

## Appendix A

### Details of Measures Used in the Study

The following pages give detailed information on how the measures used in Study I and Study II were obtained from the NELS:88 data files. Information on individual items is given in four codebooks for the base year data available from the U.S. Department of Education, Office of Educational Research and Improvement, National Center for Education Statistics: The Student Component Data File User's Manual; the Parent Component Data File User's Manual; the Teacher Component Data File User's Manual; and the School Component Data File User's Manual. The prefix on individual item names is "BY" representing "base year data." "BYS" indicates an item was obtained from the Student Questionnaire; "BYP" indicates an item on the Parent Questionnaire; "BYT" indicates a response to the Teacher Questionnaire; and "BYSC" a response on the School Questionnaire.

The annotations to the right of the variable descriptions include the names of the measures as used in this report. Further information about how composites were determined and agreement levels between teachers and, where appropriate, between students and parents is available from the author on request.

VARIABLE NAME ON DATA FILE	DESCRIPTION	NOTES
ABSTDY	<p>TEACHER RPTD STUD WAS ABSENT OR TARDY Created by assigning a 1 on each of two items (BY1_4 and BYT1_5 – student is frequently absent/tardy) if either teacher said "Yes," then summing these values. Before summing either item was set to missing only if both teachers were missing responses. After summing the variable was missing if either item was missing.</p> <p>Codes: 0 (Neither absent nor tardy) 1 (Either absent or tardy) 2 (Both absent and tardy)</p> <p>Format: 1.0; Missing value code: 9</p>	ABS-TARDY
ATRISK	<p>ONE IF STUDENT HAS AT LEAST ONE RISK FACTOR Created by summing dichotomized risk variables (e.g., RISK1, RISK2, and BYLM), and assigning a 1 to those students for whom this sum was at least one. Missing value was assigned to those whose sum was zero but who were missing any of three risk variables.</p> <p>Format: 1.0; Missing value code: 9</p>	Risk factors to enter Study II
ATTEND	<p>PROBLEMS WITH TARDINESS OR ABSENCE Created by first standardizing BYS55C, BYS75, BYS76, BYS77, then averaging the 4 items. To avoid negative values. 50 was added to the result. (All items relate to frequency with which warning about misbehavior, or missing school, cutting/skipping class, late for school occurred.) Missing if 2 or more items were missing.</p> <p>Range: 49.377 to 54.491; Format: 6.3; Missing value code: 99.000 Comment: higher score means more problems.</p>	ATTEND- ANCE
BYFAMSIZ	<p>FAMILY SIZE Taken from student public release file Range: 2 to 10 Format: 2.0 Missing value code: 99</p>	
BYGRADS	<p>GRADES COMPOSITE Taken from student public release file Range: 0.5 to 4.0; Format: 3.1 Missing value code: 9.0</p>	

<b>BYHOMEWK</b>	<b>NUMBER OF HRS SPENT ON HOMEWORK PER WEEK</b> Taken from student public release file Codes: 1 (None), 2(.50-1.99 hrs), 3 (2.00-2.99 hrs), 4 (3.00-5.49 hrs) 5 (5.50-10.49 hrs), 6 (10.50-12.99 hrs) 7 (13.00-20.99 hrs), 8 (21.00 and up) Format: 1.0; Missing value code: 9	<b>HOMEWORK</b>
<b>BYLM</b>	<b>LANGUAGE MINORITY COMPOSITE</b> Taken from student public release file Codes: 0 (No), 1 (Yes) Format: 1.0; Missing value code: 9	<b>Risk group LM</b>
<b>BYPSEPLN</b>	<b>POSTSECONDARY EDUCATION PLANS</b> Taken from student public release file Codes: 1 (Won't finish high school) 2 (Will graduate HS, but no further) 3 (will attend vocational, trade, or business school after HS) 4 (Will attend college) 5 (Will graduate college) 6 (Will attend higher level of school after college graduation) Format: 1.0; Missing value code: 9	
<b>BYP38B</b>	<b>DID 8TH GRADER ATTEND NURSERY/PRE-SCHOOL</b> Taken from parent public release file Recoded 2 to 0; set 'Don't Know' to missing Codes: 0 (No), 1 (Yes) Format: 1.0; Missing value code: 9	
<b>BYP38C</b>	<b>DID 8TH GRADER ATTEND HEAD START PROGRAM</b> Taken from parent public release file Recoded 2 to 0; set 'Don't Know' to missing Codes: 0 (No), 1 (Yes) Format: 1.0; Missing value code: 9	
<b>BYP38D</b>	<b>DID 8TH GRADER ATTEND KINDERGARTEN PROGRAM</b> Taken from parent public release file Recoded 2 to 0; set 'Don't Know' to missing Codes: 0 (No), 1 (Yes) Format: 1.0; Missing value code: 9	
<b>BYP40</b>	<b>NO. OF TIMES 8TH GRADER CHANGED SCHOOLS</b> Taken from parent public release file Codes: 0 (None), 1 (Once), 2 (Twice), 3 (Three times), (4 (Four times), 5 (Five times or more); Format: 1.0; missing value code: 9	<b>Moves</b>

BYP44	<b>8TH GRADER EVER HELD BACK A GRADE</b> Taken from parent public release file Recoded 2 to 0 Codes: 0 (No), 1 (Yes); Format 1.0; Missing value code: 9	Retentions
BPY49A	<b>CHILD IN BILINGUAL/BICULTURAL ED PROGRAM</b> Taken from parent public release file Recoded 2 to 0; set 'Don't Know' to missing Codes: 0 (No), 1 (Yes) Format: 1.0; Missing value code: 9	
BYQWT	<b>BASE YEAR QUESTIONNAIRE WEIGHT</b> Taken from student public release file Range: 5.174 to 836.909; Format: 7.3	Sampling weight
BYSES	<b>SOCIO-ECONOMIC STATUS COMPOSITE</b> Taken from student public release file Range: -2.97 to 1.922; Format: 6.3; Missing value code: 99.000	
BYS38A	<b>HOW OFTEN PARENTS CHECK ON R'S HOMEWORK</b> Taken from student public release file Reversed scale & recoded 'never' to 0...'often' to 3 Codes: 0 (Never), 1 (Rarely), 2 (Sometimes), 3 (Often); Format: 1.0; Missing value code: 9	CHK-HOMEWORK
BYS42A	<b>NO. OF HOURS R WATCHES TV ON WEEKDAYS</b> Taken from student public release file Codes: 0 (Don't watch TV) 1 (Less than 1 hr/day) 2 (1-2 hours) 3 (2-3 hours) 4 (3-4 hours) 5 (4-5 hours) 6 (Over 5 hrs/day) Format: 1.0; Missing value code: 9	
BYS42B	<b>NO. OF HOURS R WATCHES TV ON WEEKENDS</b> Taken from student public release file Codes: 0 (Don't watch TV) 1 (Less than 1 hr/day) 2 (1-2 hours) 3 (2-3 hours) 4 (3-4 hours) 5 (4-5 hours) 6 (Over 5 hrs/day) Format: 1.0; Missing value code: 9	

BYS80	<p>HOW MUCH READING DO YOU DO ON YOUR OWN</p> <p>Taken from student public release file</p> <p>Codes: 0 (None), 2 (1 hr or less per week), 2 (2 hrs), 3 (3 hrs), 4 (4-5 hrs) 5 (6 hours or more per week)</p> <p>Format: 1.0; Missing value code: 9</p>	Reading
BYTXHNR	<p>HISTORY/CIT/GEORG NUMBER RIGHT</p> <p>Taken from student public release file</p> <p>Range: 1 to 30</p> <p>Format: 2.0; Missing value code: 99</p>	
BYTXMNR	<p>MATHEMATICS NUMBER RIGHT</p> <p>Taken from student public release file</p> <p>Range: 1 to 40</p> <p>Format: 2.0; Missing value code: 99</p>	
BYTXRNR	<p>READING NUMBER RIGHT</p> <p>Taken from student public release file</p> <p>Range: 1 to 21</p> <p>Format: 2.0; Missing value code: 99</p>	
BYTXSNR	<p>SCIENCE NUMBER RIGHT</p> <p>Taken from student public release file</p> <p>Range: 1 to 25</p> <p>Format: 2.0; Missing value code: 99</p>	
CLSPERC	<p>CLASS PERCEPTIONS OF RESPONDENT</p> <p>Created by averaging BYSS56A, BYSS56B, BYSS56C, BYSS56D, after reversing the scale. (Each item asks how much the student feels his/her classmates perceive him/her as popular, athletic, good student, important.)</p> <p>Missing if all missing.</p> <p>Range: 0.00 to 2.00</p> <p>Format: 4.2; Missing code: 9.00</p> <p>Comment: higher means more positive perception</p>	PERCEPT- IONS
DISCCNSL	<p>DISCUSS W/COUNSELOR ABT CRSES, PLNS, ETC.</p> <p>Created by first standardizing BYSS50C, BYSS51CA, BYSS51DA, BYSS51EA, then averaging the 4 items. To avoid negative values, 50 was added to the result. (All items relate to frequency with which student discusses various topics with a counselor.)</p> <p>Missing if 2 or more of the 4 items are missing.</p> <p>Range: 49.269 to 52.348; Format: 6.3</p> <p>Missing value code: 99.000</p> <p>Comment: higher means more frequent discussion</p>	DIS- COUNSELOR

DISCOTH	<p>DISCUSS W/OTHER ADULTS ABT SCHOOL, ETC.  Created by first standardizing BYSS0D, BYSS0E, BYSS0F, BYSS1CB, BYSS1CC, BYSS1DB, BYSS1DC, BYSS1EB, BYSS1EC then averaging the 9 items. To avoid negative values, 50 was added to the result. (All items relate to frequency with which student discusses various topics with a teacher, relative, or other adult.)  Missing if 5 or more of the 9 items were missing.  Range: 48.702 to 51.302; Format: 6.3  Missing value code: 99.000  Comment: higher means more frequent discussion</p>	DIS-OTHER
DISCPAR	<p>DISCUSS W/PARENTS ABT SCHOOL, PLNS, ETC.  Created by first standardizing BYSS0A, BYSS0B, BYSS36A, BYSS36B, BYSS36C, then averaging the latter three and the greater of BYSS0A or BYSS0B. To avoid negative values, 50 was added to the result.  (All items relate to frequency with which student discusses with father/mother planning H.S. program, school program, activities, or studies.) Missing if 2 or more of the 4 items were missing.  Range: 47.995 to 51.070; Format: 6.3  Missing value code: 99.000  Comment: Higher means more frequent discussion</p>	DISCUSS
EXTCURR	<p>DEGREE OF PARTICIPATION IN EXTRACURRS  Created by recoding BYSS2A to BYSS2U to 1 (if student was a member or officer in the activity) or 0 (if did not participate), then summing the 21 items. Variable was recoded into 4-value, integer variable. Missing if student reported more than 10 activities or if responses missing to all 21 items.  Codes: 0 (Participated in no extracurriculars)  1 (Participated in 1 or 2 activities)  2 (Participated in 3 or 4 activities)  3 (Participated in 5 to 10 activities)  Format: 1.0; Missing value code: 9</p>	EXTCURR
G8URBAN	<p>URBANICITY COMPOSITE  Taken from student public release file  Codes: 1 (Urban), 2 (Suburban), 3 (Rural)  Format: 1.0; Missing value code: 9</p>	

HIS_PERF	<p>PERFORMANCE ON HISTORY TEST</p> <p>Created by classifying scores into one of three levels:  "Successful" scored better than the overall test mean  "Passing" scored above <math>-.5</math> SD, but not above mean  "Unsuccessful" scored at or below <math>-.5</math> SD</p> <p>Codes: 2 = successful  1 = passing  0 = unsuccessful</p> <p>Format: 1.0; Missing value code: 9</p>	
HOMERES	<p>NUMBER OF STUDY RESOURCES IN THE HOME</p> <p>Created by summing "Have's" on BYS35A to BYS35G.  (Each item asks whether or not the student's home has dictionary, encyclopedia, atlas, etc.) Missing if all missing.</p> <p>Range: 0 to 7; Format: 1.0; Missing value code: 9</p>	RESOURCES
MISBEHAV	<p>PROBLEMS WITH MISBEHAVING</p> <p>Created by averaging BYS55A, BYS55E, BYS55F  (Frequency with which student sent to office/received warning about misbehavior, got into fight.) Missing if 2 or more missing.</p> <p>Range: 0.00 to 2.00; Format: 4.2</p> <p>Missing value code: 9.00</p> <p>Comment: higher means more problems</p>	BEHAVIOR
NOTENGAG	<p>TEACHER RPTD STUD NOT ATNTVE/MISBEHAV, ETC.</p> <p>Created by combining teachers' responses to 3 items  (BYT1_3 – student rarely completes homework; BYT1_6 – student inattentive in class; BYT1_8 – student frequently disruptive). The mean of both teacher's responses to each item was computed, then these means were summed.  Before summing item was missing if either teacher missing. After summing variable was missing if two or more items were missing.</p> <p>Range: 0.00 to 3.00; Format: 4.2;</p> <p>Missing value code: 9.00</p> <p>Comment: higher means more problems w/engagement</p>	NOT-ENGAGED
P_TALK_R	<p>FREQ W/WH PAR TALKS TO R ABT SCH/PLNS</p> <p>Created by averaging BYP66, BYP67, BYP68 (frequency with which parent talks to student about school experiences, high school/post high school plans). Missing if two or more items missing.</p> <p>Range: 0.00 to 3.00; Format: 4.2</p> <p>Missing value code: 9.00</p> <p>Comment: higher means more frequent discussion</p>	PAR-TALK

PASWITH	<p>TEACHER RPTD STUD PASSIVE/WITHDRAWN</p> <p>Created by taking the mean of the two teacher's responses on BYT1_7 (student is exceptionally passive/withdrawn). Missing value if either teacher missing a response.</p> <p>Codes: 0, .5, 1; Format: 3.1</p> <p>Missing value code: 9.0</p>	WITH-DRAWN
PCONTACT	<p>PAR CONTACTED SCH ABT ACADEMICS</p> <p>Created by summing responses to BYP58A and BYP58B (frequency with which parent contacted school about student's academic performance or academic program). If either item was missing, then this variable was set to missing.</p> <p>Range: 0.00 to 3.00; Format: 4.2</p> <p>Missing value code: 9</p> <p>Comment: higher means more frequent contact</p>	PAR-CONTACTS
PREPARE	<p>UNPREPAREDNESS FOR CLASSES</p> <p>Created by averaging BYS78A, BYS78B, BYS78C (frequency with which student comes unprepared for class). Missing if 2 or more missing.</p> <p>Range: 0.00 to 3.00; Format: 4.2</p> <p>Missing value code: 9.00</p> <p>Comment: higher means more problems w/preparedness</p>	PREPARATION
PTAINVOL	<p>PAR INVOLVEMENT IN SCH ACTIVITIES</p> <p>Created by summing 'yeses' on BYP59A, B, C, D, E: 5 items asking whether or not parent belonged/attended/participated in PTA organizations, or otherwise volunteered at the school. Missing value only if all 5 items missing.</p> <p>Range: 0 to 5; Format: 1.0;</p> <p>Missing value code: 9</p> <p>Comment: higher means more parent involvement</p>	PAR-INVOLVE
RACE	<p>COMPOSITE RACE</p> <p>Taken from student public release file</p> <p>Codes: 1 (Asian, Pacific Islander) 2 (Hispanic, regardless of race) 3 (Black, not Hispanic) 4 (White, not hispanic) 5 (American Indian, Alaskan Native)</p> <p>Format: 1.0; Missing value code: 9</p>	
RISK1	<p>URBAN MINORITY</p> <p>Created by assigning the value one to those whose RACE was Hispanic, Black, or American Indian and whose value on G8URBAN was 1 (urban). Others who were not missing data on either RACE or G8URBAN were assigned the value zero.</p> <p>Format: 1.0; Missing value code: 9</p>	Risk group UM



RISK2	<p><b>LOW SES/BIG FAMILY</b></p> <p>Created by assigning the value one to those whose value on BYFAMSIZ was greater than 4 and who were also in the lowest third of the BYSES distribution. Others who were not missing data on either BYFAMSIZ or BYSES were assigned the value zero.</p> <p>Format: 1.0; Missing value code: 9</p>	Risk group LS
RM_PERF	<p><b>PERFORMANCE ON THE READING AND MATH TESTS</b></p> <p>Created by classifying scores into one of three levels:</p> <p>"Successful" scored better than the overall test mean on both reading and math tests;</p> <p>"Passing" scored above -.5 SD on both reading and math tests, but not above mean on both</p> <p>"Unsuccessful" scored at or below -.5 SD on either or both reading and math tests;</p> <p>Codes: 2 = successful 1 = passing 0 = unsuccessful.</p> <p>Format: 1.0; Missing value code: 9</p>	Performance classification
SCI_PERF	<p><b>PERFORMANCE ON SCIENCE TEST</b></p> <p>Created by classifying scores into one of three levels:</p> <p>"Successful" scored better than the overall test mean;</p> <p>"Passing" scored above -.5 SD, but not above mean;</p> <p>"Unsuccessful" scored at or below -.5 SD;</p> <p>Codes: 2 = successful 1 = passing 0 = unsuccessful</p> <p>Format: 1.0; Missing value code: 9</p>	
SEX	<p><b>COMPOSITE SEX</b></p> <p>Taken from student public release file</p> <p>Codes: 1 (Male, 2 (Female);</p> <p>Format: 1.0; Missing value code: 9</p>	
STU_TCHR	<p><b>FEELING B/N STUDENTS AND TEACHERS</b></p> <p>Created by averaging BYSS9A, BYSS9B, BYSS9G, BYSS9H, BYSS9I, BYSS9J, after reversing the scale for all but BYSS9I. (Each item measures the extent to which the student agrees with statements about school climate, teacher behaviors, etc.) Missing if 3 or more of the 6 items were missing.</p> <p>Range: 1.00 to 4.00; Format: 4.2</p> <p>Missing value code: 9.00</p> <p>Comment: higher means more positive stud/tchr feelings</p>	STU-TEACHER

UTILITY	<p><b>PERCEIVED USEFULNESS OF COURSES</b>  Created by averaging BY69C, BY70C, BY71C, BY72C, after reversing the scale. (Each item asks how useful the student feels math, English, social studies, or science will be in their future.) If 2 or more were missing then this variable was set to missing.  Range: 1.00 to 4.00; Format: 4.2  Missing value code: 9.00  Comment: higher means more useful</p>	UTILITY
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## Appendix B

### Standard Deviations and Correlations of Measures

The values below are the pooled within-cell standard deviations and correlations among the sets of outcome measures used in Study I and Study II. In Study I, the analysis-of-variance design comprised 32 cells formed by crossing gender, 4 racial/ethnic groups, and 4 participation groups. In Study II, the design comprised 24 cells formed by crossing gender, race-ethnicity, and 3 achievement levels. In addition, the data of each study were expressed as deviations from school means. Thus the standard deviations and correlations below are "controlled" for school differences as well as for the three primary factors of the respective study. The values are also "weighted" (using the sampling weights) to be consistent with the results of the multivariate analyses presented in the main body of this report.

#### STUDY I (14,795 d.f. within groups):

##### correlations

	READING	MATH	SCIENCE	HISTORY
READING	1.000			
MATH	0.635	1.000		
SCIENCE	0.640	0.638	1.000	
HISTORY	0.671	0.616	0.650	1.000
<u>standard dev.</u>	4.131	7.252	3.842	4.649

## STUDY II

Classroom and School Academic Participation measures (3663 d.f. within groups):

### correlations

	ATTEND- ANCE	PREPARA- TION	BEHAVIOR	ABS-TARDY	WITH- DRAWN	NOT ENGAGED
ATTENDANCE	1.000					
PREPARATION	0.268	1.000				
BEHAVIOR	0.360	0.292	1.000			
ABS-TARDY	0.372	0.140	0.242	1.000		
WITHDRAWN	0.069	0.045	-0.049	0.088	1.000	
NOT ENGAGED	0.256	0.276	0.429	0.453	0.046	1.000
<u>standard dev.</u>	0.648	0.668	0.465	0.555	0.207	0.729

Identification with School measures (4028 d.f. within groups):

### correlations

	MOVES	STU-TEACHER	PERCEPTIONS	UTILITY
MOVES	1.000			
STU-TEACHER	-0.026	1.000		
PERCEPTIONS	-0.030	0.229	1.000	
UTILITY	-0.006	0.254	0.131	1.000
<u>standard dev.</u>	1.617	0.430	0.407	0.545

Participation Outside the Regular School Program measures (4186 d.f. within groups):  
correlations

	HOMEWORK	EXTCURR
HOMEWORK	1.000	
EXTCURR	0.144	1.000
<u>standard dev.</u>	1.242	0.863

Parent Involvement in Student's School Work measures (4459 d.f. within groups):

correlations

	CHK-HOMEWORK	DISCUSS	PAR-TALK	RESOURCES
CHK-HOMEWORK	1.000			
DISCUSS	0.266	1.000		
PAR-TALK	0.151	0.216	1.000	
RESOURCES	0.127	0.213	0.109	1.000
<u>standard dev.</u>	0.895	0.655	0.600	1.432

Parents' Own Involvement measures (4017 d.f. within groups):

correlations

	PAR-CONTACTS	PAR-INVOLVE
PAR-CONTACTS	1.000	
PAR-INVOLVE	0.272	1.000
<u>standard dev.</u>	1.251	1.108