

National Study of Delinquency Prevention in Schools

Appendix F Reliability of Measures

Final Report, Grant No. 96-MU-MU-0008

July 2000

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F. Reliability of Measures

This appendix provides information about the reliability of scales constructed and measures examined in the present research. Where applicable, it reports on the internal consistency (α or *alpha*) of individual-level measures or on the homogeneity of descriptions within schools (D or *intraclass correlation*), and the average school-level reliability ($\hat{\lambda}$ or *lambda hat*) of the measures.

Principal Questionnaires

Tables are organized according to their source. Table F1 shows homogeneity coefficients for scales from the phase 1 principal questionnaire. Homogeneity coefficients for scales from the phase 2 principal questionnaire are shown in Table F2.

Activity Coordinator Questionnaires

Reliabilities – individual activity level and school level – for measures of characteristics of discretionary prevention activities are listed in Table F3.

Table F4 shows school-level reliabilities for objectives identified by the various prevention activities included in the sample. Very little variance lies between schools for some objectives, e.g., a focus on social competencies or attitudes, intentions or dispositions. In contrast, there is considerable between school variance in the intent to which different programs in a school focus on religious beliefs, gang participation, learning or job skills, and opportunities to engage in problem behavior. Table F4 also shows the individual-activity-level reliability of the number of different objectives named.

Individual-activity-level and school-level reliabilities for activity coordinator reports about sources of funding, budget control, locus of program development, and sources of information used are shown in Table F5.

Different discretionary prevention programs are intended to address different target populations. Information about the extent to which program targeting differs according to school is presented in Table F6. The intraclass correlations shown in this table imply that schools do differ in the extent to which they target different groups, with many of the intraclass correlations in the .20s.

Activity coordinator characteristics also have considerable between school variance, as Table F7 shows.

Information about the reliability of measures pertaining to individual prevention activities is assembled in Table F8. This table repeats some coefficients presented in Table F3 and Table F7, but it adds information about the scales measuring locus of responsibility for program initiation

and details the reliabilities of the scales measuring best practices with respect to content and methods for each of the categories of discretionary prevention activity for which they are measured.

Teacher Questionnaires

Table F9 details the individual- and school-level reliabilities of measures of school climate, training, and level of use of discretionary prevention activity based on the surveys of teachers.

Student Questionnaires

Details of the individual- and school-level reliabilities of measures derived from the student questionnaires are shown in Table F10. There is considerable variance between schools for some student reports – notably attitudes toward drug use, drug use, perceptions of safety, participation in D.A.R.E. or G.R.E.A.T., and the use of devices such as teams, houses, or academies to divide a school into smaller units. In contrast, there is less between school variance in student reports of exposure to or participation in many discretionary prevention activities. Not all of the measures based on student reports are examined elsewhere in the present report, but this reliability information is presented for future reference.

Table F1
Scales From the Phase 1 Principal Questionnaire for Program Identification

Scale	<i>N</i> items	"	<i>N</i>
Teacher-Administration Obstacles to Program Development	12	.76	757
School Capacity for Program Development	6	.55	788
Open Problem Definition	3	.55	806
Teacher-Principal Communication	2	.59	833
Selectivity	5	.86	833
Problem Student Magnet	3	.81	834

Table F2
Reliabilities of Scales Constructed From the Phase 2 Principal Questionnaire

Scale	N items	Elementary		Secondary	
		"	<i>n</i>	"	<i>n</i>
School crime	5	.71	208	.65	366
Gang problems	2	.23	206	.54	399
Disciplinary practices					
Number of written rules	9	.58	193	.43	391
Distribution of discipline policy	5	.32	196	.78	399
Sound discipline management practices	7	.73	213	.66	400
Ordinary social control	9	.78	208	.83	397
Formal responses to misconduct	8	.68	209	.64	401
Use of material rewards	3	.59	216	.60	405
Use of social reinforcers	5	.85	213	.82	408
Total rewards	8	.83	212	.82	405
Conditional disciplinary decision making	8	.72	187	.71	387
Predictable disciplinary decision making	2	.75	213	.78	405
Principal leadership characteristics					
Conscientiousness	20	.90	205	.89	388
Leadership behavior	19	.91	201	.89	392
Supervision and feedback	4	.79	206	.78	399
Consideration	4	.72	212	.73	407
Presence and visibility	4	.67	209	.63	407
Planning	5	.79	209	.75	404
Accomplishment record	7	.68	211	.71	406
School amenability to program implementation	9	.75	210	.76	395

continued . . .

Table F2 (*continued*)
Reliabilities of Scales Constructed From the Phase 2 Principal Questionnaire

Scale	N items	Elementary		Secondary	
		"	<i>n</i>	"	<i>n</i>
Quality and quantity of training in discipline	8	.92	172	.90	341
Information sources used	7	.71	190	.65	369
Local development of discipline practices	5	.69	208	.67	404
Best practices composites ^a					
Communication and documentation	7	.58	212	.66	399
Disciplinarian consistency	3	.58	196	.59	404
Variety of responses to desirable student behavior	7	.86	211	.80	408
Variety of responses to student misconduct	17	.64	195	.57	385

^a These are rational scales based on judgment about useful practices. Their content overlaps with the empirical scales for disciplinary practices elsewhere in the table.

Table F3
Individual- and School-Level Reliabilities of Activity Coordinator Scales and Items: Discretionary Prevention Activity Characteristics

Scale or item	N items	Individual level	School level	
		"	D	ĝ.
Program was specially tailored for at least one group	1	—	.23	.63
Program fosters understanding for at least one group	1	—	.15	.51
Program methods culturally appropriate	1	—	.18	.55
Standardization	5	.72	.12	.45
Number of obstacles to use named	12	.74	.12	.44
School amenability to program implementation	11	.81	.29	.69
Amount of provider's job related to program	1	—	.05	.24
Program a part of regular school program?	1	—	.06	.27
Level of supervision	3	.55	.14	.49
Amount of training	3	.67	.16	.52
Principal support for program	1	—	.12	.44
Provider position:				
Full-time	1	—	.10	.40
Part time	1	—	.09	.40
Does not work in school	1	—	.07	.34
Who delivers the program?				
Volunteers	1	—	.11	.44
Paid workers	1	—	.10	.42
Regular employees	1	—	.11	.44
Regular classroom assistance	1	—	.09	.38
Occasional classroom assistance	1	—	.11	.44
Replace staff because they left or were dismissed	1	—	.11	.43
Time of program:				
Before school begins	1	—	.24	.63
During the school day	1	—	.16	.52

continued . . .

Table F3 (continued)

Individual- and School-Level Reliabilities of Activity Coordinator Scales and Items: Discretionary Prevention Activity Characteristics

Scale or item	N items	Individual level	School level	
		"	D	ĝ.
Immediately after school	1	—	.21	.60
In the early evening	1	—	.20	.59
Late in the evening	1	—	.28	.68
On weekends	1	—	.21	.60

Table F4

Individual- and School-Level Reliabilities of Activity Coordinator Scales and Items: Objectives

Scale or item	N items	Individual level	School level	
		"	D	ĝ.
Program intended to reduce . . .				
Problem behavior	1	—	.06	.30
Gang participation	1	—	.16	.52
Program intended to increase . . .				
Academic performance	1	—	.03	.15
Knowledge about laws	1	—	.05	.24
Religious beliefs	1	—	.23	.62
Social skills and competencies	1	—	.00	.02
Learning or job skills	1	—	.10	.40
Attitudes, belief, intentions or disposition	1	—	.00	.00
Rules, norms or expectation for behavior	1	—	.05	.26
Responsiveness to behavior	1	—	.09	.38
Opportunities to engage in problem behavior	1	—	.11	.42
Organizational capacity for self management	1	—	.04	.23
Program intended to change parental supervision	1	—	.04	.20
Number of different objectives named	12	.74	.11	.44

Table F5
Individual- and School-Level Reliabilities of Activity Coordinator Scales and Items: Origin and Funding

Scale or item	N items	Individual level	School level	
		"	D	ĝ.
Source of funding:				
School district's budget allocation	1	—	.19	.58
Funding through Safe and Drug Free Schools	1	—	.23	.63
External funding from government sources	1	—	.24	.64
External funding from private contributions	1	—	.21	.61
Fund raisers	1	—	.17	.55
Participant fees	1	—	.11	.43
Funding for program assured for next year	1	—	.10	.40
Budget control for activities	1	—	.11	.44
Responsibility for starting program:				
School insiders	14	.82	.14	.50
School district	4	.77	.18	.57
Researchers	1	—	.14	.50
Original development by:				
Local persons	1	—	.18	.57
External persons	1	—	.18	.56
Researchers	1	—	.34	.74
Information sources used to select program:				
People with jobs similar to mine	1	—	.09	.37
Meetings inside school district	1	—	.10	.40
Meetings outside school district	1	—	.15	.51
Marketing brochures or videos	1	—	.08	.36
Formal outcome evaluation	1	—	.12	.43
Publications summarizing research	1	—	.12	.45
Formal needs assessment	1	—	.13	.46
Number of different sources of info used to select program	7	.70	.14	.51

Table F6
Individual- and School-Level Reliabilities of Activity Coordinator Scales and Items: Population Targeted

Population targeted	N items	Individual level	School level	
		"	D	ĝ.
No special group	1	—	.14	.49
Boys	1	—	.25	.64
Girls	1	—	.25	.65
Interested students	1	—	.19	.58
Intact classroom	1	—	.21	.60
Particular grade level	1	—	.18	.55
Good citizens	1	—	.19	.57
Students at high risk of problem behavior	1	—	.23	.63
Students who've been or are about to be expelled	1	—	.23	.63
Gang members	1	—	.28	.69
Some students ineligible because of problem behavior	1	—	.17	.54

Table F7
Individual- and School-Level Reliabilities of Activity Coordinator Scales and Items: Activity Coordinator Characteristics

Scale or item	N items	Individual level	School level	
		"	D	ĝ.
Conscientiousness	20	.91	.17	.54
Accomplishment Record	12	.84	.20	.58

Table F8
Reliability of Scales from Activity Coordinator Questionnaires

	<i>N</i> items	"	<i>N</i>
Scales common to all or most program categories:			
School Amenability to Program Implementation	11	.81	3385
Conscientiousness of Provider	20	.91	2845
Accomplishment Record of Provider	12	.84	2850
Intensity	3	.72	1162
Standardization			
Short Version	5	.72	2932
Long Version	9	.81	846
Responsibility for Starting Program			
Local (school insiders)	14	.82	3038
School District	4	.77	3218
Supervision	3	.55	3065
Amount of Training	3	.67	3125
Quality of Training	6	.87	2184
Best Practices — Program Content:			
Prevention Curriculum, Instruction, or Training	11	.80	324
Behavioral Programming or Behavior Modification	7	.72	237
Improvements to Instructional Methods or Practices	8	.64	192
Classroom Organization and Management Practices	8	.71	200
Best Practices — Methods			
Prevention Curriculum, Instruction, or Training	9	.80	212
Behavioral Programming or Behavior Modification	8	.66	235
Counseling, Social Work, Psychological, or Therapeutic Activity	8	.66	327

(continued . . .)

Table F8 (continued)
Reliability of Scales from Activity Coordinator Questionnaires

	<i>N</i> items	"	<i>N</i>
Tutoring	9	.59	201
Mentoring/Coaching	8	.53	148
Improvements to Instructional Methods or Practices	9	.70	168
Classroom Organization and Management Practices	56	.88	121
Security or Surveillance	7	.78	245
Number of Different Information Sources Used to Select Program	7	.70	3000
Number of Obstacles to Program Implementation	12	.74	1413
Number of Objectives Named	13	.78	3231

Table F9
Individual- and School-Level Reliabilities of Teacher Climate Scales and Measures of Training and Levels of Use of Prevention Activities in the School

Scale or item	N items	Indi- vidual level "	School level			
			All schools ^a		Schools with good response ^b	
			D	Ŷ.	D	Ŷ.
Scale						
Morale	11	.81	.28	.85	.28	.88
Safety	8	.94	.17	.73	.17	.75
Administrator Leadership	12	.84	.28	.85	.28	.88
Planning	9	.62	.22	.81	.21	.84
Organizational Focus	16	.94	.26	.84	.26	.86
Classroom Orderliness	14	.92	.21	.77	.21	.79
Victimization	8	.61	.14	.69	.14	.72
Amount of in-service training in last 24 months						
Classroom management or instructional methods	1	–	.10	.61	.09	.63
Preventing student problem behavior	1	–	.13	.67	.13	.70
Level of use of activities to prevent problem behavior in the school						
Instruction or training	1	–	.13	.68	.13	.70
Behavioral programming or behavior modification	1	–	.13	.67	.12	.68
Counseling, social work, psychological or therapeutic activity	1	–	.16	.72	.16	.74
Other one-on-one attention to students (e.g., tutors, mentors)	1	–	.13	.67	.13	.70
Recreational, enrichment, or leisure activities	1	–	.11	.64	.11	.66

continued. . .

Table F9 (continued)
Individual- and School-Level Reliabilities of Teacher Climate Scales and Measures of Training and Levels of Use of Prevention Activities in the School

Scale or item	N items	Indi- vidual level "	School level			
			All schools ^a		Schools with good response ^b	
			D	Ŷ.	D	Ŷ.
Activities to improve instructional practices in classrooms	1	–	.12	.65	.12	.67
Activities to improve classroom organization and management	1	–	.11	.63	.10	.65
Use of external personnel in the classroom	1	–	.14	.69	.14	.71
Activity to change or maintain school culture or climate and signal expectations for student behavior	1	–	.10	.61	.10	.64
Activity focused on intergroup relations and interaction between the school and the community or among groups within the school	1	–	.11	.64	.11	.66
Application of school rules or a discipline code and enforcement of rules	1	–	.16	.71	.16	.73
Peer regulation and response to student conduct	1	–	.27	.81	.27	.83
Use of a school planning structure or process, or the management of change	1	–	.10	.61	.10	.63
Security or surveillance activity	1	–	.23	.78	.23	.80
Services or programs for families or family members	1	–	.10	.60	.09	.62
Activity that alters the composition of the school's population	1	–	.10	.61	.09	.62
Organization of grades, classes or school schedules	1	–	.24	.79	.23	.81
Training or staff development	1	–	.11	.64	.11	.66

continued . . .

Table F9 (continued)
Individual- and School-Level Reliabilities of Teacher Climate Scales and Measures of Training and Levels of Use of Prevention Activities in the School

Scale or item	N items	Indi- vidual level "	School level			
			All schools ^a		Schools with good response ^b	
			D	$\hat{\delta}$.	D	$\hat{\delta}$.
Provision of information about violence, drug use, other risky behaviors, or the availability of prevention services	1	–	.10	.61	.09	.63
Architectural or structural features of the school	1	–	.09	.60	.09	.62
Treatment or prevention services for administrators, faculty, or staff	1	–	.06	.51	.06	.53
Personal level of use of activity to prevent problem behavior						
Instruction or training	1	–	.03	.35	.03	.37
Behavioral programming or behavior modification	1	–	.04	.41	.04	.43

Note. " = alpha coefficient, D is the intra-class correlation (the estimate of the percentage of total variance between schools), and $\hat{\delta}$. is the average estimated reliability for an observed school mean.

^a Minimum $N = 409$.

^b School response is considered "good" if 10 or more teachers *or* 70% of teachers returned questionnaires. Minimum $N = 383$.

Table F10
Individual- and School-Level Reliabilities of Student Climate Scales and Measures of Individual Characteristics

Scale or item	N items	Indi- vidual level "	School level			
			All schools ^a		Schools with good response ^b	
			D	Ĝ.	D	Ĝ.
Attitudes favorable to drug use	10	.86	.16	.89	.16	.90
Drug availability	4	.82	.17	.90	.17	.90
Last-year variety of drug use	16	.87	.14	.88	.14	.88
Safety	13	.80	.12	.86	.12	.86
Fairness of school rules	3	.63	.09	.81	.09	.81
Self-reported delinquent behavior	13	.84	.07	.77	.07	.78
Belief in conventional rules	23	.86	.07	.78	.07	.78
Clarity of school rules	4	.62	.07	.76	.07	.77
Positive peer influence	7	.67	.06	.72	.06	.73
Attachment to school	13	.82	.05	.71	.05	.72
Commitment to education	14	.83	.04	.68	.04	.68
Victimization	7	.61	.04	.68	.04	.68
Reports of participation in or school use of activities to prevent problem behavior in the school						
Did <u>you</u> receive instruction in ways to avoid getting involved in problem behavior such as fighting, drug use, or risky behavior?	1	–	.04	.68	.04	.68
Did someone <u>chart your behavior</u> over time, help you set goals, and give you information about how close you were coming to the goal or give you rewards or punishment for your behavior?	1	–	.06	.72	.06	.73
Did <u>you</u> participate in Drug Abuse Resistance Education (D.A.R.E.) taught by a police officer in your school?	1	–	.14	.87	.14	.88

continued . . .

Table F10 (continued)
Individual- and School-Level Reliabilities of Student Climate Scales and Measures of Individual Characteristics

Scale or item	N items	Indi- vidual level "	School level			
			All schools ^a		Schools with good response ^b	
			D	Ŷ.	D	Ŷ.
Did <u>you</u> participate in Gang Resistance Education and Training (G.R.E.A.T.) taught by a police officer in your school?	1	–	.12	.86	.12	.86
Did <u>you</u> get advice or guidance about ways to avoid getting into trouble — or avoid getting involved with drugs or violence — from a counselor, social worker, or psychologist at school?	1	–	.06	.73	.06	.74
Did <u>you</u> spend time with an adult mentor or tutor who talked with you about things, offered you help with problems you might be having or helped you with your school work?	1	–	.04	.64	.04	.64
Did <u>you</u> participate in special events, activities, or recreation inside or outside the school; or take trips outside the school to places for fun or for learning?	1	–	.04	.65	.04	.66
Were <u>you</u> in a class where the teacher made the rules very clear at the beginning of the year, posted the rules on the wall, had something for you to begin work on every day when you arrived at class, and had special signals everyone understood to begin and end activities?	1	–	.03	.59	.03	.59
Did <u>you notice</u> posters, videos, or repeated announcements trying to get students to behave a certain way or to avoid certain behavior in your school?	1	–	.04	.66	.04	.66
Were <u>you</u> involved in school activities together with people or groups from the community?	1	–	.03	.62	.03	.62
Did <u>you notice</u> any changes in school rules or ways of responding to student behavior at school?	1	–	.02	.52	.02	.52
Did <u>your school</u> involve students in making rules resolving disputes, a student court, mediation, or conflict resolution?	1	–	.08	.78	.08	.79

continued . . .

Table F10 (continued)
Individual- and School-Level Reliabilities of Student Climate Scales and Measures of Individual Characteristics

Scale or item	N items	Indi- vidual level "	School level			
			All schools ^a		Schools with good response ^b	
			D	$\hat{\alpha}$.	D	$\hat{\alpha}$.
Did <u>your school</u> have a team or group to make plans to improve the school?	1	–	.06	.76	.06	.76
Did <u>your school</u> formally involve students, parents, and others from outside the school in making plans for the school?	1	–	.04	.65	.04	.65
Does <u>your school</u> take steps to make it difficult for intruders to enter the school; watch the school's entrances, hallways, and grounds; or make it easy to report a problem?	1	–	.06	.73	.06	.73
Did <u>your school</u> work with any adult in your family to help the family supervise children or reduce behavior problems?	1	–	.04	.68	.04	.68
Do <u>some people</u> who want to go to your school have to go somewhere else because the school does not accept everyone who wants to attend?	1	–	.10	.82	.10	.83
Were <u>you or your family</u> sent by the school to another agency to get help of any kind?	1	–	.06	.73	.06	.74
Is <u>your school</u> is divided into smaller groups of students (instructional teams, houses, or academies) who spend most of their learning time with one group of teachers and who are usually separated from other students who have other groups of teachers?	1	–	.12	.85	.12	.86

Note. " = alpha coefficient, D is the intra-class correlation (the estimate of the percentage of total variance between schools), and $\hat{\alpha}$. is the average estimated reliability for an observed school mean.

^a Minimum *N* = 306.

^b School response is considered "good" if 10 or more students *or* 70% of sampled students returned questionnaires. Minimum *N* = 303.