Differences between Developed and Developing Countries: Comment on Simmons and Alexander's "Determinants of School Achievement"*

From a library search 4 years ago, confined to the results of production functions, Simmons and Alexander conclude that "the determinants of student achievement appear to be basically the same in both developing and developed countries."[1] This is unfortunate. Either a more recent review or a less restrictive selection would not have reached this conclusion.

One difference between developed and developing countries is the variation in impact of economic status and school influences. Given the Coleman and most other findings from the United States,[2] even Simmons and Alexander admit that "home circumstances" appear to be less influential than was anticipated in the Tunisian, Iranian, Puerto Rican, and Chilean studies,[3] and that student backgrounds in both primary and secondary schools "account for less variation in student performance in developing countries." This observation would have been even more pronounced had the authors reviewed Kifer's findings from 18 countries or those of Bulcock, Clifton, and Beebe, and Shuluka from India.[4]

* My views do not necessarily represent those of the World Bank.

[1] John Simmons and Leigh Alexander, "The Determinants of School Achievement in Developing Countries: A Review of Research," *Economic Development and Cultural Change* 26 (January 1978): 341–58.

[2] James S. Coleman, Ernest Q. Campbell, Carol J. Hobson, James McPartland, Alexander M. Mood, Frederick D. Weinfall, and Robert L. York, *Equality of Educational Opportunity*, 2 vols. (Washington, D.C.: Department of Health, Education, and Welfare, 1966).

[3] Martin Carnoy and Hans H. Thias, "Draft Report of the Second Tunisia Education Research Project RP0248," mimeographed (Washington, D.C.: World Bank, 1974); John W. Ryan, "Educational Resources and Scholastic Outcomes: A Study of Rural Primary Schooling in Iran," (Ph.D. diss., Stanford University, 1973); Martin Carnoy, "Family Background, School Inputs and Students' Performance in School: The Case of Puerto Rico," mimeographed (Palo Alto, Calif.: Stanford University, 1971); Ernesto Schiefelbein and Joseph P. Farrell, "Factors Influencing Academic Performance among Chilean Primary Students" (paper presented at the annual meeting of the International Society of Educational Planners and the American Association for the Advancement of Science, Mexico City, June 1973).

[4] Edward Kifer, "A Cross-cultural Study of the Impact of Home Environment Variables on Academic Achievement and Affective Traits" (paper presented at the annual meeting of the American Educational Research Association, New York City, April 1977); Jeffrey W. Bulcock, Rodney A. Clifton, and Mona J. Beebe, "Reading

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Shuluka presents data on science and reading comprehension among 10-year-olds which show that the proportion of achievement variance explained by preschool influences (SES, sex, and age) is 90% less than the median for the other (mostly developed) IEA (International Association for the Evaluation of Educational Achievement) countries, and that the contribution of the Indian school is from three to four times more. As predictors, socio-economic status and other preschool influences at age 10 are seven times more powerful in the United States than they are in India.

Also not included was a review which placed the IEA (science) findings alongside a methodologically similar exercise performed in Uganda. Preschool influences were consistently found to have less impact in non-industrialized societies. Between explained variance attributable to pre-(primary) school influences and a country's per capita income, the correlation was .56 ($P<.05$, $N=18$); between explained variance attributable to influences internal to the primary school and the proportion of a country's children in secondary school, the correlation was $-.57$ ($P<.01$, $N=18$). School achievement in poor countries is less influenced by preschool influences and more influenced (though not consistently) by characteristics internal to the school.[5]

Considering evidence other than production functions would also have been enlightening. We now have nine studies from less industrialized societies which have concluded that wealthy school children do not perform better to any meaningful degree. There are three from Uganda, three from Kenya, one (among Africans) from Rhodesia, one from Ghana, one from Papua, New Guinea, and those (cited above) from India.[6] In addi-

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Competency as a Predictor of Scholastic Performance: Comparisons between Industrialized and Non-Industrialized Nations" (paper presented at the Sixth World Congress of the International Reading Association, Singapore, August 1976); S. Shuluka, "Achievements of Indian Children in Mother Tongue (Hindi) and Science," *Comparative Education Review* 18 (June 1974): 237–47; Jeffrey W. Bulcock, Rodney A. Clifton, and Mona J. Beebe, *A Language Resource Model of Science Achievement: Comparisons Between 14-Year-Olds in England and India* (Stockholm: Institute for the Study of International Problems in Education, May 1977).

[5] Stephen P. Heyneman, "Influences on Academic Achievement: A Comparison of Results from Uganda and More Industrialized Societies," *Sociology of Education* 49 (July 1976): 200–211.

[6] Uganda: Stephen P. Heyneman, "A Brief Note on the Relationship between Socioeconomic Status and Test Performance among Ugandan Primary School Children," *Comparative Education Review* 20 (February 1976): 42–47; Jonathan Silvey, "Long Range Prediction of Educability and Its Determinants in East Africa," in *Mental Tests and Cultural Adaptation*, ed. L. J. Cronback and P. J. D. Dernth (Paris: Mouton Publishers, 1972); Janice Currie, "Stratification in Uganda: Schooling and Elite Recruitment," *Greylands Educational Journal* 9 (1974): 26–47. Kenya: Jerry B. Olson, "Social Background and Its Influence on African Secondary School Performance: 1961–1968" (paper presented to the annual meeting of the African Studies Association, San Francisco, October 1975); Dinguri N. Mwaniki, "Education and Socioeconomic Development in Kenya: A Study of the Distribution of Resources in Kenya" (Ph.D. diss., Stanford University, 1973); Mbo Kubeta Mwaniki, "Relationships between Self-Concept and Academic Achievement in Kenyan Pupils" (Ph.D. diss., Stanford University, 1973). Rhodesia: Betty Jo Murphree, "Factors Influencing the Aspirations and

tion, there are two more from evaluations of World Bank education projects, one from Somalia, one from Kenya.

So prevalent are these un-Coleman-like anomalies from the LDCs that had Simmons and Alexander included any of the current debate from sociology, they would have asked not whether the findings were consistent between developed and developing societies, but why they were not. As far as I am aware there are basically three theories.[7] Bulcock, Clifton, and Beebe are investigating the transfer of SES influence through language. On the basis of data from India and England they conclude that language (and not economic material resources) is the reason why "home background" predicts school achievement in industrial societies.[8] In less industrial societies, because the richness in language may not differ as markedly between a wealthy and a less wealthy child, the average difference in school achievement may be less.

Kifer is exploring the influences of "process variables" which are consistent between the expectations from the home and the expectations from the school—for example, parental demands that students study hard. As we would (now) expect, he finds that the predictive power of parental economic status differs dramatically between LDCs and industrial societies, but the strength of these "process variables" remains constant.[9]

My own theory is parallel with those just given. Evidence that the differences in language, schooling value, and self-confidence are smaller between poor and privileged children in some LDCs points to the time that it takes for an economically privileged group within an industrializing society to evolve into a social class.[10] This "time element" in the process of social class formation has been mentioned by Foster and has already been pursued in two dissertations on academic achievement.[11]

Achievement of African Secondary School Pupils in Rhodesia," in *ASSA Sociology Southern Africa 1973: Papers From the First Congress of the Association for Sociologists in Southern Africa*, ed. Association for Sociologists in Southern Africa (Durban: University of Natal Multicopy Centre, 1973). Ghana: Margaret Peil, "Secondary Education in Ghana: Private Enterprise and Social Selection," *Sociology of Education* 47 (Summer 1974): 399–418. Papua, New Guinea: Alan Pope and John Jones, *Home Background as a Determinant of Success in a Papua, New Guinea High School* (Papua: Educational Research Unit, University of Papua, June 1974).

[7] Differences in the impact on achievement are not due to a paucity of variance in SES (see Stephen P. Heyneman, "Children of the Great and of the Unknown: A Discussion of Class, Socioeconomic Status and Academic Achievement in a Non-Industrialized Society" [paper presented to the American Sociological Association, New York City, August 1976], and "Why Impoverished Children Do Well in Ugandan Schools," *Comparative Education* 15 [June 1979]: 175–85).

[8] Bulcock, Clifton, and Beebe, *A Language Resource Model of Scientific Achievement.*

[9] Kifer.

[10] Stephen P. Heyneman, *Planning the Equality of Educational Opportunity between Regions* (Paris: Unesco/International Institute for Educational Planning, 1979), Heyneman, "Why Impoverished Children Do Well in Ugandan Schools."

[11] Philip Foster, "Education and Social Differentiation in Africa: What We Know and What We Think We Ought to Know" (paper prepared for the Social Science

Simmons and Alexander are correct to conclude that individual school variables which predict achievement are not sufficiently consistent to draw single-minded investment policy decisions,[12] and that class size and some teacher variables (as presently measured) seem to emerge with similarly inconsistent results in both industrial and less industrial societies. They are also correct in calling for more experimentation.

But their review would have profited from including the findings above with respect to socioeconomic and other preschool influences. Moreover, they may wish to look at the results of Currie's study. She finds that performance in school appears to be the single most important predictor of success in the Ugandan labor market.[13] Given this, there is reason to take seriously what Cummings says as a result of his 4-year study on schooling in Japan: Outside the industrial West we may find the opposite of what Jencks and others say is true for the United States.[14] Why is another question. But whatever theory eventually emerges, this much remains certain: It is simply not true that the determinants of school achievement are basically the same in both developing and developed countries.

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Research Council, 1976), "Education and Social Differentiation in Less Developed Countries," *Comparative Education Review* 21 (June–October 1977): 211–29; Bee Lan Chan Wang, "An Inter-Ethnic Comparison of Education Selection, Achievement, and Decision-Making among Fifth Form Students in West Malaysia" (Ph.D. diss., University of Chicago, 1975); Isahak bin Haron, "Social Class and Educational Achievement in a Plural Society: Pinnsular, Malaysia" (Ph.D. diss., University of Chicago, 1977).

[12] Perhaps the most consistent correlate with achievement is the availability of textbooks and other reading materials (see Stephen P. Heyneman, Joseph P. Farrell, and Manuel A. Sepulveda-Stuardo, "Textbooks and Achievement: What We Know," World Bank Staff Working Paper no. 298 [Washington, D.C., 1978]; Stephen P. Heyneman and Dean Jamison, "Textbook Availability and Other Determinants of Student Learning in Uganda," *Comparative Education Review* [February 1980], in press).

[13] Janice K. Currie, "The Occupational Attainment Process in Uganda: Effects of Family Background and Academic Achievement on Occupational Status among Ugandan Secondary School Graduates," *Comparative Education Review* 21 (February 1977): 14–28; Stephen P. Heyneman and Janice K. Currie, *Schooling, Academic Performance and Occupational Attainment in a Non-Industrialized Society* (Washington D.C.: University Press of America, 1979).

[14] William K. Cummings, "The Secret of Japanese Education," in *The Role of Education in Socioeconomic Achievement: A Comparative Study*, ed. National Institute of Education (Washington, D.C.: Department of Health, Education, and Welfare, 1977); William K. Cummings, "The Effects of Japanese Schools," in *Education in a Changing Society*, ed. A. Ktoskowska and G. Martinotti (London: Sage Publications, 1977); Christopher Jencks et al. *Inequality: A Reassessment of Family and Schooling in America* (New York: Basic Books, 1972).