

# Dimensions of Maladaptive Behavior Among Kindergarten Level Children

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## ABSTRACT

*Recent public and professional policy commitments have stimulated programs for early detection and classification of childhood maladjustment. Many of these programs draw behavioral observation information from classroom teachers working with children at preschool levels. Inasmuch as it may be suspected that preschool children would display patterns of maladjustment somewhat different from those associated with later childhood and adolescence, it is important to determine whether and how such differences are manifest. To this end, 173 children from a general kindergarten population were observed and rated by teachers using the Bristol Social Adjustment Guides. Principal-components factor analysis with varimax rotation extracted three dimensions of maladaptivity (i.e., general overreaction, socioemotional constriction, and unforthcomingness). Whereas the former dimensions are commonly manifested among children at all age levels, unforthcomingness is considered uniquely reflective of children's reactions to developmental, social, and environmental transition. The prevalence and implications of these factor dimensions among kindergarten children are reported, and their relationship to other known dimensions of early childhood maladjustment is discussed.*

With the emergence of the national *Mental Health Systems Act* (Goldston, 1979; Note 1), a great deal of attention is being directed toward primary prevention of mental health and educational disorders among children. This new thrust in the commitment of resources places special emphasis upon early recognition of child maladjustment. Inasmuch as common school attendance marks the first opportunity for observation and evaluation of general populations of children, systematic and nomothetic comparisons of preschool and primary school children, as provided by teachers and other educational specialists, are often the most effective and efficient means to the early identification of childhood maladjustment.

The Bristol Social Adjustment Guides (BSAG) are recognized as one of the more useful methods for the timely detection and classification of children's malbehaviors by way of teachers' summative observations. The BSAG's international popularity has been enhanced by its inclusion in the British National Child Development Study (Davis, Butler, & Goldstein, 1972) involving teachers' evaluations of over 17,000 children in the United Kingdom, by its latest restandardization and extension with 2,527 Canadian elementary school children (Stott, Marston, & Neill, 1975), and by its recent application in computerized actuarial decision models designed primarily for differential diagnosis of handicapped children according to American classification systems (McDermott, 1980c). The general proficiency of the BSAG in discerning children's behavioral disturbance has been established through a variety of retrospective, concurrent, and predictive criterion validity studies (Stott, 1978, 1979; Stott & Wilson, 1977). In addition, the independent factorial integrity of the BSAG's overall adjustment scales and distinct variance within its behavioral syndromes have been supported through factor analytic investigations (Hale, 1978; McDermott, 1980b; Wilson, 1973).

As commonly applied in primary prevention programs, the BSAG are used extensively as an initial screening device to discover "at risk" children at the kindergarten or comparable

preschool educational level. Within this special context, it would be important to determine what principal factors or dimensions of psychopathology preschool children share, particularly since it cannot be assumed that integral dimensions of maladjustment are continuous or invariant throughout child and adolescent development (e.g., see Edelbrock & Achenbach, 1980; Spivack, Swift, & Prewitt, 1971). Available analyses of the BSAG's factor structure are not generalizable to preschool populations, because the factor study of the BSAG's normative sample (McDermott, 1980b) was performed with an aggregate of 2,527 5- to 16-year-old children, the Wilson (1973) study was confined to 10-year-olds, and the Hale (1978) analysis was based upon a mixed cohort of clinical cases and normal children drawn from rural elementary schools. Consequently, the present study was directed to ascertain the principal dimensions and prevalence of maladaptive behavior manifest within a general population of preschool children as observed by teachers in kindergarten classrooms.

## METHOD

### Subjects

A sample of 173 children was drawn from regular kindergarten classes within public schools of the greater Phoenix, Arizona, area. The total sample exhausted the entire pool of children enrolled in nine reasonably integrated kindergarten classes taught by five different female teachers. To enhance the generalizability of the sample, children who might later (upon entering primary school) be considered exceptional for special education or clinical purposes were not excluded from the study.

The sample was composed of 87 boys and 86 girls ranging in age from 64 to 84 months ( $M = 70.0$ ,  $SD = 3.7$ ) with approximately 13.2% of the children being members of minority ethnic or racial groups. Socioeconomic ratings, as estimated using Hollingshead's (1975) index of highest parental occupational level, indicated 21% of the children to have parents of professional/administrative status, 21% to have parents of technical/clerical status, 25% to have parents of craft and skilled worker status, and 15% to have parents of semiskilled or unskilled worker status, with occupational status for parents of the remaining 18% of children being undisclosed in accordance with school policy.

### Instrumentation

The BSAG (Stott, 1974) consists of 110 brief verbal items covering a wide variety of disturbed child behavior. Each item is designed to depict a child's style of coping with self and others in the school setting and is presented within some specific context, such as situations involving classmates, teacher, learning exercises, etc. The items, originally drawn from the language of classroom teachers, are worded to induce respondent teachers' descriptions of the phenomenology of child behavior and to reduce or eliminate inclinations to infer causation or to surmise the nature of children's internal psychological processes. In addition to the 110 indicators of maladaptivity, the BSAG offers alternative items describing well-adjusted child behaviors.

By means of nonparametric cluster analyses, Stott et al. (1975) merged the maladaptive items into six homogeneous and mutually exclusive groups known as *core syndromes*. The syndromes include: (a) *unforthcomingness*, a collection of behaviors characterizing a child's unassertiveness, interpersonal and academic passivity, and avoidance of competition; (b) *withdrawal*, behaviors reflecting general social detachment or induced isolationism; (c) *depression*, postures connoting loss of initiative in seeking environmental stimulation and/or a general state of lethargy or apathy; (d) *inconsequence*, behaviors carried out in the absence of forethought or consideration of likely consequences; (e) *hostility*, a complex of attack and avoidance reactions geared to test or sever relationships with adults; and (f) *peer maladaptiveness*, a group of intrusive and often aggressive infringements upon the rights of other children.

Accompanying the core syndromes are two associated groupings of malbehaviors. The first, known as *non-syndromic underreaction*, contains a variety of indicators that, although

they lack sufficient homogeneity to constitute a core syndrome, are all underreactive in nature and confirmatory and explanatory of syndromic types of underreactive maladjustment as represented by unforthcomingness, withdrawal, and depression. The second associated grouping, *nonsyndromic overreaction*, is comprised similarly of various behavioral indicators, in this case supportive of specific overreactive core maladjustment as suggested by in consequence, hostility, or peer maladaptiveness. Moreover, the frequencies of maladaptive behaviors for the underreactive type syndromes and associated non-syndromic grouping, and those for the overreactive core syndromes and corresponding grouping, are combined, respectively, to yield overall scores for an *underreaction scale* and for an *overreaction scale* of childhood maladjustment.

### Procedure

The children were observed and subsequently described by their teachers using the BSAG in accordance with the manual (Stott, 1974). Because the kindergarten children attended classes on a half-time basis, and because informed responses to the BSAG require rather extensive familiarity with each child's behavioral reactions, the BSAG were completed during the Spring semester of the academic year, having been distributed and collected within approximately one month's time.

### Analysis

Children's scores were obtained for each of the six core syndromes and two associated groupings of maladjustment. Product moment correlations among the various groupings were calculated and thereafter submitted to principal-components factor analysis with rotation of significant factors according to Kaiser's (1958) varimax procedure. Two-, three-, and four-factor solutions were attempted and evaluated against the following five criteria: (a) Eigenvalues for unrotated principal factors should be  $\geq 1.0$ ; (b) the percentage of variance accounted for by each unrotated factor should be  $\geq 10\%$ ; (c) the rotated factor solution should meet the constraints of Cattell's scree test (Harman, 1976); (d) each rotated factor should retain at least two significant loadings where those  $\geq .40$  are deemed significant; and (e) the resultant factor structure should make psychological sense in terms of parsimonious coverage of the data and compatibility with other preschool child research.

Analysis of the prevalence of maladjustment among the kindergarten subjects was performed by transforming children's raw scores for syndromes and overall scales to *T*-scores according to the method demonstrated by McDermott (1980a). Essentially, children whose underreaction or overreaction scale standard scores ranged between 60 and 69 were considered *mildly* maladjusted, whereas those with scores of from 70 to 79 were viewed as *moderately* maladjusted and those with scores of 80 or above as *severely* maladjusted.

## RESULTS

Distributional statistics for the incidence of maladaptive behaviors are presented in Table 1. Comparison of mean values with those published in the BSAG manual (Stott, 1974) reveals significantly lower incidence (i.e.,  $p < .01$ , two-tailed *t*-tests) of all types of maladaptivity, except unforthcomingness, in the kindergarten sample than in the aggregate standardization population of 5- to 16-year-old children. In contrast, the incidence of unforthcomingness among kindergarteners significantly exceeds ( $p < .01$ ) that reported for the standardization group. These findings, however, are really not unexpected since Stott et al. (1975, pp. 84–88), in a more extensive analysis of clinical incidence among the 5- to 6-year-old portion of the BSAG norm group, suggested that unforthcomingness was a predominant mode of maladjustment among younger children and that manifestations of other varieties of maladjustment were of relatively low incidence.

Intercorrelations among the BSAG core syndromes and associated groupings are displayed in Table 2. A fairly consistent pattern of moderate positive correlations may be noted among the syndromes and grouping regarded as underreactive, as well as among those

**TABLE 1**

*Means and Standard Deviations on Core Syndromes and Associated Groupings for Kindergarten Children on the BSAG*

Syndrome or Grouping	M	SD
Unforthcomingness	2.00	2.44
Withdrawal	.16	.62
Depression	.26	.90
Non-Syndromic Underreaction	.55	1.01
Inconsequence	1.31	2.53
Hostility	.50	1.38
Peer Maladaptiveness	.28	.72
Non-Syndromic Overreaction	.34	.72

Note. N = 173.

regarded as overreactive. Table 3 shows the final factor structure matrix with percentage of variance accounted for by each resultant factor. The three-factor model satisfied all of the considered criteria with the exception of the minimum eigenvalue for the third principal factor (which reached .94); however, the latter factor carried the single highest factor loading found among any of the structure solutions. The two-factor solution failed both the tests of scree and of coverage and compatibility, with the integrity of its principal axes breaking down with additional rotations, while the four-factor solution failed all but one of the criteria considered.

Inspection of the pattern of significant loadings for Factor I in Table 3 led to the interpretation of this factor as a *general overreaction* dimension of maladaptivity. Factor II, having high loadings on both withdrawal and depression, as well as on the confirmatory underreactive grouping, was termed *socioemotional constriction*. Finally, Factor III's apparent relationship to unforthcomingness and the confirmatory grouping supported that dimension being named *unforthcomingness*.

The cumulative prevalence of maladjustment among the kindergarteners was 23.7%, a figure compatible with the 22 to 25% incidence rate reported for the standardization group (McDermott, 1980a). Approximately 53% of the maladjusted children were boys; the re-

**TABLE 2**

*Correlations Among Core Syndromes and Associated Groupings for Kindergarten Children on the Bristol Social Adjustment Guides*

Syndrome or Grouping	U	W	D	UR	Q	H	PM
Unforthcomingness (U)							
Withdrawal (W)	.27						
Depression (D)	.22	.64					
Non-Syndromic Underreaction (UR)	.57	.54	.59				
Inconsequence (Q)	-.14	-.06	.09	.07			
Hostility (H)	.02	.07	.12	.24	.32		
Peer Maladaptiveness (PM)	-.09	-.05	-.04	.03	.39	.45	
Non-Syndromic Overreaction (OV)	.06	.06	.00	.14	.41	.41	.33

Note. Decimal points have been omitted. N = 173.

**TABLE 3**

*Varimax Rotated Principal Factor Structure of the BSAG Among Kindergarten Children*

Syndrome or Grouping	Factor			Communality
	I General Overreaction	II Socioemotional Constriction	III Unforthcomingness	
<i>Underreaction Scale</i>				
Unforthcomingness	-.05	.16	.93	.89
Withdrawal	-.03	.85	.15	.75
Depression	.03	.92	.05	.84
Non-Syndromic Underreaction	.17	.64	.60	.80
<i>Overreaction Scale</i>				
Inconsequence	.71	.10	-.26	.58
Hostility	.74	.10	.12	.58
Peer Maladaptiveness	.74	-.06	-.08	.56
Non-Syndromic Overreaction	.73	-.03	.18	.57
% common factor variance	31.8	26.4	11.6	
% cumulative factor variance	31.8	58.2	69.8	

Note. Rotated factor loadings  $\geq .40$  are italicized.  $N = 173$ .

maining 47% were girls. Examination of the prevalence of maladaptive behaviors across the three principal factor dimensions showed about one half of all kindergarten maladaptive behavior to be of the unforthcoming type and one third to be of the general overreactive type, with no marked overrepresentation of either type within any sex or socioeconomic group. Whenever general overreaction was evident among children, it was manifest at a mild or moderate, and never a severe, degree. The occurrence of socioemotional constriction was less frequent, accounting for nearly one fifth of all maladaptivity: for this type, girls outnumbered boys by more than three to one. Moreover, whereas the incidence of socioemotional constriction among boys ranged evenly from mild through severe degrees, the incidence among girls was almost always at a severe level.

## DISCUSSION

The identification of two major dimensions (i.e., general overreaction and socioemotional constriction) accounting for the welter of variance among the maladaptive indicators, is compatible with the work by Quay (1979) and Achenbach and Edelbrock (1978) confirming the existence of an overall dichotomy of conduct (externalized) vs. personality (internalized) disturbance in children. A similar trend was noted in the factor structure solution for the aggregate BSAG normative population (McDermott, 1980b).

Although a great deal of knowledge needs to be uncovered and ordered before any firm conclusions can be drawn about the genesis of such overreactive and constricted behavior among young children, a developing body of epidemiological literature does offer some tentative hypotheses. For example, Felner, Stolberg, and Cowen (1975), in their study of the many crisis events precipitating abnormal reactions in young children, concluded that children who witness parental hostility, as often associated with marital discord or divorce, are inclined to exhibit aggression toward agemates and adults, whereas children suffering losses, such as the death of a loved one, become severely depressed and withdrawn. This latter phenomenon may extend to cases of children who simply perceive the possibility of such losses, as is sometimes experienced when children, who would rather remain at

home, are compelled to attend school. Also, results of the National Study of Children (Foundation for Child Development, 1978) point to large numbers of children whose acting-out and provocative school behavior seems linked to ongoing parental discord and whose constrictive reactions seem linked to fear of losing support or status in the school environs.

The detection of unforthcomingness as a primary dimension of kindergarten maladaptivity is congruent with the proposition by Stott, Williams, and Sharp (1975) that some preschoolers are markedly deficient in "effectiveness-motivation," a sort of incentive to explore and master social and academic surrounds. Comparison of item content for the unforthcomingness dimension with factors derived from other leading preschool behavior rating devices shows distinct similarities between this dimension and Conners's unattentive-passive factor (Goyette, Conners, & Ulrich, 1978), Kohn's and Rosman's (1972) interest-participation factor, and Clarfield's (1974) shy-anxious factor.

Other works (McDermott, 1980a, 1980b) have demonstrated that the BSAG's unforthcomingness syndrome retains a sufficient amount of reliable and exclusive variance to warrant its consideration as a unique dimension of child psychopathology noticeably more pronounced among children attempting to cope with rapidly changing social demands. Considering the emergence of unforthcomingness as an independent dimension of maladaptive kindergarten behavior, it may be surmised that many young children are significantly disturbed by the stresses of preschool participation.

## CONCLUSION

The results lend support to the use of the BSAG in aiding the early recognition of maladaptive behavior. The two major behavioral dimensions extracted, general overreaction and socioemotional constriction, are reminiscent of the more well-established dichotomy of acting-out vs. withdrawn maladjustment found among youngsters of all ages. The third principal dimension found among kindergarten children, unforthcomingness, seems more peculiar to the early school population and may reflect patterns of reaction more common to children facing the discontinuities of new social environments.

A final matter of some importance needs to be addressed. Historically many writers have contended that the observation and rating of maladjusted child behavior ought to be left in the hands of "experts" and "sophisticates," such as clinicians, and not placed in the hands of those unfamiliar with the complexities and nuances of abnormal child development, such as teachers (for a review, see Lunzer, 1960). This position usually is argued upon the grounds that school teachers simply are unable to distinguish more subtle passive child behaviors or to appreciate their potential maladaptivity. This argument is weakened in the light of the current findings which demonstrate that over half of the maladaptive behavior observed by kindergarten teachers is of the underreactive sort and that it is manifested through two clearly different patterns of socioemotionally constricted and unforthcoming reactions.

## REFERENCE NOTE

1. *Mental Health Systems Act*, 96th Cong. 2d, S. 1177, H. B. 7299 (1980).

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#### AUTHOR'S NOTES

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