Athletics, Aspirations, and Attainments

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ATHLETICS, ASPIRATIONS, AND ATTAINMENTS*

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We attempt to cross-validate research supporting the hypothesis that perceived peer status mediates the effect of athletics on educational aspirations and attainments; we compare the estimates with those for a model which incorporates significant-others' influence as the key intervening variable; and we extend past research to include estimates of the effects on occupational aspirations and attainments and income. We find that participation in athletics has a positive effect on each form of aspiration and attainment, that perceived peer status contributes to neither the predictive nor the explanatory power of the model, and that sizeable proportions of the athletic effect are mediated by significant-others' influence. Analysis is based on 15-year interval panel data on a male age cohort (N = 340). Estimates are provided by structural equation models. We control on differences in school value climates.

Past research reveals a statistically significant relationship between participation in high school athletics and educational aspirations and attainments (Coleman, 1961; Rehberg and Schafer, 1968; Rehberg, 1969; Schafer and Rehberg, 1970; Spady, 1970, 1971; Spreitzer and Pugh, 1973). The process(es) by which the effect

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occurs remain more a subject of theoretical specification[1] than empirical inquiry and verification, however (exceptions are Spady, 1970, 1971; Spreitzer and Pugh, 1973). In this paper (1) we attempt to cross-validate research supporting the hypothesis that perceived peer status mediates the effect of athletics on educational aspirations and attainment; (2) we compare estimates for the perceived peer status model (a psychological explanation) with estimates for a significant-others' influence specification of the process (a social psychological interpretation); and (3) we extend research on the effect of athletics and peer status to include occupational aspirations, occupational attainments, and income. Our estimates are produced by structural equations based on the within-school component of bivariate relationships, an analytical technique that has the effect of statistically controlling on between-school differences. The study is based on 15-year interval panel data.

BACKGROUND

Coleman's (1959) study of the adolescent society indicates that the "leading crowd" tends to be of middle-class origins and that it is college oriented. Although he tends to underplay the associational and value diversity operating within high school social systems (Campbell, 1969:835), Coleman does allow that different value climates may operate between and within schools (Coleman, 1959:338; 1961:113–118; see also McDill and Coleman, 1965:122).[2] Nonetheless, he notes that "of things that a boy can do . . . athletic success seems the clearest and most direct way to gain membership in the leading crowd" (1959:337). Coleman's implicit specification of an aspirations formation process which serially incorporates the influence of family origins, athletic participation (and scholastic performance), and peer status has generated considerable interest and research. Thus, both Schafer and Armer (1968) and Rehberg and Schafer (1968) provide empirical evidence that "athletics attracts boys from all classes in about the same proportion" (Hollingshead, 1949:194). The relationship between athletics and educational aspirations is consistently supported (Coleman, 1961; Rehberg and Schafer, 1968; Schafer and Rehberg, 1970; Spady, 1970, 1971). Finally, Spady (1970, 1971), and Spreitzer and Pugh (1973) report support for the hypothesis that perceived peer status mediates the effect of athletics on educational aspirations. Spady also (1970, 1971) reports that actual peer status affects educational attainment.

There is theory and/or some evidence, then, for an educational aspirations model which specifies socioeconomic origins, participation in athletics, and peer status—in that causal sequence—as antecedents of educational aspirations and attainments. We further complicate the process (Figure 1) by incorporating the effects of mental ability and significant-other influences. Also, we extend the model to explain and predict other dependent variables, namely, occupational aspirations, educational and occupational attainment, and income.

The theoretical and empirical literature is inconsistent with respect to the causal specification of athletics and academic performance. Coleman (1961) advances a zero-sum argument. He views the adolescent society as a finite system in which commitment to academic, athletic, or social values represents a loss to the other two. Others (e.g., Rehberg and Schafer, 1968; Spady, 1970, 1971) argue that the two student cultures are causally linked, i.e., that athletics positively affects grades. Conversely, Otto (1975:164) has argued that inasmuch as high school policies may require minimal academic performance levels as eligibility prerequisites for participation in extracurricular

[1] Rehberg (1969:76–79), for example, suggests that athletic participation has five socialization consequences: (1) association with achievement oriented peers; (2) emphasis on achievement values; (3) enhanced self-esteem which is associated with setting high standards; (4) performance levels and expectations in athletics generalizes to other areas; and (5) superior career guidance and encouragement is accorded athletes.

[2] The notion that there are value climates or school context effects has generated a considerable literature. Much of the research is reviewed by Bain and Anderson (1974). See also Alexander and Eckland (1975), Hauser, Sewell, and Alwin (1976).

activities, the effect of academic performance on participation patterns should not be ignored. We view participation in the academic and athletic subcultures as separate but modestly correlated dimensions of adolescent performance. Concurrent specification allows for differences in value climates across schools and for diversity in performance criteria within schools without specifying that either academic performance or participation in athletics predicts the other. Following Coleman we view the two as alternate routes to membership in the leading crowd.[3]

Both Rehberg and Schafer (1968) and Spreitzer and Pugh (1973) control on parental academic encouragement. Spreitzer and Pugh (1973:176, footnote 5) indicate that a less inferential label for the indicators would be "parental academic involvement" inasmuch as the studies ask either how often parents urge the youth to continue his schooling or how often they talk about his school work. Our data provide more precise measurement of academic encouragement. Our measures include significant-others' educational encouragement and modelling of educational plans. Moreover, rather than control on parental educational encouragement (Rehberg and Schafer, 1968; Spreitzer and Pugh, 1973) our model is informed by the social psychological literature on the status attainment process (e.g., Sewell and Hauser, 1975) which specifies that significant-others operate as intervening variables mediating the effects of adolescent performance on aspirations and attainments. Thus, the model provides for the operation of two mechanisms whereby the influence of academic performance/athletics is mediated to aspirations, one psychological and the other social psychological. We analyze both the additive effects and, for the sake of comparisons, the separate effects of each mechanism.

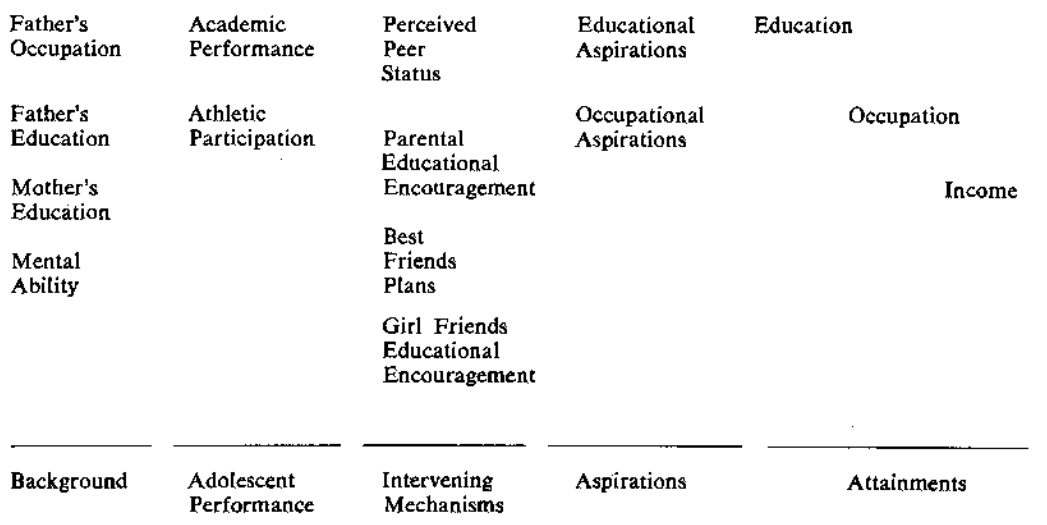
Although Spady (1970, 1971) has provided empirical support for the effect of athletics on educational aspirations and attainment based on 4-year panel data, the longer term effects of athletics and perceived peer status have not been examined, neither have the effects of athletics and perceived peer status on occupational aspirations, occupational attainment, and income. In the case of educational aspirations and attainment, Spady reasons that the extracurriculum, like the formal curriculum, provides a competitive and comparative forum in which students vie for recognition and rewards which stimulate a desire for further status and recognition after high school (Spady, 1970:680; 1971:395). In addition to stimulating aspirations, participation provides exposure to a range of potentially functional socialization experiences which equip the youth with interpersonal, organizational, and leadership skills that may be translated into later socioeconomic advantage. We hypothesize that the effect of athletics on educational aspirations and attainments is generalizeable to occupational aspirations and attainments and to income. These extensions complete the model (Figure 1).

Essential features of the social psychological explanation of the attainment process provide the overall theoretical framework for our study. Aspirations are specified as a key mechanism. The individual assesses his educational and occupational potential in the context of his own demonstrated performance on academic (and athletic) criteria. His "self-reflexion" (Haller and Portes, 1973) is complemented by two mechanisms which provide for the operation of indirect effects. In accord with the status attainment literature (Sewell and Hauser, 1975) provision is made for significant-others to evaluate the youth's academic performance (and athletic participation) in es-

[3] With respect to the athletics variable we follow the definition used in most research by referring to participation in a specific form of extracurricular activity, namely sports in most research (e.g., Rehberg and Schafer, 1968; Schafer and Armer, 1968; Schafer and Rehberg, 1970; Spady, 1970, 1971; Spreitzer and Pugh, 1973). We note, however, that this definition is not necessarily equivalent to membership in the athletic subculture as conceptualized by Coleman (1961). Coleman employs a rhetoric of "status systems," "status cliques," "adolescent subcultures," "groups," "subgroups," and the like. He is concerned with the consequences of commitment to alternative reward structures, the athletic clique representing one such value system, whereas most research, although professing to examine Coleman's theses, employs a more restrictive definition of the variable.

Figure 1

Specification of Participation in Athletics and Perceived Peer Status in the Status Attainment Process



tablishing and communicating appropriate expectations to him (Woelfel and Haller, 1971). In accord with the adolescent subculture literature (Rehberg and Schafer, 1968; Spady, 1970, 1971; Spreitzer and Pugh, 1973) perceived peer status is specified as a second mechanism by which the effects of academic performance and participation in athletics are mediated to aspirations and attainments. By specifying participation in athletics as an antecedent we hypothesize that significant-others and the individual himself reflect upon criteria other than academic performance in formulating his levels of aspirations. Estimates are provided for the two mechanisms operating additively and, for purposes of comparing their operation, estimates are provided for the mechanisms operating separately. The model provides that the estimates are calculated statistically controlling on socioeconomic origins, mental ability, and academic performance. It also provides for estimating effects on a complete set of dependent variables, namely, educational and occupational aspirations, attainments, and income.

Inasmuch as the value climates of schools may differ with respect to the relative importance of scholarship and athletics in the adolescent subculture, we calculate all estimates on the basis of the within-school components of all variables thereby controlling for between-school differences (Alwin, 1976). By disaggregating total effects into direct and indirect effect components we are able to quantify and clarify the relative effectiveness of perceived peer status and significant-others' influence in the development of aspirations and the attainment process. Inasmuch as estimates are based on panel data the causal ordering of effects is unambiguous and problems of concurrent measurement associated with cross-sectional samples are largely avoided.

DATA, VARIABLES, AND METHODS

The data were gathered from seventeen-year-old males who were enrolled in Lenawee County, Michigan, high schools in 1957 and participated in an early career follow-up study in 1972, fifteen-years later. The first wave provided data on 88 percent of the entire age cohort. Of the original 442 respondents, 340 participated in a telephone follow-up (79 percent of the eligible 1957 participants).[4]

[4] Four of the original respondents were excluded from the analysis because of invalid data. Eight others were known to be deceased. A total of 430 respondents were eligible for the 1972 follow-up study. Other characteristics of the sample and study procedures are reviewed at length in Otto and Featherman (1975).

Background socioeconomic statuses and mental ability enter the model as exogenous variables. *Father's occupation* is coded into the Duncan Socioeconomic Index. *Father's education* and *mother's education* are scored on the basis of formal education.[5] *Mental ability* is measured with the Cattell IPAT Test of G-Culture-Free-Scale 3A (Cattell and Cattell, 1950).

Academic performance is measured by high school grade point average based on a four-point scale. *Athletics* consists of reported participation in sports and/or membership in varsity lettermen clubs.

The study employs three indicators of significant-other effects. *Parental educational encouragement* was measured by student's response to a question asking the extent to which his father (or mother) had given educational encouragement.[6] Responses for mother's and father's encouragement were summed. *Best friends' educational plans* were measured by taking the average aspiration score of up to five best friends who were present in the sample. *Girl friend's educational encouragement* was measured by a question in the follow-up study inquiring about wife's or girl friend's educational encouragement.[7] *Peer status* was measured by a 21-item index of agree-disagree responses to questions from the California Test of Personality relating to the respondent's perception of his acceptance by his peers.[8]

Educational aspirations was scored 0 for none beyond high school to 4 for 7 or more years of college. *Occupational aspiration* was measured by the 8-item Occupational Aspiration Scale (Haller and Miller, 1971).

The three forms of attainment are *education*, which refers to the number of formal years of education completed; *occupation*, which was coded into the Duncan Socioeconomic Index; and *income*, which refers to the respondent's report of personal income for the previous year, 1971. Attainments were measured in the 1972 follow-up study. Unless otherwise indicated all other measures were made in the 1957 study.

Zero order correlations, means, and standard deviations (both total and within school scores) are reported for all indicators in Table 1. In Tables 2 and 3 we present the disaggregation of total effects into the direct and indirect effect components of the aspiration formation and attainment process.[9] Statistical inferences are inappropriate because the respondents do not consist of a sample but of nearly a population of respondents. Therefore, we have arbitrarily designated as substantively significant those standardized regression coefficients exceeding a value of .09.

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[5] The scoring ranged from 0 for less than 8 grades of formal schooling completed to 5 for a college degree or more formal schooling.

[6] Scores for fixed response alternatives ranged from 0 for "quit school and go to work" to 4 for "strongly encouraged me to continue." Thus, by summing mother's and father's encouragement respondent's score ranges from 0 to 8.

[7] Responses were scored 0 for encouragement to "not get more," 1 for "didn't say," and 2 for "get more." Inasmuch as this variable was measured retrospectively, there exists the possibility of contamination with attainments and appropriate cautions are urged in interpreting the results.

[8] Examples of the questions include: "Do you feel that people recognize your social standing as they should?" "Do you feel that you are an important part of your school?" "Do you feel that people usually think well of you?"

Peer status has not been operationalized consistently in the literature. Our measure is of *perceived* peer status as illustrated by the "do you feel" prefix to the questions. Spreitzer and Pugh (1973) used a single item Likert-type question which measures perceived peer status in terms of relative popularity. Spady (1970, 1971) used both a single item Likert-type measure of perceived peer status and number of nominations by classmates as a measure of actual (objective) peer status. He reports a correlation of $r = .22$ between the two. McDill and Coleman (1963) measured status by the number of times a student was mentioned as a member of the leading crowd.

[9] We differentiate between *total*, *direct*, and *indirect* effects. A total effect is that part of a total association or correlation between two variables that is unrelated to common antecedents, to correlations between the antecedents, or to unanalyzed correlations among the predetermined variables. Total effects indicate the extent to which change in an independent variable alters the dependent variable. An indirect effect indicates that portion of the total effect that is mediated by an intervening variable(s). A direct effect is that portion of the total effect which remains after the indirect effects of intervening variables are controlled. These distinctions are elaborated by Alwin and Hauser (1975).

Table 1. Zero-order Correlations, Means, and Standard Deviations (Within-School Above Diagonal and Between-School Below Diagonal), Bivariate Data Present Subsamples (Decimals Omitted)

Variables *	FOC	FED	MED	MA	AP	ATH	PEER	PEDE	FEDP	GEDE	EDASP	OCASP	EO	OCC	INC	S.D.
X_1–FOC		462	314	198	181	099	053	251	148	088	319	264	274	271	133	20.75
X_2–FED	459		542	200	207	012	100	281	180	176	348	327	348	230	168	1.33
X_3–MED	325	502		204	277	069	145	246	267	124	348	316	366	229	219	1.24
X_4–MA	241	219	216		477	119	204	247	320	198	382	431	417	347	196	4.95
X_5–AP	199	208	263	478		130	341	291	387	291	535	549	621	545	182	.818
X_6–ATH	097	–002	065	124	118		204	191	222	201	256	219	227	191	180	.471
X_7–PEER	053	113	144	210	337	197		241	250	182	223	268	266	149	129	3.52
X_8–PEDE	276	284	264	263	292	178	223		321	260	458	437	360	303	198	1.67
X_9–FEDP	194	178	256	343	377	209	230	341		243	427	429	464	384	236	1.90
X_{10}–GEDE	066	157	118	198	283	207	158	260	242		382	258	390	338	189	.608
X_{11}–EDASP	349	348	345	400	542	244	225	465	452	379		686	695	540	241	1.23
X_{12}–OCASP	285	319	320	441	532	222	257	455	444	244	679		647	560	258	12.23
X_{13}–ED	311	346	367	419	621	228	252	361	487	371	700	639		657	299	2.42
X_{14}–OCC	308	240	239	362	539	182	150	325	413	314	554	570	658		268	24.23
X_{15}–INC	140	177	231	183	200	168	149	191	221	175	255	248	291	265		5340
$\bar{X}$	32.64	2.28	2.58	20.68	2.03	.654	14.85	6.37	2.50	1.42	1.15	36.19	13.48	47.05	12550	
S.D.	21.78	1.36	1.29	5.14	.836	.476	3.60	1.72	1.96	.614	1.26	12.56	2.50	25.21	5435	

* X_1–FOC Father's Occupation; X_2–FED Father's Education; X_3–MED Mother's Education; X_4 MA Mental Ability; X_5–AP Academic Performance; X_6–ATH Athletics; X_7–PEER Peer Status; X_8–PEDE Parental Educational Encouragement; X_9–FEDP Friend's Educational Plans; X_{10}–GEDE Girl Friend's Educational Encouragement; X_{11}–EDASP Educational Aspiration; X_{12}–OCASP Occupational Aspiration; X_{13}–ED Education; X_{14}–OCC Occupation; X_{15}–INC Income.

FINDINGS

We present our findings as they relate to educational and occupational aspirations, then education, occupation, and income. In each case we first examine the total effect of participation in athletics on the dependent variable statistically controlling on family socioeconomic statuses, mental ability, and academic performance. Thereafter we examine the process by which the effect of participation in athletics is mediated to the dependent variable by first estimating the indirect effects mediated by both perceived peer status and significant-other influences and then comparing the effectiveness of the two mechanisms operating separately.

Our data confirm earlier research reporting that participation in athletics has an effect on educational aspirations statistically controlling on socioeconomic origins, mental ability, and academic performance. Thirty-nine percent of the effect is mediated by the two intervening mechanisms, perceived peer status and significant-others' influence (Table 2, column 6). The independent contribution of the two mechanisms to the predictability of educational aspirations is evident in the increase in variance accounted for (R^2 = .492 − .410 = .082).

As specified, the estimates conceal rather than reveal the relative effectiveness of perceived peer status and significant-others as intervening variables. The indirect effect coefficients (row 5) indicate that perceived peer status, operating as the sole intervening variable, has no effect whatsoever in mediating the influence (total effects) of athletics (or any other antecedent) on educational aspirations. Neither does it change the proportion of variance accounted for. In comparison, significant-others' influence, operating as the sole intervening mechanism, mediates 43 percent of the effect of athletics on educational aspirations and it increases the variance accounted for in educational aspirations (R^2 = .410 to .490). In summary, we find that participation in athletics has a positive effect on educational aspirations but there is no evidence supporting the hypothesis that perceived peer status either mediates the effect or independently accounts for variance in the dependent variable. In comparison the explanatory and predictive[10] power of the model are enhanced by significant-others' influence.

Participation in athletics also has a salutary effect on occupational aspirations statistically controlling on socioeconomic origins, mental ability, and academic performance. This relationship has not been studied in previous research. Forty percent of the effect is mediated by the two intervening processes, perceived peer status and significant-others' influence, and the fully specified model accounts for 46 percent of the variance in occupational aspirations. Again, there is wide discrepancy in the relative effectiveness of perceived peer status and significant-others' influence operating as intervening variables. Perceived peer status mediates 7 percent of the effect of athletics of occupational aspirations. Significant-others mediate 39 percent of the effect. Incorporating only perceived peer status as a predictor increases the variance accounted for only in the third decimal (R^2 = .405), whereas significant-others' influence increases the variance accounted for to essentially that of the specification incorporating both mechanisms (R^2 = .459). The findings for occupational aspirations support those for educational aspirations. Incorporating perceived peer status into the model contributes little to clarifying the process by which athletics affects aspirations or to predicting the variance accounted for in aspirations; but significant-others' influence operates as a powerful mediator and predictor in the equation.

Participation in athletics has not only a positive effect on educational aspirations, but also a positive effect on level of educational attainment. Forty-four percent of the total effect is mediated by the combination of perceived peer status and significant-others' influence; 34 percent is mediated by educational and occupational

[10] By "explanation" we refer to how efficiently total effects are mediated by the theoretically specified network of direct and indirect effect patterns. By "prediction" we refer to the variance accounted for (R^2).

Table 2. Disaggregation of Total Effects into Direct and Indirect Effect Components of Predictors on Aspirations and Education and Coefficients of Determination (Decimals Omitted)

	Predetermined Variables											
Variables [a]	FOC	FED	MED	MA	AP	ATH	PEER	PEDE	FEDP	GEDE	EDASP	OCASP	R^2
						X_{11}–*EDUCATIONAL ASPIRATIONS*							
Effects													$(X_1–X_4) = 263$
Total	148*	127*	173*	292*	384*	173*	–045	198*	129*	155*			$(X_1–X_6) = 410$
via X_5–X_6	031	–012	078	184									$(X_1–X_{10}) = 492$
via X_7–X_{10}	017	053	023	043	087	068							$(X_1–X_6,X_7) = 410$
Direct	100	086	072	065	297	105	–045	198*	129*	155			$(X_1–X_6,X_8–X_{10}) = 490$
via X_7	000	000	000	000	000	000	000						
via X_8–X_{10}	014	053	025	044	098	074		192	126	153			
						X_{12}–*OCCUPATIONAL ASPIRATIONS*							
Total	084	141*	140*	358*	389*	136*	014	196*	143*	008			$(X_1–X_4) = 267$
via X_5–X_6	027	–008	076	182									$(X_1–X_6) = 403$
via X_7–X_{10}	020	032	033	040	074	055							$(X_1–X_{10}) = 460$
Direct	037	024	031	136	315	081	014	196	143	008			$(X_1–X_7) = 405$
via X_7	–002	001	002	184	016	009	053						$(X_1–X_6,X_8–X_{10}) = 459$
via X_8–X_{10}	021	032	032	221	071	053		197	144	008			
						X_{15}–*EDUCATION*							
Total	083	136*	198*	333*	482*	137*	–010	055	166*	157*			$(X_1–X_4) = 282$
via X_5–X_6	031	–007	091	223									$(X_1–X_6) = 480$
via X_7–X_{10}	001	034	023	037	083	060							$(X_1–X_{10}) = 534$
via X_{11}–X_{12}	037	048	027	046	150	047	000	097	066	049			$(X_1–X_{12}) = 626$
Direct	014	061	057	027	249	030	000	–042	100	108	303	189	$(X_1–X_7) = 480$
via X_7	–001	000	001	001	006	003	022						$(X_1–X_6,X_8–X_{10}) = 534$
via X_8–X_{10}	000	034	023	038	086	061	010	054	166	156			$(X_1–X_6,X_{11}–X_{12}) = 608$
													$(X_1–X_8,X_8–X_{12}) = 626$

[a] See Table 1 for Variable Identification.

* Total effect is substantively significant. See definition in Data, Variables, and Methods.

aspirations; and 22 percent of the effect is direct. The fully specified model predicts 63 percent of the variance in educational attainment.

Again, it is instructive to compare the relative effectiveness of perceived peer status and significant-others' influence operating separately as intervening variables. Operating alone perceived peer status mediates none of the effect of athletics on education (row 6) whereas significant-other's influence, operating alone, mediates 45 percent of the effect of athletics on educational attainment (row 7). Concerning the relative predictive power of the two equations, the variance accounted for in the perceived peer status model is $R^2 = .608$ and that for the significant-others model is $R^2 = .626$. With respect to educational attainment, then, incorporating perceived peer status contributes to neither the explanatory nor the predictive power of the model. Significant-others' influence contributes to both.

Table 3 displays the data for occupational attainment and income, neither of which has been studied in earlier research. Participation in athletics has a significant effect on occupational attainment statistically controlling on socioeconomic origins, mental ability, academic performance and participation in athletics, perceived peer status and significant-others' influence, aspirations, and education. Thirty-nine percent of the athletics effect is mediated by perceived peer status and significant-others' influence. The fully specified model accounts for 51 percent of the variance in occupational attainment.

A familiar pattern of indirect effects appears when estimates are compared for the independent operation of perceived peer status and significant-others' influence as intervening variables. The critical comparisons appear in column 6, rows 7 and 8. Perceived peer status mediates 10 percent of the effect of athletics on occupational attainment. Significant-others' influence mediates 50 percent of the effect. The variance accounted for is $R^2 = .432$ for the perceived peer status model and $R^2 = .500$ for the significant-others' influence model. Thus, the recurring finding in this analysis is supported by the data for occupational attainment: operating either independently or in combination with significant-others' influence, perceived peer status contributes little to either the explanatory or the predictive power of the occupational attainment process.

Finally, our data reveal that participation in athletics in high school also has a positive effect on income fifteen years later. Twenty-nine percent of that effect is indirect via the combination of perceived peer status and significant-others' influence. The variance accounted for in the fully specified model is $R^2 = .143$. Comparison of the relative efficacy of perceived peer status and significant-others' influence as intervening variables are reported in column 6, rows 8 and 9, of the income section of Table 3. Four percent of the athletics effect is mediated by perceived peer status. Twenty-seven percent is mediated by significant-others' influence. The variance accounted for in the former is $R^2 = .127$ as compared with $R^2 = .142$ for the latter.

CONCLUSIONS AND DISCUSSION

We have estimated a structural equations model testing hypotheses concerning the effect of participation in athletics and perceived peer status on the development of educational aspirations and attainment. The study extends previous research in two ways: by providing estimates for the effects of athletics on occupational aspirations, occupational attainment, and income; and by incorporating significant-others' influence as a mechanism for mediating the effects of athletics on aspirations and attainments. The estimates are based on panel data. The analysis controls on differences between schools in value climates.

We find support for the hypothesis that athletics has a positive effect on educational aspirations and attainment. We also find that athletics affects occupational aspirations, occupational attainment, and income. These effects obtain statistically controlling on variables usually associated with the status attainment process, namely, socioeconomic origins, mental ability, academic performance, significant-others' influence, aspirations

Table 3. Disaggregation of Total Effects into Direct and Indirect Effect Components of Predictors on Occupation and Income and Coefficients of Determination (Decimals Omitted)

	Predetermined Variables													
Variables [a]	FOC	FED	MED	MA	AP	ATH	PEER	PEDE	FEDP	GEDE	EDASP	OCASP	ED	OCC	
							X_{14}–*OCCUPATION*								
Effects															R^2
Total	163*	046	095	286*	457*	108*	–098*	063	145*	150*	118*	254*	383*		$(X_1–X_4) = 176$
via X_3–X_5	027	–005	086	209											$(X_1–X_6) = 347$
via X_7–X_{10}	006	031	016	031	053	042									$(X_1–X_{10}) = 398$
via X_{11}–X_{12}	021	040	016	046	113	033	–002	073	051	020					$(X_1–X_{13}) = 507$
via X_{13}	005	023	022	007	096	011	001	–016	039	041	000	073			$(X_1–X_7) = 351$
Direct	103	–043	–045	–007	195	022	–097	006	055	089	000	181	383		$(X_1–X_6,X_8–X_{10}) = 390$
via X_7	004	–002	–003	–003	–019	–011	–068								$(X_1–X_7,X_{10}–X_{13}) = 432$
via X_8–X_{10}	000	032	018	033	077	054		051	137	147					$(X_1–X_6,X_8–X_{13}) = 500$
							X_{15}—*INCOME*								
Total	038	036	157*	149*	059	147*	014	057	103	089	000	098	162*	108	$(X_1–X_4) = 075$
via X_5–X_6	017	–012	020	041											$(X_1–X_6) = 099$
via X_7–X_{10}	002	024	016	025	059	042									$(X_1–X_{10}) = 122$
via X_{11}–X_{12}	–135	011	003	014	032	008	002	019	013	001					$(X_1–X_{14}) = 143$
via X_{13}	139	013	008	004	039	005	000	–008	016	016	–056	027			$(X_1–X_7) = 100$
via X_{14}	015	–009	004	–001	021	002	–010	001	006	010	–056	020	041		$(X_1–X_6,X_8–X_{10}) = 122$
Direct	000	009	114	066	–092	090	022	045	068	062	–056	051	121	108	$(X_1–X_7,X_{10}–X_{14}) = 127$
via X_7	–002	001	001	001	011	006	036								$(X_1–X_6,X_8–X_{14}) = 142$
via X_8–X_{10}	003	024	015	024	059	040		059	105	090					

[a] See Table 2 for Variable Identification.

* Total effect is substantively significant. See definition in Data, Variables, and Methods.

and attainments (as applicable). But we find no support for the hypothesis that perceived peer status functions effectively as an intervening mechanism in the achievement process. In no case does the proportion of the total effect of athletics mediated by perceived peer status exceed 10 percent. With none of the five dependent variables does including perceived peer status in the estimating equation increase the variance accounted for beyond the third decimal point. In comparison, significant-others' influence consistently reveals a strong effect on aspirations and attainments as both a set of intervening and predictor variables. The proportion of the total effect of athletics mediated by significant-others' influence and aspirations is 78 percent for educational attainment, 92 percent for occupational attainment, and 37 percent for income. The independent contributions of significant-others' influence and aspirations to attainments has been noted in past research. Therefore, without elaboration we merely note that the relationships are confirmed here. We find, then, that the effect of athletics is largely mediated by social psychological processes (significant-others' influence). We find no support for the psychological explanation (perceived peer status).

What occurs by way of participation in athletics that has a salutary effect on aspirations and attainments is not yet clearly understood. Our findings refute those earlier reported by Spady (1970, 1971) and Spreitzer and Pugh (1973) in support of the hypothesis that perceived peer status operates as an intervening mechanism. Rehberg (1969) suggests five other athletic socialization effects (see Footnote 1 above) and Spady (1970:692) reports that actual peer status is more strongly associated with college attainment than is perceived peer status. In addition, we urge consideration of three other explanations. First, participation in athletics may teach interpersonal skills that are readily transferable and marketable outside of athletics. Second, athletics may serve an allocation function by raising the visibility of participants and providing them with an early success definition or label. Third, athletics may introduce participants to interpersonal networks, contacts, and information channels that are beneficial in establishing careers. Further, we know of no research that has implemented Rehberg's (1969) suggestions that type of sport (i.e., team or individual activity, major or minor team), number of sports, and extent of participation be investigated. These represent directions for further research.

The long-term effects of participation in athletics underscores the significance of adolescent performance criteria other than academic performance in the status attainment process. It has been argued elsewhere (Spady, 1970, 1971; Otto, 1975, 1976) that like an academic curriculum, extracurricular activities provide a forum for developing attitudes and skills from which status goals evolve and upon which future success is grounded. The fact that participation in high school athletics has an effect on each form of aspiration and attainment suggests that the dynamics of the status attainment process are more complex than previous studies have indicated. The fact that significant-others assess a young man's athletic participation in establishing appropriate expectations for him suggests that other than narrowly defined academic performance criteria enter into their evaluations and encouragement.

Although considerable attention has been given to the consequences of participation in athletics, comparatively little has been done to explore the effects of other kinds of extracurricular activities (one exception is Spady, 1970, 1971). Inasmuch as the relationship between curricular and extracurricular activities is undoubtedly more complementary than discrete, future estimates for the effects of extracurricular activities and academic curriculum (see Hauser, Sewell, and Alwin, 1976; Alexander and McDill, 1976) should each control on the other, a specification that the present data do not allow. On the basis of comparing grade point averages it has been reported that athletes are not inferior students (e.g., Schafer and Armer, 1968). But whether the favorable comparison holds controlling on academic program (e.g., pre-college curriculum)—an achievement

hypothesis—and whether the amount of career guidance (Weinberg and Skager, 1966) and, perhaps, even grades are influenced by other than performance criteria—an ascription hypothesis—are examples of issues that await empirical study. The effects of curicular and extracurricular variables in the achievement process are of particular importance because of their policy relevance. Unlike most of the intervening variables associated with status attainment models, potentially these can be manipulated by practitioners in an effort to alter achievement outcomes.

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