the parents will respond and help students to respond to the teachers' assignments. Teachers take these behaviors because of social reciprocity and social obligations, not merely because of social prejudices and preferences.

Of course, we should try to reduce SES influences. But if we condemn status-conscious teachers, no teacher would think this criticism applies to them. Accountability policies may even backfire. If teachers believe their efforts are less effective in raising the achievement of disadvantaged students, then accountability and merit pay reforms that pressure teachers to raise average achievement will aggravate the problem-- they will further concentrate teachers' efforts on students who show ability and willingness to learn. If we want teachers to serve the least prepared students and the students whose parents offer the least support, we must provide conditions that encourage and permit teachers to devote their attention to the most needy students, even if teachers perceive those efforts as less efficient.

We want to get rid of the SES effects, but we don't want to get rid of middle-class parents' school involvement. However, if policy focused on getting low-income parents to show interest in school and to reinforce teachers' assignments, these findings suggest that would have the desired benefits. Policy should focus on teaching parents new behaviors and on reducing the ways that poverty and low education prevent parents from being involved in school (Epstein, 1996).

2d. The effects of allocation structures within organizations: tracking.
The effort to understand the ways institutional mediating processes may contribute to the status-attainment process has led to a large body of research focused on tracking in schools. Indeed, the effort to understand tracking has led to a remarkable set of inquiries, new insights, and policy implications. Over

the past 30 years, a great deal of thinking and research has been devoted to the study of tracking. Some of the towering figures in sociology have studied tracking -- Jencks, Stinchcombe, Hauser, Sewell, Sorensen, Turner, Becker, Cicourel, and Kitsuse. Clearly there's something extremely important about tracking that attracts the top scholars to study it.

While most social selection systems are hard to see, tracking is attractive to researchers because it allows us to see the institutional processes underlying a selection mechanism and the ways it creates stratified outcomes and socialization processes. Tracking is also a mechanism which is susceptible to policy changes, so if we find that it is influential and we understand how it has its influence, we can use it to improve opportunities. I present an extended discussion of tracking research because it illustrates important themes in the development of research over the last 30 years, and because it has had a large impact on public discussion, understanding, and policy initiatives. For other analyses of this topic, see Dreeben (2000), Lucas (1999), and Loveless (1996).

Tracking refers to any practice which creates homogeneous classes stratified on the basis of achievement or career goals. The aim of homogeneity is to allow instruction to address the achievement level (or interests) of students more closely than would be possible if students were highly diverse. After the Coleman report (1966) showed that achievement differences were much greater within schools than between schools, differences within schools became the central issue, and tracking became one of the central factors for explaining within-school differences.

Prior to the sociological study of tracking, educational researchers had viewed tracking as a simple variable representing pedagogical curriculum differences -- schools were either tracked or not tracked. These studies failed to find any consistent effects on achievement. A review of 118 studies concluded that almost equal numbers of studies find significant positive effects as find negative or no effects on achievement. Only for low achieving students were there slightly fewer studies showing positive effects than negative or no effects, but the difference was not large-- 12 studies showed favorable effects and 17 showed unfavorable or no effects, and reviews concluded that the research indicated mixed effects (Jencks, 1972, p. 108). This research on tracking was mostly done by educational psychologists, who ignored the influence of race, SES, or gender, and ignored long-term outcomes.

Sociological influences were inevitable given the history of tracking. Tracking practices were introduced early in the 20th century-- a time when enrollments were dramatically increasing every decade, high schools were enrolling a higher proportion of young people, females were getting greater access to education than in prior decades, large numbers of immigrants were entering the country and the nation's schools, and blacks were migrating into Northern cities (Powell, Farrar and Cohen 1984). Not surprisingly, tracking was often associated with gender, ethnicity, race, and social class background, and the social biases of the era were often reflected in track assignments. Sociologists noticed these social aspects of tracking over fifty years ago

(Warner and Lunt, 1941; Hollingshead, 1949). They inferred that tracking reflected attitudes in the larger society, attitudes which could be seen in other societal institutions as well. However, these early studies viewed tracking as incidental, not an important influence, per se.

Sociological studies of tracking have gone through four different stages, each of which entailed a dramatic change in conceptualization. These were not just modifications in methodology; they were changes in the way we looked at the phenomenon.

First, sociological studies showed that tracking is not merely a pedagogical device with achievement consequences; it also has social implications. It tends to be correlated with race and class and to influence educational attainment (Sexton, 1961; Persell, 1977). In effect, a procedure devised for pedagogical purposes was also having social implications.

Second, tracking was added to the status-attainment model in the 1970s, allowing research to examine the effects of this intra-school practice across many schools. Researchers found that it had an important impact in mediating the influence of ability and social class on educational outcomes. There was considerable concern that tracking may have been a mechanism for increasing social-class background effects on attainment, independent of students' achievement. Although this research came up with mixed findings depending on the data or model specified (Heyns, 1974; Alexander et al., 1978), nearly all studies indicated substantial effects of both background and achievement, and the question of which was larger never cast doubt on the conclusion that both were important.

Third, although the status-attainment model initially viewed tracking only as a simple variable, researchers increasingly became aware of the complexities of this variable and the institutional processes underlying it. Alan Kerckhoff, a scholar who was highly involved in status-attainment research, noted some important shortcomings in the way prior status-attainment research had conceptualized tracking. Instead of interpreting attainment as determined by individuals, Kerckhoff (1976) indicated that allocation structures limit attainments. An allocation model suggests that researchers look at new variables -- variables which indicate the kinds of classification processes and mechanisms which occur within schools. Curriculum tracks, ability groups, and counselors' ratings are examples. This model also suggests that "curriculum" is not only an indicator of the courses students take, it also a social classification and allocation structure which labels students and which channels students' future careers in school. Tracking became a focus for this new approach.

As a social structure in schools that classifies students, tracking also affects their social environment. James Coleman has been criticized for ignoring the social structure of school organizations (Dreeben, 2000, p. 117). For instance, while he explains student outcomes in terms of peer group pressures, Coleman does not ask how schools might influence the creation of peer groups and who is assigned to which group. Stinchcombe (1965) showed that the peer group is stratified, that different strata have different beliefs, and

that these strata and beliefs are influenced by school stratification. Subsequent research has indicated that tracking is influential in the formation of peer groups, and may be responsible for the peer influences that Coleman thought were outside the school (Rosenbaum, 1980s; Gamoran and Berends, 1987).

If tracking is a complex social structure, it may take many different forms, and those different forms may have different outcomes. Instead of seeing tracking as a single entity, Sorenson (1977) suggested that tracking systems can vary along four dimensions: 1.selectivity-- the amount of homogeneity, 2.inclusiveness -- the degree that students are in the same track in different subjects, 3.scope -- the permanence of placements, and 4.electivity --the degree of choice. An early exploration of this model studied a high school that represented the extreme points on Sorenson's typology--lower-track students were separated from others, deprived of choice, homogenized on social prestige and achievement, precluded from college options, and not helped in achievement or employment (Rosenbaum, 1976). This school was in an "extreme position ... in the matrix of possibilities" (p.16) and it illustrated a way of seeing "the dilemmas endemic to selection" (p. 17), the "potential pitfalls of any system involving classification, selection, or allocation"(p. 17), and the extensive achievement and social effects of such a rigid tracking system. While that case study illustrated the risks of tracking, it did not represent a typical track system. It posed a warning about what the worst-case tracking system might look like and what outcomes it might have.

Subsequent research has identified other kinds of track systems at other locations on these dimensions (Hallinan,1994;Rosenbaum, 1980a,1980b). Some allow more cross-track placements, more choice, less homogeneity, and less permanence of placements (Rehberg and Rosenthal, 1978). The effects of tracking depend on the forms it takes and the ways teachers respond and classrooms are organized (Barr and Dreeben, 1977). The findings of these varous case studies explain why previous studies of tracking found such mixed effects-- tracking is not a single unitary phenomenon.

Gamoran (1992) used national survey data to classify high schools on Sorenson's dimensions, and he showed that tracking had different effects depending on what form it took on these dimensions. The dominant finding is that the effects of tracking depend on how tracking is structured.   "Schools with more mobility in their tracking systems produce higher math achievement overall,...smaller gaps between tracks in both math and verbal achievement.... Moderately inclusive systems also have less between-track inequality in math, and [higher] overall school achievement... in both [math and verbal] subjects" (Gamoran 1992,p.812). Tracking systems have better achievement outcomes if they allow more mobility and inclusiveness. This research radically changes the way tracking is conceptualized. Instead of tracking being a single entity, tracking takes many forms, and different forms have different impact.

Fourth, research has suggested factors that affect the form of tracking, and ways various forms might alter its effects. Studies have shown that external legal constraints, school composition, instructional strategies affect the structure of tracking (Metz, 1986; Barr and Dreeben, 1977; DeLany, 1991;

Bidwell and Quiroz, 1991). Cross-national research suggests that track systems with more levels exhibit less inequality when low-level classes have high-stakes outcomes (Ayalon and Gamoran, 2000). Recent research has begun to suggest certain qualitative procedures that could make tracking more effective in helping students. Prior research had already shown that tracking had different effects in different circumstances. When reviews of literature indicated that 12 studies indicated favorable effects of tracking for low achieving students, and 17 did not, the proper conclusion is not that it generally has negative effects, but that tracking sometimes has positive effects, and sometimes does not. Some observers ignored that complexity, and merely looked at the winning number, as if it were a baseball score, in part because this research did not allow analysis of what conditions or types of tracking led to the favorable effects.

Some recent qualitative observations provide some clue about what conditions made tracking beneficial or not. A study of successful lower-track classrooms found that teachers can effectively present high-level material to lower track classes if they do it at a slower pace (Gamoran, 1993). In another high school, tracking was maintained, but upward mobility was encouraged. A combination of special study halls and after-school and summer programs were provided to assist students whose achievement was below honors level to improve their achievement, enter honors classes, and perform at honors level (Rosenbaum, 1999). Such programs demand resources from schools, and they demand effort from students, but they illustrate that tracking can be altered by special programs without debasing the meaning of the honors curriculum. They also indicate that some forms of tracking structure can enable students to achieve at a higher level and to have higher educational attainments.

In sum, sociological research has shifted the intellectual debate on tracking in four ways. First, it showed that tracking is not merely a pedagogical device with achievement consequences, it also has social implications. Second, it added a new variable to the status-attainment model, a possible mediating factor which explained some of the influence of social background on later educational attainment. Third, it showed that tracking was not a single entity, and different forms of tracking have very different effects. Fourth, it showed certain qualitative procedures that could make tracking more effective in helping students, including students in middle and lower tracks. Just as the first revolution put tracking into the status-attainment model as a simple variable, the second revolution conceived of tracking as a complex institutional structure, which had many dimensions of variation, which had very different effects depending on qualitative features.

2e. Detracking

Just as more sophisticated notions of tracking were starting to emerge in research, some reformers had begun taking actions based on prior research. These reformers felt that if tracking was associated with social

background inequalities and with future inequalities of attainment, then these inequalities could be reduced by eliminating tracking.

For activists eager to see research turned into action, the detracking movement is both exciting and unfortunate. It is exciting that many schools across the country implemented detracking. Indeed, Massachusetts and California made state policies to encourage detracking, and the state policies were implemented in many schools (Loveless, 1996).

But the detracking initiative is unfortunate because it came too quickly, before researchers understood tracking, and it sought to eliminate all forms of tracking before understanding the variation and the potential value of tracking. The "detracking" proposal ignores the complexities of the research findings, ignores the institutional perspective, and ignores the possibility that some forms of tracking may be necessary for some purposes or in some circumstances. Contrary to recent research findings, the detracking movement considers tracking as a single entity which has a single set of effects. However, if tracking takes many forms and if teachers can respond differently to each form, as recent research suggests, then these various forms may operate quite differently and have very different outcomes.

Moreover, the need for tracking may depend on institutional context. Tracking may be less harmful and more necessary in some settings than in others, and detracking may be more feasible and more beneficial in some settings than in others. Detracking reformers assumed that equal instruction leads to equal results. That may be wrong if individuals have radically different needs. In some American high schools, students in the same grade vary in achievement by six grade levels-- students in a ninth grade class may range from 6th to 12th grade achievement levels. If these students are in the same classroom, it is hard to present the same lessons to all students, doing so would not necessarily have benefits for all students or prevent slower students from feeling inferior or discouraged (McPartland and Schneider, 1996). If large disparities in achievement levels already exist, detracking which tries to teach all students in the same classroom is going to have great difficulty serving all students, or perhaps in serving any students. Detracking advocates did not consider whether social context might influence the operation of their reform.

Detracking was highly successful in gaining political support. Removing track distinctions may serve political ends, and the reform might satisfy parents and voters into thinking they were creating equality, but research has not shown that it actually creates equal results.

Regardless of their merits, detracking reforms have given researchers an amazing opportunity to understand this phenomenon. In the short time that detracking reforms have been in existence, few studies have been done, and few of those have been done by researchers who were not self-interested advocates. Nonetheless, from those few studies, we have learned how much we did not know. We have discovered unanticipated aspects of detracking and previously unnoticed benefits of tracking. As outlined below, studies indicate that detracking may involve difficulties in seeing students' needs, teachers'

difficulties in responding to students' needs, difficulties in implementation, and displacement, not elimination, of tracking.

1. <u>Denial and neglect of student differences</u>. Detracking reforms have increased the number of students in honors classes, but these honors classes sometimes look like pretense, not real reform. Some detracking reforms debase the activities in honors classes. In one such "honors" class, where some students lack the ability to read the textbook, students read the textbook aloud, so that the nonreaders will get to hear the content (Loveless, 1996). This tedious class reading of the textbook reduces the opportunity for class discussion or analysis. While it guarantees that all students are exposed to the same material, calling this an honors class is deceptive. Similarly, one reformer recommended assigning a "classic comic book" of Hamlet, so all students would be exposed to Shakespeare (Oakes, 1986). One study reports that such practices are common (Loveless,1996). The detracking movement does not suggest clear procedures for addressing students' different needs, which could be especially difficult when those needs are dramatically diverse. Instead, the rhetoric of detracking argues that achievement differences should be ignored, which in practice would seem to encourage the denial and neglect of differences.

2.<u>Teachers' difficulties in serving students' needs.</u> Another study found that teachers who formerly advocated detracking were surprised and disappointed by the actual practice of detracking in their school. In detracked classrooms, teachers found that they cannot spend much time answering questions from faster students or slower students without losing the attention of the others. Teachers gave quick incomplete answers and rapidly moved back to instruction aimed at the middle of the class. Teachers reported that detracking prevented them from serving any students very well (Rosenbaum, 1999). Detracking did not abolish inequality among students; it only ignored inequality as much as possible, which sometimes deprived both faster students and slower students of the kind of instruction they needed. It may be especially harmful to high achieving low-income and minority youth who could not get their questions answered at home. It made hard-working teachers work even longer hours and feel less effective. If tracking is bad, detracking may be no better, and it may be more harmful in some respects.

3. <u>Extraordinary prerequisites</u>. A large study of restructured schools found only one detracked school that showed clear signs of educational success. However, this school also enjoyed some extraordinary advantages: small classes, additional foundation funding for Saturday programs, and enormous latitude in selecting desirable students and especially in choosing the best faculty. Effective detracking is possible, but it may require extraordinary resources, which are rarely provided (Gamoran and Weinstein, 1998)

4. <u>Displacing tracking, not eliminating it</u>. Eliminating tracking <u>in</u> a school may displace tracking <u>outside</u> the school, influencing the entire educational system in an area. A large detracking reform led to "bright flight." When government policies eliminated tracking in Japanese public schools, high-achieving students felt unchallenged and they left the public detracked schools for private

schools (Kariya and Rosenbaum, 1999). Only the prefectures that did not detrack their public schools did not experience this "bright flight" to private schools. This detracking reform led to a large upgrading of standards -- but only in the private schools. While prior to the detracking reform, private schools had generally been unselective and had lower standards than public schools, after the reform, many private schools were able to raise their entrance requirements, raise their achievement outcomes, and dramatically increase the proportion of their graduates admitted to selective universities. At the same time, public school standards declined, and the proportion of public school students admitted to selective universities (which is totally determined by achievement) declined precipitously. In effect, abolishing tracking inside public schools led to a larger tracking system where public schools became the new lower track, and private schools became the new upper track. However, this upper track was restricted only to those who could afford private school. Detracking did not abolish tracking, it merely displaced it, and put it out of the reach of low-income students.

In recent years, many sociologists, including critics of tracking, have noted problems with detracking. Hallinan (1994), Lucas (1999), Loveless (1996), and Gamoran (1998) have noted various difficulties with trying to abolish tracking altogether. For instance, most recently, Lucas (1999) has noted that while detracking advocates criticize all forms of curriculum differentiation, they ignore the need for instruction appropriate to students' needs. Lucas stresses that differentiation may be necessary, and the critics should focus not on differentiation in any one course, but on poor implementations of tracking-- inappropriate criteria, inappropriate linkages between courses, and long-term rigidities of placement. He notes, as we do, that so-called detracking reforms run many risks--Hidden tracking where class distinctions are concealed, or where students misperceive their track or do not understand what preparation they are getting. Detracking may give poorly prepared students the impression they are in honors classes, but they have no realistic chance of completing college. The detracking ideology seeks to eliminate tracking, but instead it may only conceal and obscure inequalities.

The detracking movement was too quick to leap to an oversimple model of tracking as a single phenomenon and to unwarranted causal inferences. While preliminary evidence on detracking poses warnings, it is still too early to tell how this detracking policy experiment will turn out. It is disturbing to note that these detracking experiments are primarily being tried out in schools with high proportions of disadvantaged students (Loveless, 1996). If it turns out to be harmful, the students who are harmed are ones who have few personal resources to draw on to compensate.

However, it is already clear that detracking often works differently than anticipated, and that tracking has some positive aspects. While prior research indicated that tracking was a barrier to educational attainment, the elimination of tracking also creates some unanticipated obstacles to students' achievement and attainments. If the elimination of tracking leads to the denial of student differences, deceptive pretenses about honors offerings, teachers'

inability to respond to student needs, teachers spending more time and being less effective, then tracking may have some advantages. Moreover, if "detracking" ultimately leads not to the elimination of tracking, but to the displacement of tracking throughout the educational system, then tracking may be more durable and harder to eliminate than we had recognized. Sociologists have long known that stratification is very durable, and it will not disappear just because we pretend that differences do not exist.

Merely removing structural barriers does not necessarily eliminate inequalities, and it may make it more difficult to recognize and respond to student inequalities. It may create new problems, require additional resources, and ultimately displace, not abolish, tracking. This new realization comes at the same time that other research is also suggesting some benefits of social structures.

3. While some sociologists have viewed social structures only as barriers, other theories indicate ways that social structures could support and assist individuals' attainments.

Thirty years ago, sociologists stressed ways that social structure restricted opportunity. Ivan Illich, a popular writer of the time, argued that reducing structure would increase freedom. Illich criticized bureaucratic structures in schools and colleges for limiting students' opportunities. He urged schools to rid themselves of bureaucratic structures, which he considered inherently discriminatory and conducive to creating social inequalities and limiting access in discriminatory ways. He urged a model of education without bureaucracy, an idealistic vision in which students take whatever courses they want, whenever and wherever they want, acquiring education without the preoccupation with bureaucracy and credentials. His books were widely read, and many readers were sympathetic.

However, as Stefanie Deluca has noted, Illich's attack on structure ignored a simple law of physics-- a body in motion tends to stay on its trajectory unless acted upon by other forces. Illich had a clear plan for eliminating a practice, but he had no plan for how to address social inequalities. Students who enter school with social and academic disadvantages will tend to continue on a lower trajectory, unless something special is done. Attacks on structure, including some detracking programs, had no proposals about offering additional special services, indeed they removed conditions that would permit special needs to be recognized and special services to be provided. No physicist and no billiards player would assume that a trajectory would change merely by leaving it alone.

Structural barriers are not necessarily obstacles to educational attainment -- sometimes social structures can be helpful to attainment. Sociologists customarily have focused on the social structural barriers to attainment. Many barriers have been found. Racially discriminatory practices, segregated schools, tracking systems, tests and other selection criteria have been shown to be important obstacles to educational attainment.

However, less noted is the opposite-- the absence of social structures can also be an obstacle to educational attainment. Indeed, the failure of sociological functionalism to specify the mechanisms required for educational and occupational attainment have led those theories to oversimple conceptions, and may have led practitioners to believe that no special actions are necessary to help young people's attainments--merely removing structural barriers will be sufficient. The first revolution focused on the negative effects of tracking, and because it ignored underlying processes, the status-attainment model could not identify the mechanisms by which structures like tracking worked, or the possibility that they may help some individuals. The second revolution, particularly social capital theory, made us see that social structures could provide information and support, and that reforms to dismantle structure could eliminate necessary and desirable processes, and have undesirable consequences -- poor information, vague or misleading encouragement of aspirations, and a lack of social networks and social support.

a."College-for-all" reforms --
        While detracking reforms were an explicit reform, similar changes were quietly occurring with less coordination and awareness. These reforms proceeded for some of the same reasons as detracking, and they have had a profound impact.
        For students planning college, the preoccupation with structural barriers led many people to believe that removing barriers would remove all obstacles, and that no social institutional processes were necessary to aid students' access to college. Some social scientists argued that school bureaucracies are inherently discriminatory, inherently biased by class and race (Michael Katz, 1971). Social scientists criticized college admissions procedures and guidance counselor gatekeeping practices (Cicourel and Kitsuse, 1963; Karabel, 1972). Perhaps in response to the criticisms of structure and selection criteria, American education changed radically since the 1960's. Three remarkable changes occurred.
        First, community colleges began implementing open admissions reforms. Community colleges had never been highly selective, but, through the 1970s and 1980s, many colleges began dropping nearly all admissions criteria. Community colleges became available to everyone, regardless of test scores, high school grades, or high school curriculum or preparation. For instance, in Illinois, high school graduates can attend a community college even if they have D- average, and academic achievement at less than an eighth grade level. Moreover, over the age of 21, students do not even need the high school diploma.
        Second, guidance counselors have stopped being gatekeepers. Formerly, guidance counselors acted as gatekeepers and dampened students' aspirations and plans (Cicourel and Kitsuse, 1963). But that has changed. Counselors now act differently. A recent study of guidance counselors found that, unlike guidance counselors of 30 years ago, counselors today often refuse to engage in any gatekeeping activities, to discourage students from

attending college, or to warn them that they are ill-prepared for college, even if some counselors admit that they have doubts about students' chances to benefit from college (Rosenbaum, 2001).

Third, students have much higher educational expectations. In 1972, less than half of high school seniors planned to attend college. Twenty years later, ninety-five percent of seniors in the class of 1992 planned to attend college (Rosenbaum, 2001). Apparently, the dismantling of gatekeeping practices and college admissions structure was followed by radical changes in students' plans.

These three changes were truly remarkable. It is amazing to realize that colleges could open admissions, that guidance counselors could refrain from gatekeeping, that ninety-five percent of seniors could hold college plans. These are extraordinary changes. No one would have predicted them 30 years ago. It isn't clear that we understand these changes or their implications even today. Of course, where we have poor understanding is just where social research can be most helpful, and social research has begun to examine the the implications of these dramatic changes.

Research has found that dismantling the structures was not sufficient to lead to greater attainments. While students' educational plans skyrocketed, many students were disappointed. College enrollment increased, but so did dropout rates (Grubb, 1996). Indeed, among the high school graduates in the class of 1982, only 38% of students with college plans succeeded in getting a college degree in the following 10 years.

Why are so many students' plans unrealized? While some sociologists view social structure only as barriers, social structures can provide information and support to improve individuals' attainments. Four examples illustrate ways that misinformation may hurt individuals' opportunities.

1. Students mistakenly believe that high school effort is unnecessary. When college-bound high school students are surveyed, about 40 percent believe that they can attain their goals without exerting efforts in high school (Steinberg, 1996). This belief is more common among students from low SES families. That misconception could be an important obstacle to students' educational attainment.

2. Many students who think they are college-bound are really work-bound-- they will enter the labor market with no degree beyond the high school diploma. Many low-achieving high school seniors expect a college degree, but research indicates that only 14 percent of students who had poor high school grades get any college degree and many get zero college credits (Rosenbaum, 2001). For the vast majority of students with poor grades in high school, college plans do not lead to degree attainment. These students are not only disappointed, but they are unprepared for the labor market.

3. High school guidance counselors, who formerly were gatekeepers preventing college access, now encourage all students to attend college. Although guidance counselors are often viewed as gatekeepers, they also have a useful function in providing information, particularly to students whose parents did not attend college. Contrary to the status-attainment model, which

views such influences as merely providing encouragement or barriers, guidance counselors provide information that is an essential prerequisite for making realistic plans and for carrying them out (Stanton-Salazar and Dornbusch, 1995). Although counselors' gatekeeping activities are sometimes biased, eliminating these activities entirely deprives students of important information and advice. When schools stop providing this information, students have to rely on their own families, who have less knowledge about college requirements. While guidance counselors are sometimes biased, they sometimes provide information and assistance to disadvantaged students. In contrast, almost all students whose parents never attended college would have difficulty getting college information from their parents. The absence of the social structure of counseling is likely to hurt many disadvantaged students.

Social capital theory and social network theory point to the ways that information can help students enter society. While students from well-educated families have information about what actions to take in high school to prepare for college, young people from less educated families may not, and they are more likely to believe that they can attain their goals without exerting efforts in high school (Rosenbaum, 2001).

4.<u>Many "college students" are not really in college</u>. Students who think they are progressing toward a college degree are taking several non-credit courses. Open admissions gives students an amazing second chance, but many students do not realize that a two-year Associates degree will take much longer than two years if they are taking many remedial courses. Although open admissions seems to remove a barrier, it may only shift the barrier to a less visible form that inadvertently deceives poorly informed students. Open admissions allows college entrance for students who ordinarily would not attend, however, they may not be in real college classes. Many "college" students in remedial classes are not taking as many college-credit classes as they think, and they are highly likely to drop out of college with no degree (Deil-Amen and Rosenbaum, 2002).

Although counselors and admissions offices are not posing barriers, opportunity remains limited. The primary effect of removing these barriers is that students do not realize the situation, and they cannot make appropriate plans. Students fail to take actions that are necessary to achieve their goals because they lack appropriate information. Their problem is not structural barriers. The absence of structure and explicit selection criteria creates an absence of information and realistic counseling to guide students' choices and actions. While structures impose barriers, they can also provide assistance and support.

b. Other studies suggest that institutional structures can help students.

Catholic schools are an example. Research indicates that Catholic schools have positive effects on achievement, especially for disadvantaged students. Although these results have been interpreted as indicating the effects of school communal values and school choice (Coleman, et al., 1982; Bryk, et al. 1993), their success may also illustrate the value of restricted choice.

Catholic schools have communal values, but they also have a highly structured curriculum that does not allow much choice. They offer a few courses that all students must take. If seniors hate math, they still must take math in Catholic schools, but not in public schools. Catholic schools have many rules and they demand compliance. Discipline is strict, judgments are rapid and do not allow procedural "due process" protections.

Bryk et al. (1993) correctly note that expulsion and suspension are rare, so they do not eliminate many students. However, they do impose social control. Only a few threats of expulsion and suspension can affect many students and compel them to meet expected standards. Although only a few students are expelled each year, all students are put on notice. The rigid commitment to a highly structured curriculum and strict discipline code compels students to comply with these demands and to exert more time on homework. The impressive results of Catholic school effects for disadvantaged students are subject to methodological doubts (Murnane, 1981). However, if these school effects are valid, they may indicate the positive effects of a highly rigid structure.

The rigid demands and structures in Catholic schools create a level playing field. They apply the same unambiguous demands on all students-- everyone knows the rules, everyone faces strong pressures for efforts and rule compliance. This structure may explain why Catholic schools are especially beneficial for disadvantaged students. In unstructured "shopping mall" public schools, which do not have the rigid structure of required courses or rigid discipline codes, middle-class students get information, support, and pressure from their parents who understand college requirements, but disadvantaged students do not. In contrast, highly structured Catholic schools make parent information less important because students have less opportunity to avoid difficult subjects, avoid homework, or cut classes. That lack of choice may explain students' higher achievements and educational attainment (Sander, 2000). The structure may be coercive, but it may benefit students in the long run.

Another example arises from a Japanese reform. Concerned that its educational system was too rigidly structured, too demanding, and too selective, Japan reduced its educational demands, reduced college selection criteria, and vastly increased the availability of college. These reforms sought to reduce pressures on higher achieving students and reduce inequalities among students. The result was just the opposite. While the minimum requirements to get into lower status colleges declined, the criteria for getting into the limited number of high prestige universities declined very little. As a result, students who aspired to the most selective universities did not decrease their efforts very much, but middle and low SES students did. Inequality increased from this destructuring reform (Kariya and Rosenbaum, 2000).

Another example is directly relevant to the Illich model. Illich urged a utopian model of higher education without bureaucracy, where students take whatever courses they want, whenever they want, wherever they want, acquiring education without the preoccupation with bureaucracy and credentials. Even

conservative economists hold "free market" beliefs supporting a similar view emphasizing choice and lack of structure. However, we have a notorious example of one option that embodies the Illich ideal but clearly hurts students, and reforms of those schools in recent years have illustrated the positive value of bureaucracy for eliminating the harm to students.

Proprietary postsecondary schools proliferated after World War II. They did just what Illich wanted-- providing options students wanted, at convenient places and times, and they were aggressive in helping students find financial support from the federal government. (Public colleges and nonprofit colleges had lower costs, but they were less helpful in helping students find financial support, Orfield and Paul, 1994). Illich's ideal seemed to be operating, the only problem was that many of the schools were offering shoddy education in fields where there was no labor market demand. Illich's assumption, and indeed the assumption of economic theory, that students could make the decisions about what courses would help them was clearly not true in this case. This embodiment of Illich's ideal was harming students.

In 1992, federal legislation imposed structural constraints on the schools. What is often conceived as an oppressive federal bureaucracy began to regulate and constrain this free, unfettered educational sector. However, these bureaucratic constraints had very positive impact. The mere threat of accountability for outcomes drove 1500 of the worst proprietary schools out of business right away. Apparently they immediately recognized that their job placement rates were terrible and could not be justified under the new scrutiny. The regulations created strong incentives for the remaining schools to improve their offerings and their employment assistance to graduates. Recent studies indicate that many are doing a very good job of placing students in good jobs, thanks in part to the constraints imposed by federal regulations. Structural constraints and federal bureaucracy had very positive impact.

c. Reducing barriers to labor market access for high school students.

In response to the youth protests of the 1960's, Coleman (1974) chaired a presidential commission and authored a report Youth: Transition to Adulthood that concluded that young people should become more involved in the work world while they are in high school.   It suggested that such involvement would help young people understand reality, gain exposure to adult role models, and develop more wholesome attitudes to society and work. The report urged reducing the structural barriers in schools and in the labor market to allow students to enter work while they are still in high school.

Ironically, not far from Coleman's office at the University of Chicago, a little hamburger joint played a big role in helping implement Coleman's policy. Although he may not have read this report, Ray Kroc implemented its conclusions. The massive growth of fast-food restaurants over the last 30 years provided the main source of jobs for high school youth. Coleman's policy would not have seen such great success if it were not for the fast-food industry.

But a more serious irony is that the outcomes are not those predicted. There is little interaction with adults in these youth jobs, youth in such jobs

show much cynicism about work and much disengagement in these uninvolving jobs, and the jobs hurt school performance when part-time work is over 20 hours a week (Greenberger and Steinberg, 1986).

Dismantling structural barriers to employment was not enough to attain the desired goals. High schools dropped the barriers preventing students from leaving school early so they could take jobs, and employers in certain industries reduced barriers to the entry of young people; indeed they actively recruited young people. Success in removing barriers was not sufficient to provide the benefits desired by the youth in transition report.

More structured models have better outcomes. Instead of merely decreasing structural barriers to work, structured co-op and apprenticeship programs provide structural procedures to assist young people in entering meaningful work. They lead to challenging experiences that are motivating to young people (Stern, et al., 1994). One observer of an apprenticeship said that he saw 18-year-olds doing activities and taking responsibility that most people assume 18-year-olds are not capable of, particularly for young people who are not college-bound (Hamilton, 1989). Rather than abolishing structures, co-op and apprenticeships create new structures that provide a better way of accomplishing the desired goals and they allow young people to demonstrate capabilities that we assumed they don't have.

d. Using structures and processes to improve labor market access for high school graduates.

Similarly, for students entering work <u>after</u> high school, structure has been seen as a barrier, but we have recently seen examples where social structures and networks helped students enter the labor market. American high schools and policymakers are deeply suspicious of implementing European style structures to help young people in entering the labor market. They worry that such structures will be unmeritocratic, and they will pose barriers to the efficient operation of an unstructured, unconstrained labor market.

Unfortunately, the unconstrained labor market has not been terribly responsive to the achievements of high school graduates, nor has it provided employers with valuable workers. The literature shows that high school graduates experience big problems entering work, and they get little payoff to their prior achievements. There is little relationship between high school achievements and early labor market outcomes. Human capital acquired in high school does not seem to count, students have little incentive to improve their high school achievements, and employers are disappointed that high school graduates have not gotten the skills that they want them to get. Yet in the unfettered labor market, employers have found no way to convey incentives to young people to get those skills.

Both economists and sociologists view structures as barriers. Economists are suspicious of institutional structures for preventing the free unconstrained operation of markets. In particular, they see institutional arrangements as creating inefficiencies and artificial obstacles. Sociologists have blamed the dual labor market structure for relegating young people into

dead-end secondary labor markets jobs, however the mechanisms are poorly understood. In particular, it is somewhat of a mystery how some young people manage to avoid the secondary labor market and get jobs that provide training and advancement after high school.

Instead of structure always providing barriers, could it be that an alternative social structure could help some young people escape the dead-end secondary labor market jobs? Some research points to informal family and neighborhood social connections as providing access to better jobs. For instance, family contacts are useful for conveying information, and perhaps providing clout. Of course, family contacts do not work for everyone, and low SES students lack personal networks.

However, society can provide formal institutional networks that are available to all students, regardless of family background. German apprenticeships provide a clear well-defined structure that gives young people training for skilled jobs with good career potential (Hamilton, 1990). Japan provides a clear linkage structure which links high schools with employers in ways that help young people gain access to good jobs (Rosenbaum and Kariya, 1989). In the U.S., studies indicate that vocational education provides a structure which helps young people prepare for and enter the labor market and get skilled jobs and better pay (Bishop,1989; Arum and Hout, 1998).

In addition, recent research has discovered that high schools can help students get better jobs and this may be due to the operation of social structures created between high schools and employers. Some high school graduates get their first job from high school job placement help, minorities and females are more likely to get this school help than white males (who are more likely to get job help from relatives), and high school job placement help leads to better career advancement than getting jobs through direct applications in the unfettered labor market (Rosenbaum, 2001). Indeed, high school help is even more valuable than relatives' help in the long run, at least for young people without college education. School help allows high school graduates to have careers that we commonly assume are impossible: access to career ladders, skilled jobs, and well-paid careers.

Moreover, the process uncovers hidden abilities of young people which employers want but can rarely detect. Qualitative research finds that vocational teachers engage in a number of informal activities to establish connections with employers, and they find jobs for students who might otherwise not be hired.   Teachers convince employers to hire students with handicapping features: teen mothers, students with speech impediments, students with limited English skills, and students with learning disabilities (Rosenbaum, 2001). Sometimes teachers convince employers to hire females or minorities in jobs that had always been held by white males. In each case, the teacher points out students' strengths which employers could not see in an employment interview--students' maturity, dependability, and persistence -- qualities that are important to employers, but are impossible to assess in fifteen-minute hiring interviews.

In effect, teachers' long-term relationships with employers become a dependable hiring channel for employers, a dependable career pathway for students, and a way of detecting and signaling hard-to-see capabilities. These relationships create an infrastructure that provides opportunities that the "unfettered" impersonal labor market would not. Free markets may lack structure, but structure may be just what disadvantaged students need.

In sum, although dismantling structure helps a few students, it may harm many more. Open admissions at community colleges allows 14% of high school seniors with poor grades to get college degrees, while they would not have done so under older college admissions structures. However, the vast majority of such students, eighty-six percent, will fail to get any degree and many get no college credits. Unfortunately, while the lack of structure helps a few, it may mislead many others into wasting their time on a strategy that ultimately will not pay off. Simply dismantling structure is not the best way to help students.

Structure is not always oppressive; sometimes structure can be supportive. Structure can provide assurance that all students will get basic skills, will see the incentives for school effort, will get information about careers and their requirements, and will get access to career options. Social capital theory indicates that all students, especially disadvantaged students, need support and assistance from the social environment. Network models contend that all individuals can benefit from social contacts, and disadvantaged students who lack family contacts would benefit from institutional contacts. To overcome the home advantages that middle-class students get from their parents, it is not enough to remove structure.

Destroying structure does not level the playing field. Rather it makes students rely on the information and assistance they get at home, which is unequal. When counselors stop offering realistic college advice and schools do not help students get jobs, advantaged students can get such advice and job contacts from parents and relatives, but disadvantaged students cannot. Disadvantaged students will get less information, and less help in making choices among a confusing array of alternatives. Creating an explicit structure with clear rules, supports, and assistance will help disadvantaged students, providing them with social capital and contacts that they would not have on their own. Institutional contacts would give these students good information about criteria and the means for attaining those criteria, and would help all students see incentives for effort and see what kinds of effort are effective for attaining desirable outcomes. Reducing tracking and bureaucratic structure fails to increase equality because it ignores the effects of social capital and social networks, which advantaged students can get from their families, but disadvantaged students can only get from schools.

Social capital theory may explain these outcomes. If social capital theory is correct that individuals' capabilities are affected by social context, then social structures may provide social contexts that enhance capabilities. The same may be true for neighborhoods. In studying educational outcomes, one tends

to focus inside schools, however the larger social context of neighborhoods may also affect educational outcomes. The following section summarizes some research on neighborhood effects because it exemplifies the way social capital may be enhanced by larger social context, and because research funded by the Spencer foundation had some impressive findings and policy impact.

4. Social capital in neighborhood contexts.

The status-attainment model was posed as a generalized process that applied to all settings. When a school's neighborhood characteristics were added to the model, they rarely had any influence (Sewell and Armer, 1966a; Brown and House, 1967; Hauser, 1971, Dreeben, 2000, p. 117b). However, this research had some serious limitations. People choose their neighborhoods, so it is hard to separate the effects of neighborhoods from the attributes of the individuals who chose them. Moreover, neighborhoods not only affect children's outcomes, they affect parents' jobs, which in turn affect children's outcomes. When research finds that neighborhoods have no effects on children's achievement, net of parents' occupation, this conclusion ignores an important component of neighborhood effects on children's achievements through parents' occupations.

The best way to separate these effects is a random assignment experiment. A housing segregation lawsuit provided just such an experiment. A consent decree created a program to provide rental supports to housing project residents (and those on the waiting list). Some families moved to predominantly white suburbs, while others moved to predominantly black, low-income regions of the city. Families were assigned in a quasi-random fashion to the two conditions.

The Spencer foundation funded a study that examined whether a change of neighborhoods affected educational outcomes. That study, and subsequent studies on the Spencer sample, found remarkable outcomes. Compared with children who moved to better housing but stayed in the city, children whose families moved to suburbs were more likely to graduate from high school, more likely to attend college, more likely to attend better colleges (four-year colleges), and, if they did not attend college, they were more likely to have jobs and they had better jobs, jobs with better pay and with benefits (Rosenbaum, 1995). Because families were assigned to suburbs or city in a quasi-random manner, families and children in the two locations were highly similar at the outset, but there were big differences in outcomes after the move. The differences were not just statistically significant; they were of a large magnitude. For instance, college attendance was 54 percent in the suburbs, 21 percent in the city; four-year (vs. two-year) college attendance was 27 percent in suburbs and 4 percent in the city, employment was 75 percent in the suburbs and 41 percent in the city, and job benefits for 55 percent of the suburbs and 23 percent in the city.

Based on these results, the federal government created the Moving to Opportunity program, a random assignment residential mobility program in five

cities across the United States. Many studies have been done, and they replicate and extend conclusions of the original Spencer funded study (for a review, see Turner, 1998).

Schools do not operate in a vacuum, but it is extraordinarily difficult to see the effects of social context. Just as fish cannot see the water, we ordinarily cannot see neighborhood effects except in unusual circumstances where context markedly changes. These residential mobility programs permit us to see the effects of a radically different school environment. Housing project children behave in certain ways, but their behavior is not because of the kind of children they are, but because of the context they live in. Children's behavior changed radically when they moved to a radically different environment. They felt less threatened by random violence, they felt more sense of control over their lives, they saw that school effort was a viable option that had payoffs, and they saw models of how to do it. Their mothers also saw ways they could help their children's school performance, even if they didn't know the school lessons themselves. Suburbs provided conditions that enabled mothers and children to do entirely new behaviors that previously had not been in their repertoire.

We usually blame educational outcomes on schools, curriculum, or teachers. We do not usually blame neighborhoods. These findings suggest that neighborhoods may be an important influence on educational behaviors and outcomes--whether students attend school, whether they pay attention in class, whether they do homework, etc. These findings also suggest an alternative interpretation for social background effects. We customarily interpret social background effects as indicating bad parenting or teachers' bias. But social background effects may partly be due to the neighborhoods associated with social background. If this is correct, social background effects can be reduced because neighborhoods can be changed. Residential moves to suburbs helped disadvantaged students to do better in school, to attend college, and to get better jobs.

Impact

Some of this research has had an impact on society. Many people believe that social impact should be a goal of social research. Research has been criticized for merely turning out regression coefficients. Foundations sometimes wonder if research is contributing to society, or only to pedantic number crunching. It may be useful to consider ways that research may have affected social policy and practice. Causality is always problematic, so this section is largely speculative, but these speculations may be useful for opening up consideration of these issues.

In my opinion, tracking research has had an impact on awareness, impact on understanding, and impact on policies and practices.

1. Tracking research has affected awareness. The issues that were being discovered in academic journals in the 1970s are now in the awareness of educators and educated citizens. Many people are aware of tracking, of its association with social background, its risk of misclassification, and its

influence on later educational attainment.   Very few people outside of academia had this awareness in 1970.

2. <u>Tracking research has affected our understanding of status-attainment processes.</u> Many terms have entered popular discourse -- blaming the victim, self-fulfilling prophecy, labeling, stigmatizing, blocked opportunity, structural causes of deviance and rebellion, rising expectations, reference group and relative deprivation, status deprivation, social class, race, gender effects. The insights underlying these concepts have moved into the mainstream, and they have affected popular understanding of social processes over the last three decades. They have had enormous impact on the way everyone views schools and on proposals for educational change.

It is remarkable to see the way that these understandings, which were totally absent 30 years ago, permeate policy discussions and analysis. Today, even discussions of unrelated policies, discussions of vouchers, accountability, merit pay, and school decentralization, will also consider the issue of tracking. While we do not have consensus on the value of vouchers, we do have consensus about the models that must be used for evaluating voucher programs, and these models specify that it is not sufficient for voucher programs to increase achievement, they must also be assessed on their effects for minorities and low SES students, making sure that they do not create separate tracks for these students. Researchers who study any educational program will consider its effects on social selection, classifications, and track placement and mobility.

These concepts are a standard part of our understanding of schools today. They also affect parent and student choices of schools and their course choices within schools. Many parents and students are aware of tracking and its social implications, in ways that only a few sociologists understood 30 years ago.

3. <u>This awareness has affected practices and policies.</u> It has affected both explicit policies and informal individual actions. Explicit reactions to tracking have included detracking programs to eliminate tracking. Other explicit

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In my opinion, what social research does best is provide an awareness and interpretation of phenomena that we ordinarily do not see, understand, or anticipate. Researchers have discovered that tracking is not merely a pedagogical practice, as its designers had intended, it also has social implications. We have discovered that tracking structures create diverse peer pressures, diverse incentives, and diverse opportunities. These factors that status-attainment researchers assumed were causal forces, may actually be the results of track structures. We have discovered that dismantling tracking has unanticipated consequences, and the elimination of structures may hurt many students, particularly disadvantaged students, suggesting some unanticipated advantages of tracking and other structures. These unanticipated results are true discoveries that help us to understand our current practices, to see how they operate, to detect sources of possible variation, and to detect potential advantages in the same practices that also have disadvantages.

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3. <u>This awareness has affected practices and policies.</u> It has affected both explicit policies and informal individual actions. Explicit reactions to tracking have included detracking programs to eliminate tracking. Other explicit

reactions have focused more narrowly on modifying aspects of tracking, introducing summer and after-school programs to help students move up in track, or introducing special instructional methods for helping students in lower track classes master more difficult materials.

Implicit reactions include the unplanned, uncoordinated responses by local colleges, individual school staff and individual students. Open admissions, the end of gatekeeping, and 95 percent of students planning college are truly amazing changes, which were unplanned and uncoordinated. They have spread extensively across the nation and now create a new reality for the nation as a whole. We don't often think of this kind of change when we discuss policy impact, but when large numbers of people think and act differently about a topic, policy and practice have in fact changed. While it's hard to be sure that our research had this impact, the inference is certainly plausible.

Similarly, residential mobility research has also had the same three kinds of impact. In this domain, the policy impact has had the greatest visibility. 1. Research has suggested policies for using neighborhood effects to improve educational outcomes. Educational outcomes are not only improved by educational policy, they can also be improved by housing policy. In the Clinton Administration, U.S. Housing Secretary Cisneros used housing policy not only to provide shelter, but also to implement housing programs that would improve people's lives, including improving children's educational outcomes. In the first three years of the Clinton administration, the number of residential mobility programs increased from less than 10 to more than 50 across the nation. Moreover, residential mobility approaches were built into existing programs in many other locations (Turner, 1998).
2. This research made us aware of neighborhoods' potential influences. The low achievement of inner-city students has been blamed on many factors--students, parents, teachers, and principals. The present findings suggest another interpretation--surrounding neighborhoods may be part of the problem. While research has not shown what aspects of neighborhoods are having the effect, they do suggest that neighborhoods may be responsible for educational outcomes, and they suggest that interpretations that blame students, parents, teachers, or principals may be over-looking the large impact of the surrounding neighborhoods.
3. Residential mobility studies have helped us to understand the underlying capabilities of low-income people. They have shown the ways that social environments can allow people to demonstrate capabilities they do not show in disadvantaged neighborhoods. There is a common stereotype about "housing project children" who perform poorly in school. The stereotype comes from empirical observation, but the usual inference is wrong. It is often inferred that these behaviors indicate some inherent deficiency inside these individuals. Instead, these behaviors may arise because of the environment. The very same individuals exhibit radically different behaviors and capabilities after they move to suburbs. Their prior behaviors were adaptations to their social environments, not their personal capabilities, and their adaptations changed

dramatically in new social environments. The low achievement of "housing project children" is not a property of these children, it is a property of the housing project environment, and it changes when individuals leave that environment.

Moreover, new research may point to aspects of suburban environments that enable residents to exhibit capabilities that they did not show in housing project environments. In effect, suburbs provide social capital-- social circumstances that encourage and enable constructive behaviors. Individuals' ability is not just hardwired inside of the individuals, it emerges from the individuals' interactions with opportunities and supportive circumstances. If we can identify those supportive circumstances, and if we provide them in city neighborhoods, then we may replicate the suburban successes in city neighborhoods.

Before concluding the discussion of impact, two other points are worth noting--

First, this review has had a surprising recurrent theme: Sociological research can discover people's abilities and the ways the social world can extend those abilities. Ability is usually studied by psychologists, but this review has repeatedly noted that social environments affect ability-- they can prevent ability from being seen, or they can bring out abilities that have never been seen before. Residential moves out of housing projects permit children to show abilities that they had never shown before. German apprenticeships allow 18-year-olds to show abilities that Americans think 18-year-olds cannot have (Hamilton, 1990). American vocational teachers can recommend highly capable workers among students who have shown little capability in academic courses in school and who would appear to have low ability in hiring interviews (Rosenbaum, 2001). School structures that compel all students to take challenging math courses end up having more students show math abilities (Bryk, et al., 1993; Useem, 1992). Track systems can determine whether ability can change. Lower-track students, who could not understand difficult material, can understand it if teachers present the material slowly (Gamoran, 1993). Tracking reforms that offer additional training programs, allow middle-track students to fit into "high ability" courses (Gamoran, 1992; Rosenbaum, 1999). Track systems that prevent upward mobility are likely to have fewer students show ability increases, while track systems which help students catch up with students in higher tracks, will have students show new abilities that no one had noticed previously (Rosenbaum, 1986).

Second, at its best, social science research provides awareness and interpretation of phenomenon that we ordinarily do not see, understand, or anticipate. The usual criticism that we mostly show the obvious, and perhaps that is bound to be true. However, this review has stressed many examples where are research has provided new awareness and understanding that improved our ability to discern the major problems and how to solve them.

Third, while educational research has had a large impact on public awareness, many findings still have not reached general awareness. Newspaper articles and television stories still express great enthusiasm when

they find a disadvantaged high school senior who is planning to attend college. This is portrayed as good news, but when 95 percent of American seniors are planning to attend college, such plans are not news, and they may not even be good, if the students' skills will condemn them to remedial courses and to dropping out of college with no college credits. Similarly, in news stories of the poor school performance of housing project children, the blame is often directed at children, parents, teachers, or schools. The stories call for fixing the children, parents, teachers, or schools, but none of that may make much of a difference as long as children live in housing projects that create massive anxiety, a lack of positive role models, and a lack of necessary information. Research has begun to change awareness, but more changes are still needed.

The Spencer Foundation

Finally, I would like to make some comments about the implications of this essay for foundation policy. I have discussed two areas of research that have had policy impact. Each has important implications.

Looking for more "bang to the buck," some have urged foundations to focus resources on targeted areas to have a bigger impact. This is difficult in any enterprise, but for a foundation trying to advance knowledge, it is particularly difficult. The lessons from research are rarely well understood when they first appear. The impacts are often long-term, so we cannot figure how much bang we are getting for the buck in the short term. The research on the social implications of tracking was an academic exercise in the 1970s, and it had no "bang for its bucks" in that decade. However, today those findings are known to most educators and many parents, and they inform the ways most people think about school. They have led to policy actions that can provide new opportunities to students. Some of these policy actions were ill-conceived, but that was only apparent years later. I don't mind asking the questions about effectiveness, but any true assessment may have to take a 30-year timeframe.

Targeting also raises problems. According to a high-level administrator in the Department of Housing and Urban Development in the Clinton Administration (Turner, 1998), the Spencer research on residential mobility had direct influence on national policy. If the Spencer foundation had not funded the study, federal housing policy would have been very different in the 1990s. However, if the Spencer foundation had narrowly defined its mission along certain targeted themes in the early 1980s, neighborhood effects would not have been included. Neighborhood effects were not on anyone's agenda in academic research, and they were generally considered outside the realm of the Spencer foundation's original mandate. The program was a unique opportunity. That study was successful and had an enormous impact, but the impact was not anticipated, and it did not come right away. Targeting themes is likely to exclude promising research.

Despite this skepticism about extensive targeting of topic areas, some targeting may be warranted. Research in a certain topic area can have more impact at some times than at others. Ten years ago, our conceptions of

tracking were highly crystallized. If results fit the consensus, they were used; if not, they were ignored as aberrations. Now there are many discordant findings in good studies, and the field is still trying to make sense of them. This is an especially ripe time for doing path-breaking work in this area. New studies can actually help us figure out complexities, for instance of how track structure increases social capital. While I would be skeptical of extensive targeting, some targeting may be productive.

One other lesson from this review is that this field needs both quantitative and qualitative research. We need to present solid quantitative studies along with explanations of process. Good quantitative studies are less effective in isolation, because we don't understand the process. When reviews of literature.found positive effects of tracking in 12 studies--whole studies-- these results were ignored because other studies found negative or no effects. We had no way to interpret the quantitative results and reconcile them with contrasting results. In contrast, when qualitative studies pointed out procedures by which lower-track classrooms could help students, these results were easy to interpret and potentially useful. We need combinations of quantitative and qualitative research.

In analyzing the history of educational research, one observer (who was more dispassionate then than she could be now) has noted that the Spencer foundation is distinctive in focusing on educational research, at a time when "most private funders had pulled back from earlier support for educational research... [and showed an] apparent indifference" (Lagemann, 2000, p.230). I would add that in my experience, the foundation is exceptional also in the breadth of topics that it funds, and the breadth with which it understands the process of education. As I've tried to indicate in the above review, our understanding of the educational attainment process has radically changed in two major revolutions over the short span of 30 years. Such radical change demands flexibility and breadth in a foundation that seeks to improve our understanding in this fast-changing area

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