

## THE SCHOOL MIX EFFECT: THE HISTORY OF AN ENDURING PROBLEM IN EDUCATIONAL THEORY AND PRACTICE

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The idea that school peers play an important role in determining the academic success of individual pupils is well established in popular wisdom. As Jencks [1972] has observed, people frequently define a good school not in terms of teachers or facilities but as one with the "right" kinds of socially privileged and thus [ generally ] successful pupils. For many, therefore, the quality of a school is measured in terms of class exclusiveness. Generations of parents have chosen schools with high status students over those with predominantly working class intakes in the hope that their children will do better in their studies and form more positive friendships.

If school mix - the social class balance or composition of the student body of a school - is as potent a variable in the school success of individuals as popular wisdom would have it, then to ignore it as an important variable for educational policy makers to consider would be counter-intuitive. The view taken by recent researchers is that although the effect of school mix on individual student performance is "not well understood", students from lower socio-economic families do achieve better in schools with well balanced social class mixes than they would if they attended solidly working class schools [ McPherson and Willms, 1987; Lauder and Hughes, 1990 ].

The implication of these findings is that the most simple way to improve the overall academic achievement of any school population may be to balance the school mix of all schools through state intervention. Such intervention could involve various forms of zoning, bussing or the provision of incentives to schools to balance their school mix. However the neo-liberal position discounts school mix both as a unimportant variable and one which in any case lies outside the legitimate control of educational policy makers in free market economies. This stance is taken for instance by Chubb and Moe [1990] who argue that "schools can succeed or fail regardless of their student bodies" [p.147] and that furthermore:

Schools must be able to define their own missions and build their own programs in their own ways and they cannot do this if their student population is thrust on them by outsiders. They must be free to admit as many or as few students as they want based on whatever criteria they think relevant [1990 pp.221-222].

Given that balancing school mix in order to achieve more just and equitable schooling would involve state intervention in education far beyond that seen as necessary or desirable by neo-liberals, the question of school mix goes to the heart of current debate over the role of the state in education. In particular, if genuine equality of educational opportunity is

a serious consideration, the question of school mix challenges the cause of the school choice movement.

A cursory glance at the findings over the past thirty years indicates that the claim that school mix is a significant variable is highly contested. During the 1960's Coleman [1966] and others considered it most significant but in the following decade Jencks [1972] and others denied that it is a significant variable. During this period some argued that the weight of evidence suggested that school mix is a significant factor in individual achievement but that countervailing forces may cancel its positive effects. Since the late 1970's the idea of a school mix effect has been challenged by the Effective Schools movement which has attributed mix effects to school "ethos" and/or to "ability" mix in ways which have largely ignored or rejected the influence of the social class composition of schools. [ Brookover et al., 1979; Rutter, 1983; Maughan and Rutter, 1987; Smith and Tomlinson, 1989 ]. In contrast, other writers along with McPherson and Willms, and Lauder and Hughes have unambiguously regarded school mix as a key factor in school achievement [ Summers and Woolfe, 1977; Henderson, 1978; Shavit and Williams, 1984 ].

These studies raise not only the question of whether school mix has a significant effect but also the further question of whether measures of school mix denote real causal processes or whether school mix is a proxy for some other set of processes. Furthermore, if there is some evidence from these largely quantitative studies to suggest that school mix has a significant effect on individual achievement then qualitative studies by and large suggest the opposite. The ethnographies of Lacey [1970], Willis [1977], Ball [1981] and Brown [1987] all suggest, albeit for differing reasons, that schools themselves are divided by streaming and by the moral order imposed by students on their peers. Hence if school mix produces a real effect in the sense suggested by McPherson and Willms, and Lauder and Hughes, it is difficult to see how the effect transcends divisions within schools. Perhaps most significantly of all, there has been no research to show how school mix, if it is a real effect, works.

What appears to be a straightforward idea turns out to be rather more complex with educational research throwing a little light and rather less wisdom on it. Nevertheless if we are concerned to create effective schools within the context of producing genuine equality of opportunity we cannot leave matters with respect to school mix where they stand at present. In this paper I will argue that the research on school mix has been limited by the ideological, theoretical and methodological commitments of researchers with the consequence that anomalies thrown up by research have not been adequately addressed. What is required is a loosening of the straightjackets researchers have imposed upon themselves, although this in turn produces certain epistemological difficulties.

Research in an area such as school mix which has potentially direct policy consequences will not only be influenced by research traditions but also by the socio-political climate of the times in which it occurs. Both the

nature of the research and the conclusions drawn from it are likely, therefore, to be influenced by political factors as well as by theory, methodology and empirical results. If we are to understand the ways in which these factors have influenced the research we need to begin by looking at the history of the concept of a school mix effect on school achievement. A good point to begin is with the status attainment studies of post-war American sociologists.

Coleman and liberal educational intervention.

Research into school mix began in the USA in the late 1950's. Concerned primarily with the socio-psychological processes of status attainment, this early research examined the effects of school composition on students later life chances, particularly their likelihood of attending university. Wilson [1959] was amongst the first to demonstrate that pupils attending schools with high proportions of high SES students were more likely to intend going to university than would otherwise be expected given their own social class background and academic performance. This positive finding was later confirmed in a series of similar studies by Michael [1961], Turner [1964] and Boyle [1966a].

Yet it was not until the release of the influential Coleman Report in 1966 that school mix received widespread attention. Equality of Educational Opportunity [1966] was a report on the extent and causes of educational inequality in the USA commissioned by Congress in response to Section 402 of the Civil Rights Act of 1964. Coleman and his colleagues wrote at a time when ethnic conflict in inner city ghettos appeared to threaten the cohesion of American life. As part of Johnson's Great Society programme, the liberal reforms of the War on Poverty attempted to meet public expectations set up by the preceding Kennedy Administration for a more egalitarian society. From conception the Coleman Report was destined to be an influential document because the congressmen who commissioned Coleman hoped that he would find glaring inequalities in the financial and material resources received by schools in different communities that would legitimate massive federal intervention in ghetto schools. In the event they were disappointed because Coleman's conclusion was that there was little inequity in the allocation of material resources to schools. Furthermore, Coleman found that most school variables made little difference to school outcomes over and above the influence of student background characteristics.

Nonetheless Coleman did find that minority achievement was highest in ethnically integrated schools. This became a trumpeted finding because, in contrast to the rest of the report which did not hold out much hope for worthwhile state intervention, it appeared to offer some solution to the contentious issue of educational inequalities between America's white and black communities. Coleman argued that the apparent positive effects of a largely white student body came

...not from racial composition per se but from the better educational background and higher aspirations that are on the average found amongst white students [1966 p.307].

He suggested:

The effects of the student body environment upon a student's achievement appear to lie in the educational proficiency possessed by that student body, whatever its racial or ethnic composition [ibid].

Thus, although Coleman's brief was to explore ethnic inequalities, in essence his argument appears to have been that it was the social class/prior achievement mix of schools which made the difference.

Coleman found that school mix was the only school variable that seemed to have a significant impact on students' academic outcomes:

Attributes of other students account for far more variation in the achievement of minority group children than do any attributes of school facilities and slightly more than do attributes of staff" [1966 p. 302].

Whereas the unique contributions of school and teacher were "vanishingly small", the unique contribution of student body characteristics were "very large" [p.304]. Coleman found that the school mix effect was "asymmetric" - that it had its greatest effect on those from educationally deficient backgrounds [ibid].

Two important legacies for the way in which school mix is perceived today by many educational researchers and policymakers may be traced back to Coleman's findings. Firstly, the Coleman Report led to the development of bussing in the USA and later, to a lesser extent, in Britain. When bussing was later discounted in the conservative climate of the 1970's as a naive liberal reform which had failed, the notion of balancing school mix that supported bussing became politically untenable. This in turn influenced the demise of research into school mix. Yet the evidence on the failure of bussing does not in itself substantiate the view that balancing school mix could not provide a potentially powerful educational intervention. Rather it points to the ill conceived and executed nature of approaches to school desegregation which bussing policies and practices invariably involved.

A second legacy stems from the Coleman Report's seemingly ambiguous findings concerning school mix. Coleman's conclusion that minority achievement was highest in ethnically integrated schools appears inconsistent with another finding of the Coleman report: that minority students had lower academic self-concept in high SES schools [p.323-324]. Coleman found that

...school integration has conflicting effects on attitudes of minority

group children: it increases their sense of control of the environment or their sense of opportunity, but decreases their self concept" [1966 p.324].

This ambiguity helped to generate an oppositional, counterbalancing perspective of school mix effects amongst researchers in the 1970's [ Meyer, 1970; Jencks, 1972; Nelson, 1972; Bain and Anderson, 1974; Alexander and Eckland, 1975; Alwin and Otto, 1977 ].

Typically these studies argued that while school SES mix did have a positive normative effect on status aspirations [ Kelly, 1952 ], it also created a negative comparative effect [ Davis, 1966 ]. In high SES schools, students were seen to have higher aspirations from interacting with others likely to attend university but would suffer comparatively by having to compete with them. The "ability" mix of the school was thought to work against the SES mix in a counterbalancing way such that while these "different" mix effects might be considerable, overall mix effects would be small. Coleman's findings were sometimes seen to support this hypothesis.

In fact, Coleman did not regard the apparently conflicting findings concerning school mix to be of the same magnitude [p.324] - he clearly held that integrating schools would boost minority achievement [1966 p.324]. The reinterpretation of Coleman's findings implicit in the counterbalancing hypothesis can in part be attributed to later doubts about Coleman's methodology [ Bowles and Levin, 1968; Smith, 1972 ]. More fundamental however is that in the 1970's the dominant educational ideology amongst researchers came to preclude the notion that school mix or indeed any school variable could have a significant impact on school outcomes. The effect of this ideology was to limit research on school mix to finding theoretically interesting effects rather than any considered useful for policy.

### Jencks and the School Effectiveness Research Impasse

The liberal post war belief that schools could equalise students life chances came under attack in the 1970's. The new ideology that schools could not compensate for society [ Bernstein, 1970 ] stemmed from interrelated political, theoretical and methodological bases. Firstly, at a time of growing economic crisis, the new ideology was built partly on disillusionment with the educational interventions of the 1960's - particularly bussing and comprehensivisation - which having apparently failed, were no longer seen as feasible by increasingly conservative governments on both sides of the Atlantic. Secondly, Coleman's conclusion that most school variables made little difference to school outcomes after taking into account student background characteristics was reinforced by other research, particularly Jencks [1972] and Bowles and Gintis [1976]. Finally, the ideology that schools could not make a difference developed out of a limited "black box" view of schooling. Viewed retrospectively, the methodologies used by researchers during this period ignored the internal

processes of schools thereby rendering their day to day work unimportant.

School mix was invariably found to be insignificant in a policy sense during the 1970's. Although Hauser [1976] noted that sociologists were "remarkably reluctant to give up the school context hypothesis", school mix effects were believed to be inevitably minor because schools were seen to make little difference to academic outcomes. For instance, Alexander and Eckland prefaced their study of school mix with the observation that

...the proportion of variance in educational outcomes commonly attributable to differences of any kind between schools has been relatively modest" [1975 p.402].

Despite this limiting perception there was vigorous debate over the relative size of the modest school mix effects found related to the quantitative methodology employed in finding them. The importance of various correlated variables, their specification and measurement became, as Jencks [1972] saw it, the subject of a "minor sociological industry".

Jencks himself was a most influential proponent of the view that school mix could not make a difference although the work of Bowles and Gintis [1976] also supported this view in a less direct way. In *Inequality* [1972], which was intended to show the inadequacy of a reform strategy based on education, Jencks provided a polemic analysis which made its point through what Coleman [1973] described as "skillful but highly motivated use of statistics". Jencks's main argument concerning school mix was that while numerous early studies might have found strong positive school mix effects, with better data and more sophisticated use of statistics,

...the best recent studies have concluded that the socio-economic composition of a high school has virtually no effect on students aspirations. [1972 p.152]

These "best recent studies" numbered only two however [ Sewell and Armer, 1966; Hauser, 1970 ], both of which were widely seen at the time as methodologically and theoretically unsound. Moreover Jencks dismissed studies which indicated positive mix effects at elementary level arguing that "the evidence [was] not very weighty" [p.103]. On balance the same would have to be said for Jencks refutation of school mix.

Perhaps the most conspicuous feature of research throughout the 1960's and 70's was its lack of interest in the possible causes of school mix effects. While there was much debate over the size, direction and measurement of school mix effects, most research reports avoided discussion of causal mechanisms. Coleman for instance observed [1966 p.305] that "the educational backgrounds and aspirations of fellow students appear to provide a facilitating or amplifying effect on the achievement of a student independent of his [ her ] own achievement" but did not elaborate.

Those who did examine the question tended to attribute school mix effects

to school climate or peer networks. The climate perspective was espoused mainly by McDill and colleagues [ McDill, Meyers and Rigsby, 1967; McDill, Rigsby and Meyers, 1969; McDill and Rigsby, 1973 ] who argued that SES mix was associated with differences in value climates between schools and that it was these normative climates, rather than any other effect of school mix that created higher aspirations in high SES schools. On the other hand the peer network approach, initially argued by Campbell and Alexander [1965], suggested that in schools with high average SES rather than low, any student is more likely to establish beneficial friendships with high SES schoolmates. In both cases however discussion of the causes of school mix was limited to merely hypothesising mechanisms.

In my view, school effectiveness researchers showed little interest in testing their assumptions because methodological empiricism, the predominant theoretical and methodological school effectiveness model employed during the 1960's and 1970's, was neither intended nor able to illuminate the problem. The research epitomised by Coleman and Jencks used large scale quantitative methodology and an apparently atheoretical empiricism which was seemingly well suited to policy-orientated research because it satisfied a political need for neutral, "scientific" respectability. Yet it was an approach directed towards the politically defined task of establishing the existence of school effects rather than the problem of explaining them. The remote statistical measures used were incapable of unravelling the actual processes occurring within schools.

The extent to which researchers ignored the limitations of methodological empiricism or were simply unaware of them is difficult to assess. By 1972 Jencks was certainly becoming aware of the limitations of this approach but went on to use it regardless:

We have ignored... the internal life of schools. We have been preoccupied with the effects [ Jencks emphasis ] of schooling... This has led us to adopt a "factory" metaphor... Our research has convinced us that this is the wrong way to think about schools. The long-term effects of schooling seem much less significant to us than they did when we began our work, and the internal life of the schools seems correspondingly more important. But we will not explore the implications of this alternative view in much detail. Instead we will be content to document our skepticism about the importance of school outputs [1972 p.13].

On the other hand there is little evidence of widespread doubt about the validity of methodological empiricism amongst school effectiveness researchers until the late 1970's. Overall it appears that during this period researchers were preoccupied by frequently petty debates over the measurement and validity of a narrow set of empirical findings, precluding fresh examination of the prevailing problematic from different methodological and theoretical perspectives.

By the late 1970's the view that schools were powerless to address social inequalities was widely accepted. It appeared that any school mix effects

which did exist would not make any difference to school outcomes and could be dismissed. Many researchers agreed with Hauser and his colleagues that

...research on the schooling process could profitably be turned to issues other than the explanation of school to school variations in aspirations and achievements". [1976 p.341]

School effectiveness research was at an impasse. It's lack of direction allowed the central problem to be taken up in a completely different, more limited way by the Effective Schools movement in the following decade.

## Effective Schools Research

Effective Schools proponents argue that school process, environment and structure can profoundly affect student achievement. This argument rests on two propositions: firstly, that exemplary schools exist which achieve considerable academic success regardless of student background; and secondly, that there are specific, concrete characteristics that explain the success of these schools. By tapping popular wisdom regarding the existence of "good" and "bad" schools and providing practical, commonsense solutions to improve them, the Effective Schools movement has attracted widespread interest and support. At a time of economic crisis when "value for money" and efficiency have become central concerns of educational policy makers, its arguments that schools can be radically improved solely through better management and organisation have played an important ideological role in supporting the neo-liberal reforms which have reduced state support for education in most Western countries during the last decade.

The Effective Schools movement drew its initial theoretical legitimacy from the organisational research of the late 1970's which began to examine closely the internal workings of schools - looking, as Bidwell and Kasada [1980] put it, at the effects of schooling rather than school effects. Effective Schools literature then grew rapidly to incorporate a range of other theoretical frameworks and methodological approaches. Typically, it has been informed by "exemplary schools", organisational and institutional frameworks [ Rutter, 1983; Cuttance, 1985 ] and has used casestudies, studies of exemplary outlier schools, programme evaluations and reviews of previous literature [ Purkey and Smith, 1983; Bryk, Lee and Smith, 1990 ]. It has been widely reviewed both by supporters [ Rutter, 1983; Cuttance, 1985; Bryk, Smith and Lee, 1990 ] and critics [ Rowan, 1983; Purkey and Smith, 1983; Ralph and Fennessey, 1983; Lauder and Khan, 1988 ].

In some respects it is difficult to pin down an Effective Schools perspective on school mix as most studies hardly acknowledge the question. [ We will return to this point later. ] In those studies which do however find some kind of mix effects, these appear to be explained in two ways that are often related: as the result of school "ethos" or organisation

and/or as a reflection of "ability" mix seen in isolation to school [ SES ] mix. The work of Rutter et al. [1979] provides a useful introduction to these arguments. Their main finding in Fifteen Thousand Hours was that school "ethos" - the style and quality of school life, patterns of student and teacher behaviour, management and treatment of students and care of school buildings and grounds - made the difference between school outcomes measured in terms of behaviour, attendance, exam success and delinquency. Rutter and his colleagues thought that the mean characteristics of the students of the school - which he called "balance of intake" - could be an important variable determining ethos. They argued that it was "ability" mix rather than SES mix which seemed to make the difference, suggesting that:

"The presence of a relatively high concentration of pupils in the upper ability groups may work to the advantage not only of the pupils themselves but also to their peers. In a similar way, a largely disadvantaged intake might depress outcomes in some cumulative way over and above the effects of a disadvantaged background on the individual pupil". [1979 p. 154]

Rutter et al. offered an ambiguous explanation of the mix effects they found. As there was no correlation between the "balance of intake" and any of the study's school process measures, they presumed that mix effects must work directly through peer influences in some kind of motivational way. On the other hand, they found no correlation between "balance of intake" and behaviour outcomes, nor any evidence of school subcultures which might be expected if peer influences were important.

Several relevant problems with this work may be noted. Firstly, there is the central problem observed by Purkey and Smith [1983]: that the "balance of intake" variable assumes such importance in the analysis that it is possible that it, rather than school ethos, strongly influences school outcomes. Secondly, by drawing a distinction between SES and "ability" Rutter and colleagues ignore the close correlation between the two found in many studies. Thirdly, they used a relatively homogeneous sample of working class schools which would limit the influence of school mix compared to a broader sample. Lastly their explanation of the mix effects is very unsatisfactory. If school effects are neither reflected in school organisational processes nor show up in pupil behaviour or subcultures as Rutter et al. suggest then their explanation of them in terms of some kind of direct or indirect peer influence is clearly problematic.

That Rutter et al. fail to consider seriously these questions with respect to their analysis is characteristic of Effective Schools literature and a key to penetrating it's ideological position. The Effective Schools movement is best understood by viewing its relationship to the earlier research it came to dominate. It has neither contradicted nor challenged directly the former ideology that schools make little difference to student outcomes when background characteristics were taken into account. Rather this difficult issue has been sidestepped as the Effective Schools movement has focussed on the smaller, more conservative problem of how to raise

standards within schools through various organisational and management practices thought to be successful. The change of direction is usefully summarised by Witte and Walsh [1990]:

Assuming student background characteristics are very significant factors predicting individual achievement and we will not contradict that conclusion ..., we can either agree with Jencks et al. [1972] that we need to change those factors through income redistribution and employment and social policies, or we can argue that although that is occurring [ or because that is not likely to occur ], we should nevertheless make every effort to maximise educational prospects, regardless of existing inequalities. [p.189]

[ Witte and Walsh's parentheses, my emphasis ]

From the latter Effective Schools perspective school effectiveness research is reduced to an essentially technical matter concerned with tinkering with schools as they presently exist. Indeed early Effective Schools studies, content to simply show that school processes could affect academic outcomes, often ignored students background characteristics. Frequently they did not even bother to control for SES. Edmonds went as far as to argue that

...repudiation of the social science notion that family background is the principal cause of pupil acquisition of basic school skills is probably prerequisite to successful reform of public schools for the children of the poor. [1979 p.23]

Now although more recent Effective Schools work is less overtly polemic the influence of student background variables still receives inadequate consideration.

The problem here is that by turning its back on the fundamental question stemming from the earlier problematic - whether or not structural inequality can be reduced through schooling - Effective Schools research ignores the social justice implications posed by those findings. As Lauder and Khan [1988] point out moreover, it has disregarded the critical literature which has continued to grapple with this problem. Although it purports to be objective and neutral, Effective Schools research is inherently conservative because it discourages critical analysis of schools. While its attempts to shed some light on the "black box" of schooling are a valuable development on earlier approaches, this is circumscribed by a view of schools as social islands. Through ignoring the wider social space structured by class, gender and ethnic relations within which schools, students and teachers exist, the Effective Schools analysis of school processes is fundamentally flawed.

In my opinion the most critical failing of Effective Schools research is that it does not consider adequately the central question of causality Rutter poses but fails to answer satisfactorily:

The question is whether schools were as they were because of the children they admitted or rather whether children behaved in the way they did because of school influences. [1979 p.181]

The Effective Schools movement has assumed the latter answer to this question, that school organisation primarily influence children. It has generally not accepted that the former perspective might be valid: that schools reflect the characteristics of the children they teach in fundamental ways. This is because, in opposition to the polarised arguments of earlier writers like Jencks that schools can not make any real difference, the Effective Schools movement adopted as its central plank the equally polemic argument that schools can be reformed so that all students achieve academic success regardless of wider social processes.

Brookover et al [1979] usefully illustrate the development of this kind of argument in what was perhaps the most complex and influential of the first generation of Effective Schools studies in the USA. This study began by looking back to the work of McDill and colleagues [ McDill, Meyers and Rigsby, 1967; McDill and Rigsby, 1973 ] on school climate. However instead of arguing with McDill that normative climate variables associated with school mix caused achievement variance across schools, Brookover and his colleagues followed Hauser [1971] to take this argument a step further and suggest that normative climate variables were really relatively independent of school composition. In a large scale regression analysis of variables drawn from Michigan elementary schools, they then found that after controlling for SES and ethnicity school climate variables still differed significantly between schools and that achievement seemed to be linked to these differences in normative climate rather than school composition. Now although Brookover et al. admitted that this finding did not constitute "sufficient proof" to eliminate school mix as a causal variable because of the causal problem of the possible influence of third variables [ multicollinearity ], they still used it to assert the view [pp.141-142] that "school climate rather than family background as reflected in student body composition has the more direct effect on achievement".

However causal ordering cannot be established this easily. Correlations, as Hammersley [1992] points out, do not equal causality. Nonetheless this kind of analysis has continued to be used to provide evidence that school policies and practices rather than school mix cause school outcomes. For instance the work of Chubb and Moe [1990] cited earlier also leans heavily on willing away the probable influence of school mix on school achievement. Chubb and Moe initially acknowledge the significance of school mix in the HSB data they use by "draw[ing] a clear line between the student bodies of high and low performance schools" [p.111]. They also find school mix strongly associated with achievement in their own analysis [pp 128-129]. Nonetheless Chubb and Moe ignore school mix, along with the influence of individual SES, in favour of school organisation and individual ability as the determinants of school achievement. Their treatment of the problem of

accounting for third variables like school mix in their study is quite inadequate. Reviewing their findings, Glass and Matthews point out:

...[t]he third variable problem doesn't yield to such modest exertions as scoring a handful of questionnaire items ....If it did we in educational research would be adrift in reliable, well-established causal relationships. [1991 p.25]

In a review of Effective Schools literature, Rutter [1983] points to two further justifications for the view that school achievement is related to school organisation or ethos rather than school mix. The first is that matched schools with similar intakes but different outcomes are seen to differ predictably on school climate variables. Brookover et al. [1979] is cited as providing this type of evidence so will once more be examined here. In addition to the large scale statistical survey discussed above, Brookover and his colleagues studied in greater depth two pairs of low SES elementary schools - one predominantly white, the other largely black. Each pair shared similar SES mix but differed considerably in their mean level of achievement. After some three months research in each school, observers concluded that there were predictable differences in school climate variables between the low and high achieving schools in each pair. Brookover et al. attributed the differences in achievement between each pair of schools to these school climate variables.

Now the question to be asked here is not whether climate variables do make some predictable difference as the issue that some school policies and practices are more effective than others is not at stake. [ However I would argue with Hallinger and Murphy [1986] that particular school policies and practices are effective with particular types of students instead of with all students as the Effective Schools movement has frequently claimed ]. Rather the key question is the extent of difference climate variables stemming from school organisational policies and practices can make over and above school mix. The central tenet of the Effective Schools movement that there are verifiable examples of exemplary schools that achieve high academic standards with poor urban minority children really underpins this second kind of evidence. Brookover et al. argue for example:

The fact that some low SES white and black schools do demonstrate a high level of academic achievement suggests that the socio-economic and racial variables are not directly causal forces in the school social system. We therefore conclude that the school social climate and the instructional behaviour associated with it are more direct causal links in the production of achievement [1979 p.142].

Central to this type of claim is the issue of whether in fact schools in studies like this are truly similar in terms of SES composition yet very different in terms of achievement in the first place. It is apparent that "exemplary" is at best a relative term. Purkey and Smith [1983 p.432] point out that the pervasive influences of social class on achievement and the possibility that even the "typical" suburban school has some important

advantages over the relatively effective inner-city school means that statistically unusual schools are not necessarily particularly effective as effectiveness depends on a subjective scale of magnitude. In Brookover et al.'s study for instance the mean score of the exemplary black school was considerably less than that of the exemplary white school and the state as a whole. Purkey and Smith argue [p.436] that "while the black school may have narrowed the gap, the gap remains".

Furthermore Rowan [1983], Purkey and Smith [1983], and Ralph and Fennessey [1983] amongst others have argued that "exemplary" schools have not been correctly identified in other respects. They point to measurement errors, the use of data that is contradicted by other sets of contemporaneous data and follow up studies and the seemingly widespread problem of data tampering at the school level. It is against these kinds of issues that Rutter's claim that, regardless of school mix, school climate or ethos is the key variable in school effectiveness needs to be measured.

The other kind of evidence for the primacy of the school policy over school composition cited by Rutter [1983] follows his earlier work in Maughan et al. [1980] which uses the presence of an increased correlation between school process measures and pupil measures at the end of secondary schooling compared to the beginning, to infer the direction of causality. As school process measures were found to correlate more strongly with pupil characteristics at the end of school than at intake, Rutter assumes that teacher behaviour and school climate shape pupil characteristics rather than the other way around. This argument however does not take into account the possibility that pupil's orientations towards schooling might change over time because of processes that have little to do with school policies and practices but rather relate to the influence of wider social structures within and beyond the school such as awareness of the labour market or the absence of early school leavers. Brown [1987] for instance shows the importance of students views of the local labour market in determining their attitudes towards their work and towards school authority in their last years of schooling.

In sum the early Effective Schools evidence for school ethos at the expense of school mix is insufficient to overcome the need, as Rutter puts it, for

...serious consideration ...that all studies have shown a very substantial overlap between the composition of the student body and the school climate measures. [1983 p.12]

Some recent trends in Effective Schools research further suggest that the question of school mix is an intransigent one that has yet to be adequately addressed. Firstly, a number of studies do acknowledge a mix effect but look to "ability" mix as its origin, with or without reference to ethos. Recognition of a mix effect may in itself be seen as an important development on much past Effective Schools work, yet by narrowly attributing mix effects to "ability" rather than SES these interpretations fail to lay to rest the possibility that school [SES] mix is highly

significant because of the well established [ if insufficiently understood ] relationship between SES and prior academic achievement that most studies have found. Rather these interpretations continue to dodge, counterintuitively in my view, the structural importance of social class in schooling outcomes.

In some of these cases possible school [SES] mix effects have simply been ignored. Smith and Tomlinson [1989] for example found weak attainment [ prior achievement ] mix effects but did not bother to test for school [SES] mix despite taking account of individual SES effects in their study. Maughan and Rutter [1987], comparing the effectiveness of selective and nonselective British schools, concluded vaguely - and with no mention of school [SES] mix - that while "an unfavourable balance was no necessary bar to attainments" nonetheless

...in general the ability balance in the intakes to ...schools showed an association with the intakes of their more able pupils: the smaller the proportion of able children, the more difficult it was for schools to promote high levels of attainment. [1987 p.67. Rutter's emphasis in both cases ]

Others have argued that ability mix is more important than school [SES] mix. Bryk, Lee and Smith [1990] in a review of U.S. literature for instance suggest that while school [SES] mix effects are relatively unimportant, "...schools need a nucleus of motivated and academically able students to provide a stable institutional base" [ibid p.150].

Another trend is for studies to show that effectiveness predictors are not robust across different contexts [ Firestone and Herriot, 1982; Hallinger and Murphy, 1986; Teddlie et al., 1984, 1987; Scheerens, Nanninga and Pelgrum, 1989 ] as was argued in early Effective Schools research. This finding calls into question the causal supremacy of school ethos over school mix by casting doubt on the notion that school organisation can overcome the effects of school composition. Hallinger and Murphy's work is particularly significant here. They found that school mix does influence the operation of effectiveness factors in elementary schools. Contrary to the notion that there are particularly effective practices that work in all schools regardless of school mix, they argue that:

High and low SES effective schools [ are ] characterised by different patterns of curricular breadth, time allocation, goal emphasis, instructional leadership, opportunities for student reward, expectations for student achievement and home-school relations.[ 1986 p.347]

A related third recent trend is towards what Scheerens [1991] calls a contingency perspective - examining the influence of contextual variables such as school mix on school effectiveness. He suggests that

...including contextual variables like student body composition...can be seen as a relatively new and very interesting development in school

effectiveness research. [1991 p.385]

The growth of this perspective may indicate an new willingness amongst researchers to examine the impact of structural influences on school achievement. For instance in a recent review Mortimer [1991] concedes that while one direction open to school effectiveness researchers today would be

...the reinstatement of equity as a primary goal of school improvement programmes

nonetheless

..the evidence about the power of schools to modify - at a group level - the influence of social class and race is hard to find. [1991 p.225 ]

This kind of acknowledgement appears to reopen the structural questions that Effective Schools proponents took off the school effectiveness agenda in the late 1970's. Mortimore [1992] currently defines an effective school as "... one in which pupils progress further than might be considered from consideration of its intake". This position demonstrates an important shift from the early Effective Schools literature which held that schools could "produce whatever behaviour the school social system is designed to produce" [ Brookover et al., 1979 p.148 ].

#### Balance Thesis Research

Over the same period in which the Effective Schools findings have largely refuted the influence of school mix, a small group of school effectiveness studies which I will call Balance Thesis research [ after Clifford and Heath, 1984; Willms, 1985 ] have unequivocally seen it as a key factor in school success. Marginalised by the more sizeable and influential Effective Schools movement, this stream of research has found that school mix can make a considerable difference to school outcomes. By balancing school mix, it is argued, overall educational outcomes improve. Balance Thesis research suggests that school mix may be a genuine causal variable in school outcomes and therefore an important tool available to policymakers concerned with school effectiveness in the context of genuine equality of opportunity.

A number of studies since the late 1970's have challenged the Effective Schools findings in this way. However the strongest recent evidence for substantial school mix effects is probably that provided by McPherson and Willms [1987] and Lauder and Hughes [1990]. McPherson and Willms's longitudinal study examined the impact of comprehensive reorganisation in Scotland between 1970 and 1984. Contrary to critics of various persuasions who have maintained that comprehensive schooling has failed, they found that comprehensivisation significantly reduced social class inequalities of attainment and improved average levels of attainment when measured against

the inequitable pattern established in the preceding six decades.

Following their earlier work [ McPherson and Willms, 1986; Willms, 1985, 1986 ] they attribute the decline of SES inequality in attainment to school mix effects. They found that comprehensivisation resulted in the abolition of selection at 12 years, the closure of many short-course schools, and the redefinition of school catchments which, they argue:

...led to a reduction in between school segregation in many communities. This reduction allied to the rise in the SES level of the school population, distributed the benefits of a favourable school context more widely, though it must be added that these benefits are not well understood. [1987 p.23]

Lauder and Hughes research in Christchurch, New Zealand employed regression analysis on the SES, gender and "measured ability" [ prior achievement ] intake variables of 20 schools across the city with diverse academic outcomes. Their conclusion was that between school differences in school outcomes are primarily determined by school mix rather than school type. In particular they argue that it is the school mix that makes the difference [ the sample was ethnically homogeneous ]. They found that pupils who attended one of the five highest mean SES schools in their sample needed, on average, an DIQ of 112 to pass their University Entrance exams but that pupils that attended one of the five schools with the lowest mean SES required, on average a DIQ of 127 to achieve the same pass.[1990 p.51] In practice this kind of school mix effect meant that working class pupils with similar levels of prior achievement were on average leaving school with no qualifications from the lowest mean SES schools but with five School Certificate/Sixth Form Certificate passes from the schools with the highest mean SES.

Lauder and Hughes argue that while typically middle class strong students may lose to some degree by mixing with largely working class low achievers, the gains of the weaker students would far outweigh the loss of the stronger. This is a crucial finding because it suggests that balancing school mix need not unduly affect those groups who currently experience academic success. Equity and excellence, they argue, can go hand in hand.

How Significant is School mix? Is it Causal or Proxy?

It is clear from the preceding discussion that the school effectiveness literature on the strength of influence of school mix on school achievement is ambiguous. While there has been much school effectiveness research to suggest that school mix is not significant, the limitations of that research cannot be ignored. Furthermore there are a number of strong studies with positive findings [ although I will argue that these too have been inadequate in some respects ]. On balance it appears that, taking the ideological position of much past and present work into account, there is

at least a prima facie case for the existence of significant school mix effects.

Perhaps the most difficult issue to be resolved is the matter of causal ordering identified earlier. This is the problem of whether school achievement primarily reflects school mix [ and thus the background characteristics associated with a particular kind of school composition ] as Balance Thesis proponents would have it, or whether achievement is determined by concrete school based policies and practices which are able to be modified as the Effective Schools movement argues. There is however a related causal hurdle that raises yet another set of questions. Even if the Balance Thesis case that higher average school achievement is associated with favourable school mix is accepted, this fails to rule out the possibility that school mix is still merely a proxy for unmeasured school processes rather than a genuine causal variable. Lauder and Hughes [1990 p.50] point out that the correlation between school mix and successful school processes could theoretically come about because (i) successful school processes cause school mix; (ii) school mix causes successful school processes; or (iii) some third variable causes both. Perhaps the most obvious example of a school variable that might influence school mix would be the calibre of teaching. If a high percentage of good teachers attract a disproportionate number of relatively privileged pupils because of their standard of teaching we have an instance of case (i). If schools with a high percentage of relatively privileged pupils attract a disproportionate number of high calibre teachers because of the school mix we have an example of case (ii). If schools in certain parts of a city attract disproportionate numbers of good teachers and relatively privileged pupils because of their geographic location [ eg. they are in high cost residential areas ] we have an example of case (iii).

Now while Lauder and Hughes do not discount the possibility that school mix might be a proxy for some unmeasured school process, they argue that this could only explain some of the differences between schools. They suggest that although their own work is not conclusive, school mix is probably a genuine causal variable. They come to this conclusion largely because of "the weight of evidence from previous studies" [p.50] In their view, the best way to start explaining school mix effects is to examine the large body of ethnographic research in the sociology of education which looks at the role of subcultures within schools. However if on balance the idea of school mix as a significant variable is reasonably plausible in the light of the quantitative literature, consideration of the largely qualitative ethnographic literature presents some further difficulties.

#### School mix: Ethnographic Perspectives

Underpinning the qualitative literature on school subcultures is the idea that society is deeply structured by class relations [ along with gender and ethnic relations ] and that school subcultures reflect this. Class

based school subcultures are seen to interact in a variety of ways with the organisation and culture of schools to produce different outcomes for different subcultural groups. From this view schools primarily reflect dominant or ruling class culture, the culture of high SES groups such as those from professional and managerial backgrounds. It follows that students from high SES backgrounds therefore have an organic class relationship to the school [ Bourdieu and Passeron, 1977; Connell et al. 1982 ]. In Bourdieu's terms, ruling class students find that the schools values, expectations and perspectives are largely consistent with their own world views. They are amenable towards and accepted by the school such that they are able to convert their cultural capital into high credentials. As they usually perceive the school working in their interests, they generally take a positive, normative approach to the social and academic goals of the school. Working class students, on the other hand, will usually be instrumental or alienated rather than normative because as a result of their significantly different class cultural background they lack the cultural capital needed to identify with and/or be favourably received by the dominant ruling class culture of the school. Consequently many working class students struggle with their schooling and most fail to achieve good academic qualifications.

Some form of this argument is common to most of the ethnographic literature on school subcultures. School mix does not get much mention as a possible mediating influence so it is necessary to extrapolate from the available evidence. Lauder and Hughes have done this to argue that in schools with more balanced mixes, the predominant ethos of the school and of the high SES students with cultural capital "rubs off" on working class students, lifting their academic performance compared to their counterparts in predominantly working class schools. That is,

...the various working class subcultural responses to schooling are modified or changed in schools with more balanced social class intakes. [1990 pp.50-51]

How this might happen however, the causal mechanisms involved, depends very much on the manner in which the subcultures themselves are theorised. In other words, to find an explanation for school mix effects from the qualitative literature, it is necessary to take into account different subtheories within that literature as to how school subcultures develop in the first place. This issue, a central concern of the ethnographic literature on school subcultures, relates to Rutter's question about causal ordering cited earlier: whether children influence schools or schools influence children. It translates in this literature as the issue of whether (i) subcultures result from the influence of the school; or (ii) subcultures have already been determined by children's class cultural backgrounds; or (iii) subcultures result from the complex interaction of both school and class cultural processes.

The first of these approaches is illustrated by the development of what Hammersley [1985, 1992] calls differentiation - polarisation theory by

Lacey [1970] and Ball [1981]. Their studies have argued that school subcultures stem from the internal sorting and selection arrangements of schools. Over time, predominantly working class pupils placed in low streams/bands develop anti-school values while largely high SES pupils placed in upper streams/bands exhibit pro-school and pro-academic attitudes.

This approach implies that working class students prefer to take a normative or at least instrumental orientation to school but are constrained from doing so by school processes which cause them to develop negative, anti-school attitudes and values. It follows that if it is the school that "cools out" working class pupils then it may be the modification of school processes in some way that allows working class students to improve their achievement in schools with a broad school mix. Most obviously, it might be thought that schools with a broad school mix have less internal selection and sorting and therefore are less likely to alienate students through differentiation-polarisation. However significant school mix effects have often been found even where schools are formally differentiated. It may be however that socially mixed schools are less alienating in more subtle ways for working class students than formal school arrangements suggest.

This model may also point to direct rather than indirect influences of high SES peers as the source of school mix effects. This view would argue that despite school selection processes that alienate working class students, the presence within the school of large numbers of high SES students is helpful to working class students, influences their aspirations and lifts subsequent working class academic performance. The problem with this hypothesis is that Hargreaves, Lacey and Ball all show that there is little contact between working class and high SES students. In class they are kept apart by school differentiation but because their friendship groups also become polarised they are also hostile and distant out of class. Lacey [p. 82] found that whatever the nature of the activity "the majority of friends are chosen within the primary organisational groups to which the pupils belong". Hargreaves argued that mutually held negative stereotypes only broke down in those few activities such as team sports that required cooperation. Thus [p.79], "joint membership of a team was one of the very few bases on which 4A or 4D boys would express approval of one another". Furthermore Ball found that when his casestudy comprehensive became mixed ability after being banded polarisation decreased - so that the mixed ability classes were more similar in their values and attitudes to the former upper band than low band classes - but that there was still no evidence of increased social class/prior achievement mixing. In fact:

...the friendship structures of the mixed ability forms are divided up on the basis of differences in social class and academic achievement, reproducing the social cleavages evident in the banded cohort [1981 p.278].

In contrast to this approach, the second perspective argues that working class students fail not because school processes work against them but

because of their class cultural characteristics. Willis [1977], along with other "resistance theorists", has argued that different social classes have quite distinct value and cultural systems so that working class students will not usually share the pursuit of academic achievement and social mobility typical of higher SES groups. His account recognises that working class pupils could be unwilling to succeed academically rather than unable to do so. Willis's central argument is that the "lads" prefer to take an alienated orientation to their schooling. This clearly precludes the notion that the normative culture of high SES pupils "rubs off" on working class school peers.

From this point of view school mix effects would only occur because working class students are less able to form an alienated subculture in schools. The improvement in working class success in socially mixed schools would essentially be imposed. School mix effects might work in this way by affecting the relative balance of power between the class based orientations of students in schools and therefore determining the effectiveness of school processes. In socially mixed schools, working class students may achieve better academic results because they are forced to meet the more efficient and more academic demands of the school created by its higher mean SES mix. An alienated orientation would be more difficult to sustain here for several reasons. Firstly, given the large scale of compliance, the general administrative/disciplinary system of the school will be able to be more effective, more demanding of resisters. Secondly teachers may be able to give more time and energy to "difficult" pupils given that they are less likely to be swamped by motivational, behavioural and learning difficulties than those who teach in predominantly working class schools. A further reason why resistance would be more difficult in socially mixed schools is that there would simply be fewer students with alienated orientations to provide peer support. The situation might be similar to that noted by Willis in the years prior to the "coming out" of the "lads":

"Even if there is some form of social division in the junior school, in the first years of the secondary school everyone it seems is an "ear'ole". Even the few who come to the school with a developed delinquent eye for the social landscape behave in a conformist way because of the lack of any visible support group". [1977 p.60]

It will suffice here to note two relevant problems with Willis's work. Firstly, he ignores the great majority of working class students who do not openly resist school, dismissing them as ideological dupes. Secondly, his work does not explain why school resistance doesn't surface much earlier. Given that it is a class cultural attribute, an alienated orientation could be expected to show up in the early school years but this is not the case. In relation to school mix effects the major difficulty posed by this model is whether school processes can exert such a powerful influence that they can overcome student alienation and improve working class success.

Hammersley [1985] views these two approaches as competing hypotheses which

can be tested against each other to determine their validity. However Brown [1987] has suggested that they are in fact merely two sides of the same coin and offers a third, interactional approach to theorising school subcultures. He discards the dichotomy inherent in these models whereby pupils are seen as either accepting, normative and pro-school or rejecting, alienated and anti-school, arguing that the majority of working class "ordinary kids" fit into neither of these categories. Instead they comply with the school and go along with its processes for instrumental reasons: as a means to working class ends.

In an attempt to devise a theoretical framework which

not only allows us do justice both to the complexity of meanings generated within the school and their relation to wider societal processes, but also gives a proper place to both agency and structure in the determination of educational experiences [1987 p.28],

Brown proposes the notion of "frames of reference" or FOR's . Working class pupils typically either accept the school, [ a normative "getting out" FOR ], reject it [ an alienated "getting in" FOR ] or most commonly just comply with it [ an instrumental "getting on" FOR ]. FOR's, the focal concerns of working class youth, represent different selections from the various class cultural and educational resources available to working class youth. They are identities constructed on the basis of different past experiences and understandings of possible futures within the constraints of the cultural and educational resources available. FOR's therefore view working class pupils not as cultural heroes or dupes but as "knowledgeable agents with their own theories about life and their particular place in society". Brown argues that working class academic success depends neither solely on pupils attitudes to school nor on the evaluations of students by teachers but on the interplay between pupils collective understandings of being in school and the schools own selection processes.

His approach presents a number of implications for school mix effects beyond those posed by the former two models. It suggests that working class students make various types of educational decisions based on the cultural and educational resources available to them and that their school orientations represent some kind of selection from those resources. The key to understanding how school mix effects work then would be to examine how school mix firstly modifies the resources available to different groups of working class pupils and how secondly it alters the way those groups of pupils make decisions based on those resources. The model implies that school mix effects could stem from both the previous scenarios as well as from others. For instance it may be that for students with a normative "out" FOR school mix is important because it extends the resources available, given that, as Lacey and Ball would have it, they are already positively disposed towards academic success. For students with an alienated "in" FOR school mix might overcome their cultural resistance in imposed ways as described in relation to Willis's work. However it is for the "ordinary kids" with an instrumental "on" FOR that school mix may be

particularly significant. These pupils usually comply with their schooling, that is they accept the schools offerings in a kind of passive non-decisionmaking way. In this case the influence of higher SES students may just "rub off" as suggested by Lauder and Hughes. In other words, the ordinary kids are exposed to more cultural capital which modifies their cultural attitudes, values, knowledge and world views and leads to greater academic success.

### School Mix Research: A Way Forward?

The preceding review of qualitative literature has served two purposes. Not only has it pointed to the complexity of the issues represented by the question of school mix but it has also illustrated the richness of the ethnographic literature for theorising the nature of school mix when compared to the largely quantitative findings of school effectiveness research. The contrast between the realist and positivist paradigms underlying these bodies of literature highlights some pertinent epistemological difficulties associated with further research into school mix.

In this paper I have argued that school effectiveness literature has not adequately addressed the question of school mix despite more than 30 years of relevant research. Along with the ideological issues that have been examined, the domination of school effectiveness research by the positivist paradigm is a factor contributing to the present unsatisfactory situation. Positivists seek to logically describe things as they are in a value-free way rather than to get behind or beyond the observable phenomena. For positivists science is the logical pursuit of predictive laws or empirical generalisations in which explanation is to show that a particular event is an instance of an established regularity. The positivist view of causation is usually a Humean one whereby causality is a matter of one event regularly occurring after another in sequential conjunction, other theoretically admissible variables being held constant. Here theory serves mainly to suggest the relevant confounding influences in causal relationships so that they can be logically controlled and tested. Since theory is not seen in itself to be "analytically or synthetically true" in positivist thought, it has a difficult, ambiguous status.

For those committed to a positivist framework - usually involving large scale, quantitative methodology guided by "neutral" empiricism - the question of school mix will primarily be seen as a technical problem. It will be argued, depending on one's point of view, that researchers on one or other side of the school mix question have misinterpreted their data, that their analysis is in some way flawed. It may also be suggested that the disparate findings reflect the diversity of samples used: that the studies have unwittingly interpreted quite different data. The way forward will be seen in terms of more rigorous, precise and well controlled research.

By contrast the realist paradigm, implicit in much of the ethnographic literature reviewed here, demands that school mix effects be more adequately explained in order to be confirmed or refuted. Realists argue that positivists accept many explanations that are inadequate. Explanation is seen not to be not only about covering oneself and logically justifying conclusions but rather

the riskier business of offering an account that is plausible and illuminating and therefore truly enhance understanding. [ Bredo and Feinberg;1982 p. 24 ]

Causality from this perspective is more than a matter of prediction: what is important is to discover the connections between phenomena by explaining the underlying structures and mechanisms at work.

At least tacit support for the realist position has been provided at times by researchers from all the streams of school effectiveness research examined here who have pointed to the need for detailed research into the causes of school mix effects. Campbell and Alexander argued as early as 1965 that any attempt to interpret mix effects in terms of social psychological mechanisms required the theoretical specifications of those processes. Erbring and Young [1979 p.399] also pointed out that the socio-psychological approach to school mix was "theoretically vacuous" without "first of all, a careful examination of possible linkage mechanisms through which the hypothesised contextual [ school mix ] effects might operate." Rutter [1979 p.155] concluded that "the analysis of how the group composition of a schools intake might affect the pupils later outcomes is clearly a complex matter... our analysis can only represent the beginnings of attempts to unravel the network of interacting influences". Bryk, Lee and Smith [1990 p.148] note that "much of the research ... focuses on the direct link between composition and outcomes without any explicit consideration of the organisational mechanisms involved". Willms [1985 p. 303] calls for a "detailed examination of the contextual [ school mix ] effects ... for different types of pupils". Clifford and Heath [1984 p.95] note that the balance thesis is an "eminently researchable" hypothesis but one "on which we remain at present quite ignorant".

Yet despite these arguments, the school effectiveness track record of inconclusive claims and counterclaims with little real attention to specifying the possible causal mechanisms of school mix indicates that researchers have been reluctant to move beyond a positivist framework. Until they do so, in my opinion, they are unlikely to provide much further insight into the existence and nature of school mix effects. For instance it is probable that the statistical tools used in survey research, despite their increasingly sophisticated multi-level nature and impressively qualified useage, will still be insufficient to capture the intricate processes within and around schools that could be represented by the school mix problem. Nor is a purely empirical approach likely to be enough to provide a satisfactory explanation: the complexity of the problem may well

need the kind of explicit theoretical frameworks favoured by realists.

School mix represents a question which highlights some epistemological limitations of existing school effectiveness research. In my view a more fruitful approach to illuminating school mix effects would be to examine their possible causes using detailed case study evidence guided by a methodological and theoretical approach which builds on the kinds of findings this paper has reviewed both within and beyond the conventional bounds of school effectiveness literature. At the same time I have indicated the necessity of taking into account the political ideologies that have driven research findings when assessing the validity of past and present perspectives. School mix remains a theoretical and policy question worth answering.

## Notes

. Several points need to be made about this definition. Firstly, this variable has variously been called "contextual", "compositional", "peer", "balance of intake" and "social class mix" in the literature. It is called "school mix" here in the interests of simplicity but would perhaps best be called "school social class mix" because I regard social class [ which I use interchangeably with SES in this paper ] as the likely fundamental determinant of the school mix effect and of school success in general. Secondly, at times I link social class and prior achievement [ or "ability" ] in recognition of their close correlation and because "ability" is sometimes used in the literature in relation to social class. This position however should not be confused with a view of school mix effects in terms of the "ability" mix of schools without consideration of the influence of social class, a position which this paper critiques. Thirdly, I prefer to use the term "prior achievement" rather than "ability" in order to acknowledge that school success or failure reflects demonstrated school performance rather than any measure of what students may actually be capable of given different circumstances. Lastly, there are other important dimensions of the composition of schools that need consideration [ particularly ethnicity and gender ] but I am not able to address these in this paper.

. He found that among middle class boys in San Francisco, 93%, 77% and 64% respectively planned to go to university depending on whether they were at predominantly ruling class, middle class or working class schools. For working class boys the respective figures were 59%, 44% and 33%.

. See Karabel and Halsey [1977] for a discussion of the political context of the Coleman Report.

. Coleman's work is often ambiguous as to whether he is attributing achievement gains primarily to the effects of students ethnic, social class or prior achievement characteristics. He frequently combines two or more of these variables in his discussion. For instance Coleman [1990 p. 212 ] talks of the assumption that " integration - at least in majority

middle class white schools - would automatically improve the achievement of lower class black children". This limitation in Coleman's work appears to be due to the epistemological issues noted here - that methodological empiricism has focussed on school effects without much consideration of causal mechanisms.

. Coleman [1990] pp.165-235 shows that desegregation by bussing invariably led to resegregation as white families moved to suburbs beyond the reach of bussing policies. He suggests in hindsight that effective desegregation plans need to begin with a plan that involves entire metropolitan areas and with a focus on incentive rather than coercion. Bryk, Lee and Smith [1990 pp. 148-149] also provide a useful review of basic findings concerning school desegregation efforts in the USA. See Killian [1979] for a critique of bussing in Britain.

. Such a model had rather impractical implications. Alexander and Eckland [1975] suggest for example that a high SES/low "ability" student body such as an elite prep school with low academic standards would constitute the "ideal" education enhancing environment. This kind of argument ignores the practical reality that such schools do not normally exist because there is a high correlation between social class and academic achievement so that schools with many privileged students invariably perform well. It does indicate however the degree to which school mix was perceived as a theoretical rather than practical issue by the 1970's.

. See for example Alexander and Eckland [1975].

. In recent years however Coleman has moved away from the position that school desegregation is likely to bring about achievement gains for disadvantaged minority youth. He suggests [1990 p.212-213] "It probably is true that desegregation under optimal conditions will increase [students] achievement. But that is not the point: very likely any school changes, under optimal conditions, will have this effect. What we must look for is the effect on disadvantaged children that occurs under the variety of conditions in which desegregation is actually carried out." Coleman raises two issues here. That the practical effects of policy on real situations is what counts seems well-founded. However as this paper argues, school mix may well be a more significant variable than Coleman himself has come to allow.

. Jenks cited in Hauser [1976] p.310. Hauser pp 310-311 provides a useful indication of the debate over methodology and findings.

. Although school mix was not specifically mentioned in *Schooling in Capitalist America*, strong school mix effects were ruled out on at least two counts. Firstly, students from different classes were assumed to be divided socio-geographically by residential segregation such that social class mixing would not occur. Secondly, the internal differentiation of students by tracking which was an important element of the correspondence thesis also precluded serious consideration of school mix effects. Bowles and Gintis gave no weight to variables like school mix which might mediate their neat account of neighbourhoods and schools stratified on class lines.

. Cited in Karabel and Halsey [1977] p.23. Their introductory chapter provides a critique of Jenks' work. See also the technical critiques of Jenks in the *Harvard Educational Review*, 43, 1 [1973].

. For the controversy stemming from Sewell and Armer's study see the October 1966 issue of *American Sociological Review*, for Hauser see Barton [1970]. These critiques generally focus on the way school mix is specified. Sewell and Armer for instance credited the social class composition of the high school with only that part of the variance in college plans that remained after the relationship between ability and college plans had already been taken into account. This procedure was disputed by Turner [1966], Boyle [1966b] and Michael [1966] because it assumed that students attended high SES schools because of their ability and ignored the possibility that the social class of the school affected ability. They reanalysed Sewell and Armer's data to show the greater percentage of variance in college plans that resulted from taking into account the relationship between ability and school social class composition. This study also differed from most previous studies in that it measured the socio-economic composition of neighbourhood residents rather than the mix of specific schools.

. One example of this was the use of psychometric attainment tests to measure student achievement. This was common practice in studies of school mix during the 1960's and 70's. These were general tests which failed to measure achievement in terms of what students had actually been taught in school. They may in effect have been a better indicator of students' cultural capital than their actual school learning.

. Chubb and Moe's approach to the further chicken and egg problem of the ambiguous direction of reciprocal causality in their study [endogeneity] also illustrates that their findings are an article of faith. After conceding that statistical methods cannot readily distinguish between cause and effect Chubb and Moe go on to state: "We do not wish to pretend that we have a solution to the endogeneity problem - for we do not - but we do believe that we have a workable method of analysis that keeps the...problem in clear view. Despite all we have said about the problem of reciprocal causality, we believe that the key influences on student achievement tend to run in one direction. We believe that...school organisation is primarily a cause of school achievement and not a result of it". The effect of this argument is to claim the causal supremacy of organisation over achievement rather than allowing that school achievement, related in turn to variables like school mix and individual SES as they previously acknowledge, may rather determine organisation in important ways.

. They cite in particular Barr and Dreeben [1983] who, in a particularly detailed study of primary classrooms, show that the characteristics of a student group influence teacher's work to a considerable extent and that classrooms with a predominantly low ability mix are the most problematic teaching environments.

. See for instance Friedkin and Necochea [1988].

. Summers and Wolfe [1977] argued that Jenks, Hauser and others had not found potent school effects because the aggregated nature of the data collected at district or school level disguised the real impact of schools. In contrast to past studies Summers and Wolfe used pupil specific data from a very rich longitudinal data base which included a three year personal history for each student. Rather than using psychometric attainment tests as other studies had, they used a value added output measure which gave a

better indication of the work of the school in that it tested progress in work that had actually been taught. They found that low achievers were distinctly helped by being in schools with larger numbers of high achieving students. The strong school mix effects they found were nonlinear, that is, whereas high achievers were not affected very much by variations in the percentage of top achievers in their school, for low achievers "the interlectual composition associated with other characteristics of the student body has a distinct impact on learning". [1977 p.647]

Henderson et al. [1978] reached similar conclusions. In contrast to Summers and Wolfe however they found that strong students would lose to some degree as a result of the mixing but that this loss would be considerably smaller than the gains of the weak students. They concluded that "...the principal variable or effect that is at the potential disposal of policy makers and which has a consistent and strong impact on the achievement of individual students is the quality [characteristics] of the typical or average students in a class". [1978 p.97] Furthermore: "...if the objective of society is to maximise the overall achievement level of its students, or mean achievement, a uniform mixing of students by achievement will be optimal". [ibid p.105]

Shavit and Williams [1984] attributed previous null findings with regard to school mix effects to compositional similarity of sample schools and the prevalence of within school grouping. They found that where schools are highly variable in terms of school mix, school mix effects can be strong and that school mix effects are much greater in ungrouped school settings than in those which are streamed or banded. They drew the policy implication that "if school intergration is to have an impact on educational expectations, it should not be accompanied by intraschool differentiation of students". [p.72]

. Brown [1987] Ch.2 provides an excellent discussion of these various perspectives. See also Hughes and Lauder [1990].

. In Lauder and Hughes study, for example, virtually all the schools were banded. On the other hand Shavit and Williams [1984] suggest that school mix effects may be largely replaced by group mix effects where schools are internally differentiated.

. Perhaps for instance students experience less status frustration or are less prone to labelling than their counterparts in predominantly working class schools because of the presence of a broader school mix.

. When Willis discusses the possible impact of school mix on his analysis for example he suggests [p.85] that "there may be some interesting convergences between middle class and working class ear'ole values and between working class and middle class "lads" [?] values. The option of the "lads" being influenced by the "ear'oles" as school mix effects suggest is not considered.

. He did acknowledge however [ footnote 14 ] that these models are not logically incompatible - there is nothing in either that denies the validity of the other.

. Hughes and Lauder [1990] also propose a model whereby student identities and therefore educational decisions and outcomes are a result of

interaction with the institutions of the family, peer group and school but they emphasize that the influence of these institutions are not universal but will differ in strength from case to case. In their view [p.164], "the formation of working class students' identities, responses and decisions will be a function of a complex set of relations within which the individual is positioned at any given time and as such we cannot determine why particular educational decisions are made in advance of historical analysis, fieldwork and the generation of subtheories".

. For a useful discussion of positivism and realism see Keat and Urry [1975] and Bredo and Feinberg [1982].

. My current research is attempting to examine the question of school mix in this way.

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