

Risk and Resource Indicators and Their Relationship to Young Children's School Adjustment¹

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Relationships between risk-magnifying life situations and events, as well as resources, and school adjustment were explored in a large sample of first through fourth graders. Also studied was the extent to which the presence of resources moderate the effects of risk. Children's risk and resource factors were determined from background-identifying information provided by teachers in four domains: physical and health characteristics, recent critical life events, special school services and activities, and family background variables. A significant negative correlation was found between scores on composite risk and resource indices. Both indices correlated significantly, and in the expected directions, with measures of school problem behaviors and competencies. High risk children with moderate resources were significantly better adjusted than high risk children with few or no resources. Implications of those findings for developing primary prevention programs for children at risk were considered.

The study's main focus was on relationships between risk-enhancing life circumstances and events and adjustment in young school children. Second, relationships between resources and adjustment, as well as the extent to which resources may moderate the effects of risk, were explored.

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Interest in the concept of risk has grown appreciably in recent years (Monroe, 1982). In part, that reflects the field's broader shift away from predominantly psychodynamic explanations of behavior toward fuller recognition of the importance of environmental conditions and significant life events as behavioral determinants. More basically, however, it reflects the cumulation of evidence, with many groups, linking different risk-magnifying circumstances to diverse types of short- and long-term psychological maladjustment (Dohrenwend & Dohrenwend, 1974; Felner et al., 1983).

At the macrosocial level, for example, important associations have been shown between impoverished living conditions, inadequate nourishment, restricted job and life opportunities, demeaning attitudes and "ghettoism" on the one side, and signposts of maladjustment on the other (Dohrenwend & Dohrenwend, 1981; Lorion, 1973; Ryan, 1971; Srole et al., 1962). Specific circumstances known to increase the likelihood of maladjustment include marital dissolution, with its demonstrated negative effects both on adults (Bloom et al., 1978) and children (Felner et al., 1980; Hetherington et al., 1978; Emery, 1982), to bereavement (Silverman, 1976), to life transitions (Felner et al., 1983), to economic difficulty and job loss (Dooley & Catalano, 1980; Monahan & Vaux, 1980).

Kornberg and Caplan (1980) summarized a vast body of data showing relationships between a broad array of "biopsychosocial" risk factors, e.g., genetic factors, pregnancy and birth factors, prematurity, acute and chronic illness, poverty and cultural deprivation, family disruption, parental mental disorder, and psychological disorders in childhood. In their view, understanding such relationships is a key to developing primary prevention interventions designed to combat risk factors and to promote competencies.

Individual studies provide more detailed information on relationships between stressful situations and maladjustment in children. For example, Sandler and Ramsay (1980) found that inner-city children who experienced stress around school entry and family difficulties were significantly more maladjusted than matched peers who did not. In another domain, Anthony (1970) considered the negative adjustment effects on children following the death or hospitalization of a parent or sibling. Similarly, Felner et al., (1975) reported more serious school maladjustment in referred children who experienced either parent separation/divorce or death, compared to referred noncrisis peers. Moreover, they found specific relationships between parent divorce and acting-out problems in children, and between death/life threatening illness and problems of shyness, withdrawal, and anxiety. Thus, not only do stressful events affect children's adjustment adversely, but there are specific relationships between types of stresses and types of maladjustment (Felner et al., 1983).

Since Holmes & Rahe's (1967) early work developing an assessment framework for recent life events and the documentation of relationships be-

tween such events and psychological and physical disorder (Holmes & Masuda, 1974), exploration of relationships between the occurrence of multiple stressful events and psychological maladjustment have accelerated. Notwithstanding the fact, as Monroe (1982) stresses, that this area harbors significant methodological problems with respect to such issues as establishing the independence of events, the importance of time of occurrence of an event, the use of event-weighting systems, and optimal handling of positive and negative events, most available data support the conclusion that multiple stressful events and conditions exacerbate adjustment problems (Monroe, 1982; Roskin, 1982; Felner et al., 1983; Vaux & Ruggiero, 1983). That generalization is based primarily on data with adults.

A further relevant consideration is that the effects of stressful circumstances and events vary considerably across individuals (Bloom, 1979; Felner et al., 1983). That point is well exemplified in Garmezy's (1976; Garmezy et al., 1979) concept of "invulnerables," i.e., people who, notwithstanding extremely unfortunate life circumstances and "objective" buffetings, not only survive, but develop well, psychologically. Similarly, it is clear that different people react differently to what appear, on the surface, to be common stressful events. Among the factors identified as possible moderators of the harmful effects of such events, are the presence of sound social support systems (Monroe, 1982) and/or intimate social relationship (Miller & Lefcourt, 1983), one's basal level of adjustment and resources, and personal qualities such as how events are perceived, one's feelings of control or powerlessness, prior mastery experiences, and problem-solving skills, (Kobasa, 1979; Felner et al., 1983).

Within the preceding matrix, the present study's main goal was to explore relationships between a composite index of risk and school adjustment in young children. Whereas the past emphasis in composite risk assessment with children has been on recent critical life events (Coddington, 1972; Gersten et al., 1977; Sandler & Ramsay, 1980), risk in this study was assessed from multiple perspectives including a child's health and physical characteristics, family background circumstances, special school activities and services, as well as recent critical life events.

Although risk assessment was the study's first order of business, several child resources were also identified by the assessment tool used. The latter information made it possible to explore, in a preliminary way, both direct relationships between child resources and adjustment and the extent to which the negative risk effects are moderated by the presence of resources.

Specifically then, the study hypothesized: (1) a negative relationship between the presence of risk indicators and school adjustment, (2) a positive relationship between resources and school adjustment, and (3) that the presence of resources among children at high risk would reduce maladjustment. The generative steps of pinpointing risk conditions that predispose

maladjustment in children and resources that moderate maladjustment are, as Kornberg and Caplan (1980) suggest, important precursors for conceptualizing and mounting appropriately-targeted primary prevention interventions for children designed to avert otherwise probable negative psychological outcomes.

METHOD

Subjects

The study's subject pool included 1126 urban and suburban school children approximately evenly distributed across grades 1-4. Of that total, 974 had been randomly selected in blocks of 7-10, from 101 classes in four urban and five suburban elementary schools, as subjects in a large-scale study to update norms for measures of school adjustment (Weissberg et al., Note 2). Included in that randomly selected group were 123 children who had been referred to, and seen through, the Primary Mental Health Project (PMHP), a program for early detection and prevention of young children's school adjustment problems (Cowen et al., 1975). The remaining 152 Ss, also first through fourth graders, were children seen through PMHP who had not been selected for the normative study.

Measures

Two clusters of measures were collected for all subjects assessing respectively: (1) school adjustment status, and (2) background identifying characteristics.

School Adjustment

1. *Classroom Adjustment Rating Scale (CARS)*. The CARS is a 41-item teacher-rating scale that assesses young children's school adjustment problems (Lorion et al., 1975). All CARS items are rated on 5-point severity scales (1 = not a problem, 5 = very serious problem). The CARS includes three main factors: (1) *acting out* (ten items), aggressive, disruptive, and impulsive behaviors, (2) *shy-anxious* (12 items), withdrawn, nervous, moody, dependent behaviors, and (3) *learning difficulty* (14 items), academic motivation and performance problems. The sum of the ratings on all 41 items yields a total maladjustment score. High CARS factor and total scores reflect maladjustment. CARS test-retest reliabilities exceed .85 and all scales dis-

criminate significantly between referred and nonreferred children (Lorion et al., 1975).

2. *Health Resources Inventory (HRI)*. The HRI, a 54-item scale also completed by classroom teachers, evaluates children's school competencies (Gesten, 1976). HRI items are rated on 5-point scales (1 = describes child not at all, 5 = describes child very well). Five HRI factors have been identified: (1) *good student* (ten items), effective learning skills, (2) *adaptive assertiveness* (seven items), defends views when appropriate, (3) *peer sociability* (ten items), has effective peer relationships, (4) *follows rules* (seven items), adapts to school regulations, and (5) *frustration tolerance* (12 items), copes with school pressures and failure situations. Summing the five factor scores yields a total competence score. Higher scores on all HRI scales indicate greater competence. HRI test-retest reliabilities range from .72-.91. The measure discriminates both between normal and disturbed children and among competence levels within a normal sample (Gesten, 1976).

Background-Identifying Information

Teachers provided background-identifying information for all subjects on 40 items falling into four main clusters: (1) physical and health characteristics, (2) recent critical life events, (3) special school services and activities, and (4) family background information. The first three clusters of information fit on a single ID sheet; family background items appeared on the bottom part of the CARS response sheet.⁴ The four clusters were as follows:

1. *Physical and Health Characteristics*. This 12-item section included two blocks of six items each. The six items in the first block, i.e., height, weight, fine motor coordination, frequency of illness, judged physical attractiveness, and gross motor coordination were rated by the teacher for each child relative to same-sexed class peers on 5-point scales (5 = much above average, 1 = much below average). For the second block of six, i.e., wears glasses, is left-handed, has allergies, has repeated a grade, has ongoing medical problems, has physical handicap, the teacher was asked simply to check items known to apply to a child.

2. *Recent Critical Life Events*. Teachers were instructed to check any of the following 11 events, if they had occurred during the *current* school

⁴Although family background data were collected for all 974 children in the normative study, that information was not available for the 152 referred children later added to the study. Hence, for ID clusters 1-3 above, data were available for all 1126 Ss, but for the inclusive clusters 1-4, there were only 974 Ss.

year: death of a family member, serious illness of a family member, lengthy illness or hospitalization of the child, child transferred schools, parents separated or divorced, parent remarried, parent lost job, family experiencing serious economic difficulties, child moved, new child born into family, new person moved into home.

3. *Special Activities and Services.* Teachers were asked to check any of the following nine items if the child had been involved in them during the current school year. Three were "positive" items: organized sports program, school chorus, orchestra, or band, and school recreational program. The other six were problem-related: speech therapy, mental health referral (other than PMHP), out-of-class remedial education, frequent visits to school nurse, formal disciplinary action, and frequent visits to school principal.

4. *Family Background Information.* The eight items in this cluster all related to the child's current home situation. The first two asked the teacher to describe the child's mother and father figures, respectively, by checking the most appropriate of the following options: natural, "step"-, adoptive, foster, none present, other, or no information available. For the remaining six items, teachers were instructed to check those that correctly described the child's current situation; mother employed, father employed, child under excessive family pressure to succeed, adult relatives live in home, adult nonrelatives live in home, child lacks educational stimulation.

Derivative Indices

Based on the preceding background information, two rough composites were derived to reflect the child's current situation: a *risk*-index and a *resource* index.

Risk Index. In all, 33 items (nine physical/health, all 11 recent critical life events, six school services, and seven family background) entered into the risk pool. Choice of those items was for the most part guided by data from a prior study (Cowen et al., 1984) showing that they discriminated, in expected directions, between children referred to a school mental health program and demographically matched nonreferred peers. The 33 selected risk items are presented in Table I. Since each risk item present was unit weighted, i.e., scored 1, the theoretical range of risk scores was 0-33. The actual range was from 0-17, highly skewed for the full sample, with a mean of 3.31 and a standard deviation of 2.66.

Resource Index. The resource index, much less stable than the risk index, consisted of a theoretical maximum of 11 arbitrarily selected items, also summarized in Table I. On this measure, the total group mean was 3.40 with a standard deviation of 1.86.

Table I. Summary of Risk and Resource Indicators

Risk	Resources
Physical/health	
Height below average	Height above average
Weight below average	
Illness above average	Illness below average
Physical attractiveness below average	Attractiveness above average
Fine motor coordination below average	Fine motor coordination above average
Gross motor coordination below average	Gross motor coordination above average
On-going medical problems	
Physical handicap	
Repeat in grade	
Recent critical life events	
Score 1 for <i>each</i> event checked	Score 1 for zero events checked
Special services/activities	
Speech therapy	Sports program
Mental health services (non PMHP)	Chorus or band
Out-of-class remedial education	After school recreation activity
Frequent visits to school nurse	
Frequent visits to school principal	
Family background	
Natural mother absent	Both natural mother and father present
Natural father absent	Father employed
Mother employed	
Father unemployed	
Excessive pressure to succeed	
Adult nonrelatives live in home	
Lacks educational stimulation	

Procedure

Data for the normative study were collected between late March and early May 1982. Teachers were paid \$10 for completing the adjustment scales and ID information sheets for the 7-10 selected children in their classes. They were instructed to do the adjustment measures *before* the information sheets.

RESULTS

The study's findings are presented in three main clusters: (1) relationships between risk and resource indicators, (2) relationships between risk and resource indices and adjustment measures and (3) adjustment comparisons among groups with different levels of risk and resources.

Relationships between Risk and Resource Indicators

Total risk index scores for each of the four subareas were intercorrelated. The resulting six r s ranged from .12–.31 which, though significant statistically, suggest that risk in a given domain is relatively independent of risk in other areas. Because there were few resource indicators overall, and several, e.g., activities, had very low frequencies, intercorrelations were not computed among resource subareas.

The correlation between total risk and total resources, slightly inflated by several non-independent items, was $-.57$, $p < .001$. Although a cumulative risk-resources index was derived by subtracting total risk from total resources, because of the preponderance of risk items that index correlated so highly ($-.93$) with the composite risk index, it was not used in later analyses.

Relationships between Risk and Resource Indices and Adjustment

Total risk and resource indices were correlated, for both samples, with each of the study's ten dependent adjustment measures (4 CARS, 6 HRI). In the case of the full sample ($N = 1126$), the risk and resource indices used were based on the first three ID clusters (physical/health, critical life events, and special services and activities). For the normative subsample ($N = 974$), the total risk and resource indices also included the family background items. The resulting r s, highly comparable across analyses, are summarized in Table II. All correlations were significant in the expected directions. The highest r s for the risk index were with the total adjustment scores, i.e., .55 with CARS Total and $-.46$ with HRI Sumfac. The highest r s for the resource index were also with the adjustment sum scores, i.e., $-.36$ with CARS Total and .43 with HRI Sumfac.

Adjustment Comparisons of Differing Risk-Resource Subgroups

Direct adjustment comparisons were made among three subgroups ($N = 32$ each) with differing risk and resource profiles: (1) low risk-high resources, (2) high risk-high resources, and (3) high risk-low resources. All S s for these analyses were drawn from the sample of 974 so that complete ID information would be available for each. Because adjustment status on the criterion measures relates to the parameters of sex and urban-suburban residence (Weissberg et al., Note 2), the subgroups were matched precisely on those variables, i.e., each had 23 males, nine females, ten urban, and 22 suburban children.

Table II. Correlations between Risk and Resource Indices and Adjustment Measures

	Risk indices		Resource indices	
	ID items only	ID + family	ID items only	ID + family
	(<i>n</i> = 1126)	(<i>n</i> = 974)	(<i>n</i> = 1126)	(<i>n</i> = 974)
Adjustment				
Problems (CARS)				
Acting out	.35 ^a	.41	-.18	-.24
Shy-anxious	.40	.41	-.26	-.27
Learning	.53	.53	-.31	-.36
Total	.52	.55	-.31	-.36
Competencies (HRI)				
Good student	-.44	-.42	.36	.38
Adaptive assertiveness	-.28	-.26	.29	.29
Peer relations	-.31	-.33	.31	.34
Follows rules	-.29	-.35	.26	.31
Frustration tolerance	-.39	-.38	.32	.33
Sum of factors	-.45	-.46	.40	.43

^aAll correlations significant at *p* < .001.

Table III. Means, Standard Deviations, and Significance Tests Comparing Adjustment Means of Risk/Resources Subgroups

	Low risk/high re-sources (<i>n</i> = 32)		High risk/high re-sources (<i>n</i> = 32)		High risk/low re-sources (<i>n</i> = 32)		<i>F</i>	Duncan
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Problems (CARS)								
Acting out	10.84	4.63	17.06	11.02	20.28	10.46	8.76 ^a	3,2 > 1
Shy-anxious	15.59	4.87	21.31	8.71	22.59	8.06	8.11	3,2 > 1
Learning	18.06	6.88	27.75	13.51	31.97	12.21	12.88	3,2 > 1
Total	52.19	12.98	73.41	28.49	84.63	29.11	14.26	3,2 > 1
Competencies (HRI)								
Good student	3.12	.92	2.48	1.21	1.90	.89	11.56	1 > 2 > 3
Adaptive assertiveness	3.69	.71	3.21	1.23	2.98	.86	4.55	1 > 3
Peer relations	4.92	.70	4.23	1.27	3.76	.90	11.34	1 > 2,3
Follows rules	3.66	.91	3.16	1.19	2.53	1.10	8.81	1,2 > 3
Frustration tolerance	3.19	.88	2.39	1.26	2.15	.93	8.80	1 > 2,3
Sum of factors	18.59	3.15	15.48	4.97	13.33	3.78	13.69	1 > 2 > 3

^aAll *F*s significant at *p* < .01.

Although low risk was defined ideally as a risk score of zero, in order to obtain an exact sociodemographic match, several Ss were used with risk scores of 1. Thus, the mean risk score for the low risk groups was 0.09. Low resources was defined similarly; however, several more Ss with 1 scores were included in that group for demographic match purposes. Thus, the mean resource score for low resource Ss was 0.41. High risk ($\bar{m} = 6$) and high resource ($\bar{m} = 5.5$) groups were at least one standard deviation above the full sample means on those dimensions.

The three risk-resources groups, as defined, were compared by separate one-way ANOVAS for each of the ten adjustment measures. Means and standard deviations for the three subgroups, F ratios and their associated p values, and Duncan comparisons of individual groups means are presented in Table III. Significant differences among group means ($p < .01$) were found on all ten variables. In each case, the order of adjustment from best to poorest was: low risk-high resources, high risk-high resources, and high risk-low resources.

DISCUSSION

The study's main purpose was to explore relationships between risk and resource indicators in young children and their school adjustment. Risk and resources were determined from background information about children, provided by classroom teachers in four domains: personal and health characteristics, recent critical life events, involvements in special school activities and services, and family background variables. Risk was assessed more extensively than resources.

Intercorrelations among total risk scores in the four subdomains were significant but low, reflecting little common variance. Total risk and total resource indices (which had a moderate negative correlation) were the study's main independent variables. Consistent, substantial relationships were found between the composite risk and resource indices (as well as risk sums by domain) and children's school adjustment. The greater the risk and fewer the resources, the more maladjusted and less competent were children found to be.

Those findings are consistent with a growing body of literature suggesting that adverse life conditions and stressful events predispose adjustment problems in children (Kornberg & Caplan, 1980; Felner et al., 1980, 1983). A further contribution of this study lies in the demonstration that multiple adverse life conditions and stressful events increase the child's risk for school maladjustment, much as it has been shown that multiple stressors increase psychological risk for adults (Monroe, 1982; Roskin, 1982).

Although risk-enhancing circumstances, in a main effects sense, predispose maladjustment, their consequences are known to vary as a function of people's overall adjustment levels and interpersonal support systems (Monroe, 1982; Kobasa, 1979; Felner et al., 1983). Based on that knowledge, a second goal of the study was to explore the extent to which adverse risk sequelae are moderated by the presence of resources in a child's life situation. Unfortunately, since that issue was not sufficiently salient when the study was designed, resources were assessed much less adequately, i.e., only about one-fourth as many indicators, than risk. Even so, the study provides substantial evidence of a positive relationship between resources and school adjustment. Comparing demographically matched groups of youngsters with different risk-resource profiles established a clear linear relationship with low risk-high resource children having the fewest problems and the greatest number of competencies, followed by high risk-high resource children, and finally by high risk-low resource children. Absolute differences among groups, especially the first and third, were considerable. Although high risk-high resource *Ss* were directionally closer to high risk-low resource *Ss* than to low risk-high resource *Ss*, that absolute placement may only reflect the underassessment of resources in this study. The point to stress is that the study provides some evidence that risk sequelae may, indeed, be tempered by the presence of resources in these youngsters. A clearer understanding of this potentially important interaction depends on more substantial future assessment of resources.

Several factors limit the study's generalizability. Limitations in assessing resources have already been noted. Other child resource indicators not used in this study, including important ones outside the school situation, e.g., the number of close friends a child has, might both: (1) enhance the prediction of adjustment, and (2) contribute to more sensitive analysis of the potential that resources have for deflecting negative psychological consequences that often follow exposure to risk-enhancing circumstances.

Although risk was measured more extensively than resources, the specific risk indicators used in this study do not exhaust the pool of potentially useful items. Moreover, because specific risk and resource factors may relate differentially to adjustment, a weighted rather than unit-scoring system might yield better adjustment prediction. Prediction might also be enhanced both by assessing risk and resources over longer time periods than just the current school year, and by using key observers besides teachers, e.g., parents, as sources of report. Related issues can also be raised about the study's dependent measures. Although teacher ratings are, to be sure, important, face-valid adjustment indicators (Spivack & Swift, 1973), using self-report measures of adjustment, sociometric indices, and behavior observations could add to the breadth and generalizability of the present findings.

The limitations cited, though real, should not obscure the study's three main findings: (1) exposure to risk-enhancing circumstances and life events

relates negatively to school adjustment, (2) the presence of child resources relates positively to school adjustment, and (3) the negative adjustment sequelae of risk-augmenting circumstances are moderated by the presence of resources. That pattern of findings has implications for conceptualizing and implementing primary prevention programs with children. At an obvious level, if risk conditions and events are known epidemiologically to predispose maladjustment, then prompt informed intervention can help to subvert otherwise anticipatable negative outcomes (Bloom, 1979). The specifics of any *given* intervention, however, must be governed by the particular life situation(s) that it addresses and by the defining attributes, e.g., age and sociodemographic characteristics, of the target population.

Models for such programming now exist both for adults and children. Illustratively, Bloom et al. (1982) report an effective intervention for newly divorced adults based on principles of support and the teaching of relevant problem-solving skills. Roskin's (1982) preventive program for adults who had experienced two or more recent critical life events was based on mental health education, mutual support, and teaching problem-solving skills. Tableman's et al. (1982) program for stressed low income mothers on public assistance taught stress management and life-coping skills and provided opportunities for support and building self-esteem. All three programs demonstrated significant adjustive gain for participants in relation to control groups.

Similar preventive efforts have been undertaken with children at risk. Interventions by Stolberg et al., (1982) and Pedro-Carroll (Note 1), emphasizing feeling identification and expression, support, and the acquisition of relevant problem-solving skills, have been effectively targeted to the children of divorce. Likewise, interventions based on role playing and the teaching of specific coping and mastery techniques have been shown to help young children surmount negative psychological effects associated with hospitalization and surgery (Melamed & Siegel, 1975; Graziano et al., 1979; Thelen et al., 1979).

A child's experiencing of certain life situations and/or stressful events, it would appear, increases the likelihood of ensuing adjustment problems. The present data both confirm that conclusion for children and suggest that such problems may be moderated by the presence of resources. Those findings (1) enhance the theoretical appeal of preventive intervention for children rendered vulnerable by life circumstances and/or stressful events, and (2) suggest that fostering age-appropriate competencies may be one key element in such interventions.

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