A Comparative Psycho-educational Analysis of Learning Disabled and Normal Adolescents

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This study examines the effects of continuing school failure on self-esteem, success and failure attribution and the rationalization of these failures. The subjects were a group of 35 Learning Disabled Adolescents (mean age 14) divided into two groups (LDA-1 and LDA-2) on the basis of severity, and a contrast group of 17 normally functioning boys (NONLDAs). Students were selected on the basis of teacher referral, the WISC-R, WRAT and a composition score. Following selection the *Intellectual Achievement Responsibility Scale*, the *Hopelessness Scale*, the *Irrational Beliefs Test*, the *Multiple Affect Adjective Checklist*, the *Measure of Individual Differences in Achieving Tendency*, the *Coopersmith Self-Esteem Inventory* and an *Anagram Frustration Task* were administered. The self-esteem of the two LDA groups was not significantly below that of the NONLDAs, although results were in the anticipated direction with the LDA-2 group having the lowest self-esteem. Regarding hopelessness, LDAs were more pessimistic. An overall increase in negative feelings, particularly anxiety and hostility, was found to be associated with a lower self-concept particularly so in the LDA-2 group. Against expectations, the LDAs produced lower total irrational beliefs scores; for all groups a lower self-concept was associated with an increase in irrational beliefs. The LDAs did not react with greater frustration to the anagram task. The students, regardless of group, assumed equal responsibility for success and failure. It was concluded that the LDA can be regarded as a person with somewhat lower self-esteem who views the future with anxiety, hostility and pessimism, but who does not accept the rational implications of these feelings.

Cette étude traite des effets des échecs scolaires répétés sur l'estime de soi, le jugement de succès et d'échec ainsi que la rationalisation de ces échecs. On a testé un groupe de 35 adolescents présentant des difficultés d'apprentissage (ATA) (âge moyen de 14 ans) que l'on a divisé en deux sous-groupes (ATA-1, ATA-2) selon le degré de difficulté par rapport à un groupe de 17 garçons aux aptitudes normales. Ces élèves ont été choisis par des professeurs, le WISC-R (test), le WRAT (test) et selon la note attribuée à une composition. On leur a fait ensuite subir le Intellectual Achievement Responsability Scale, le Hopelessness Scale, le Irrational Beliefs Test, le Multiple Affect Adjective Checklist, le Measure of Individual Differences in Achieving Tendency, le Coopersmith Self-Esteem Inventory et le Anagram Frustration Task. Il semble que l'estime de soi chez les deux groupes d'ATA n'était pas beaucoup inférieure à celle des AAN (adol. apt. nor.) bien que les résultats des tests laissent croire que les ATA aient une moins grande estime d'eux-mêmes. Toutefois, les ATA sont plus pessimistes. De plus on constate que les sentiments négatifs tels que l'anxiété et l'hostilité sont plus fréquents chez les sujets dont le concept de soi est moins élevé, ce qui caractérise davantage les ATA du groupe 2. Contrairement à ce que l'on avait prévu, les ATA présentaient, dans l'ensemble, moins de croyances illogiques. Les ATA n'ont pas montré une plus grande frustration aux tests d'anagrammes. Et quel que soit le groupe auquel ils appartenaient, les étudiants ont assumé également leurs succès et leurs échecs. On a donc conclu que les ATA peuvent être considérés comme des personnes dont l'estime de soi est moins élevée, qui conçoivent l'avenir avec anxiété, hostilité et pessimisme, mais qui n'acceptent pas les implications rationnelles de ces sentiments.

During the past few years considerable interest has developed with regard to learning disabled adolescents (LDAs). Although the definition of the

LDA varies (Goodman and Mann, 1976; Grill, 1977; Marsh, Gearheart and Gearheart, 1978; Salvia and Clark, 1972–3; Wiederholt, 1975), there is agreement on such criteria as (a) measured IQ within the normal range; (b) visual and auditory acuity within normal limits, after correction if necessary; (c) no severe emotional disturbance; and (d) no chronic school attendance problems. The criterion of "academic achievement discrepancy" is more controversial for LDAs. Wiederholt (1975) considers for inclusion any adolescent who meets the above criteria but achieves below the second grade level in any achievement area. Goodman and Mann (1976) specify a performance lag of two or more years below actual grade placement in basic math and language skills and in all cases if below Grade seven, whereas Mann, Goodman and Wiederholt (1978) include a student if academic performance is below fourth grade for eighth grade or above. The LDA is likely to be a child whom teachers believe to be lazy, disorganized, sloppy and poorly motivated and who has faced many years of persistent confusion and frustration regardless of previous diagnosis, treatment or lack of it (Vance, 1977).

Determining the broad effects of a specific learning handicap on an individual is difficult, if not impossible. Nevertheless, there is evidence that students with learning disabilities experience significant problems in social adjustment, social perception and motivation (Griffin, 1971; Gordon, 1970; Rosenberg and Gair, 1977) as well as in impulse control and the ability to tolerate frustration (Gardner, Warren and Gardner, 1977; Mauser, 1974; Siegel, 1974). In their writings on the LDA, Marsh et al. (1978) emphasize that students perceive themselves as lacking in ability to determine task outcome, with doubts about their ability to overcome difficult situations; such students attribute failure to a lack of ability and success to fortuitous circumstances beyond their control. This description agrees closely with the phenomenon of learned helplessness or hopelessness first proposed by Mowrer (1960) and later investigated in greater detail by Hiroto and Seligman (1975); Seligman (1975) and Seligman and Maier (1967).

Research on personal responsibility for success and failure has been pursued by Crandall, Katkovsky and Crandall (1965). Work relating achievement motivation to attribution of success and failure indicates that high achievement-motivated students are those most likely to take personal responsibility for success (Weiner and Kukla, 1970). More recently, Dweck (1975) and Dweck and Reppucci (1973) have demonstrated successful attributional retraining of younger children who manifest severe learned helplessness.

Several social learning theorists (Bandura, 1969; Mowrer, 1960; and Rotter, 1954) have asserted the significance of cognitive processes in determining the character of emotional arousal and the labeling of antecedent stimuli. Bandura (1969) postulated that man's emotional reactions are controlled by "self generated ... symbolic activities" (p. 364) as well as by conditioned aversive stimuli. Both controllers can be postu-

lated as stimulus sources of the experienced helplessness and the concomitant low achievement motivation as well as being instrumental in the reactions to demand situations in the school (Mauser, 1974; Siegel, 1974).

The work of Ellis (1962) and Ellis and Grieger (1977) suggests that self-destructive emotional reactions are engendered by the specific nature of beliefs or expectations about certain situations. These "irrational beliefs," so termed by Ellis, are the result of childhood maladaptive, illogical interpretations of events. Studies based on attributional theory which attempt the relabeling of so-called "learned helplessness situations" (Dweck, 1975), as well as studies demonstrating attacks on irrational beliefs (Goldfried and Sabocinski, 1975; Keller, Croake and Brooking, 1975) have proven to be successful.

The goal of the present investigation is to study the influence of persistent failure on student self-esteem, their success and failure attribution, and their rationalization of these failure experiences. The study involves two groups of LDAs differing in the degree of severity and one comparison group of normally achieving adolescent boys.

METHOD

Selection of Sample

Subjects for this study consisted of a group of normally achieving male students ($N = 17$), and two groups of LDAs ($N = 18$, $N = 17$) differing in their degree of severity. Selection criteria given to the teachers stated that for the NONLDAs, IQ should be within the normal range and achievement in key subjects at the expected grade level. For the two other groups the criteria of selection demanded an IQ within the normal range (IQ of not below 90). Discrepancy in achievement between expected and actual grade level, as suggested by Wiederholt (1975), of more than two years, or below Grade 6, was used as cut-off points.

The final selection and assignment of the two LDA groups was done on the basis of composite criteria such as achievement test placement in Spelling, Reading and Arithmetic as well as a composition score. The cumulative record cards of all students included in the study were checked for indications of emotional disturbance and severe perceptual defects. Student age, grade placement, achievement test and composition scores are reported in Table 1.

Selection Instruments

The selection instruments included the WISC-R (Wechsler, 1974) and the Wide-Range Achievement Test (Jastak and Jastak, 1965). Based on the suggestion of Goodman and Mann (1976), all students were required, in a composition of 100–120 words, to argue the case for compulsory school-

TABLE 1

Group Comparisons for Age, Grade Placement, IQ, Achievement and Composition Scores

Selection Factors	NONLDA		LDA-1		LDA-2				$\bar{X}$** Pattern		
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	F*	P<			
Age	13.8	0.72	14.1	1.20	14.1	0.83	0.47	0.620	*1*	*2*	*3*
Grade	8.1	0.43	7.6	0.50	7.5	0.51	6.88	0.002	*1*	*2*	*3*
IQ Verbal	107.9	7.90	99.4	12.15	95.9	6.42	3.67	0.032	*1*	*2*	*3*
Performance	103.2	9.65	103.2	11.07	102.6	9.69	0.02	0.970	*1*	*2*	*3*
Total	106.4	7.93	101.3	10.42	99.2	4.30	3.01	0.085	*1*	*2*	*3*
WRAT											
Reading	10.1	2.07	6.6	0.94	5.1	0.88	57.07	0.000	*1*	*2*	*3*
Spelling	8.6	1.19	6.3	1.46	4.4	0.93	50.02	0.000	*1*	*2*	*3*
Arithmetic	8.2	1.13	6.1	1.02	5.1	1.01	37.46	0.000	*1*	*2*	*3*
Compos.											
T-Units	17.3	3.66	13.2	3.69	13.6	2.34	8.14	0.001	*1*	*2*	*3*
Reasons	3.1	0.89	2.3	0.89	2.3	0.85	4.40	0.017	*1*	*2*	*3*

*($df = 2; 49$); ($p < .05 = 3.19$); ($p < .01 = 5.07$)

**($p < .05$ or higher)

ing up to the age of 16. Crowhurst and Piche (1979) have pointed out that compositions requiring arguments produce syntactically more complex sentences than descriptive or narrative compositions. These compositions were scored for syntactical maturity defined as words per *T*-unit (*W/T*) which Hunt (1970, p. 4) defined as "one main clause plus any subordinate clause or non-clausal structure that is attached or embedded in it." Syntactical maturity has been described by Stewart (1978) and Stewart and Grobe (1979) as the best index of improvement in written composition through the grades.

All students were individually tested on the WISC-R. An anagram task was done after the completion of the assessment session. The WRAT, the composition task and the various other scales were completed in small groups of not more than five subjects.

The data in Table 1 were subjected to analyses of variance and tests of ordered means (Newman-Keuls). All but the differences in Full Scale and the Performance IQs on the WISC-R and the mean ages of the three groups were significant beyond the .01 level. The Newman-Keuls $\overline{X}$ line pattern (Winer, 1962, p. 102) identifies significant differences at the .05 level and beyond between ordered means which are not underscored by a common line. The differences in present grade placements among the three groups resulted from the inclusion of three grades in the junior high school with no attempt at balancing representation. The lower Verbal IQ is an expected indicator with almost all LDAs, depressing the total IQ score. The grade difference as determined by the WRAT between Group 1 and 2, the LDA groups, was two and three years, respectively. The analysis of the composition scores also demonstrates lower values for syntactic maturity (*T*-Units) and number of reasons given by the two LDA groups. The normally achieving group advanced a few more arguments than the LDA groups in the "compulsory school attendance up to the age of 16" composition task.

Psycho-educational Assessment Instruments

The following scales, with the exception of the anagram task, were administered to the students in small groups of five or fewer: The *Anagram Frustration Task* based on 20 double solution anagrams, previously used with college age students (Mayzner and Tresselt, 1966), was presented to the students on 3 × 5 index cards with the following instructions:

You are asked to solve some scrambled word puzzles. The problem for you is to unscramble the letters so that they form a word. When you have found the word, tell me what it is. If you CANNOT solve the problem on the first card, go on to the next and try it. If you think you cannot do any of them, just return the deck of cards.

There could be a pattern or principle by which to solve the problem, but this is up to you to find out.

Responses and response latencies were recorded. Assuming that the LDA has a long history of failure accompanied by motivational and frustrational difficulties (Siegel, 1974), it is hypothesized that the non-achieving pupil will react to such a task in a manner that suggests learned helplessness.

The *Hopelessness Scale* (HS) by Beck, Weissman, Lester and Trexler (1974) is a 20-item true-false scale which defines hopelessness as negative expectations of oneself and one's future life. Beck reports an internal consistency coefficient of .93 and concurrent validity with clinical ratings of an outpatient attempted-suicide sample of .74 and .62. The coefficient between the Beck scale and the Stuart Future Test was .60.

The *Coopersmith Self-Esteem Inventory* (CSEI) (Coopersmith, 1967) is a self-report inventory consisting of 50 items divided into the four subscales: general self; social self-peers; home-parents; and school-academic. It has a reported test-retest reliability of .70 to .88. The CSEI was selected because of the appropriateness of its subscales as well as for its age applicability. Rosenberg and Gaier (1977) found significant differences in the "social self-peer" concept favouring the normally achieving seventh graders in their study over those diagnosed as learning disabled.

The *Multiple Affect Adjective Checklist* (MAACL) by Zuckerman and Lubin (1965) yields scores for anxiety, depression and hostility with 10, 24 and 14 items, respectively, for the three scales. The short form used in this study, correlates with the three, long-form subscales, .82, .93 and .92, respectively.

The *Measure of Individual Differences in Achieving Tendency* (MIDAT) developed by Mehrabian in 1969 and improved in 1978 is a 34-item questionnaire based on a pool of such achieving tendencies as: the tendency to return to incomplete tasks; perseverance; delay in gratification; attribution of success and failure to self versus external circumstances, etc. Mehrabian and Bank (1978), when referring to the earlier scale, reported satisfactory convergent validity when correlated with the Jackson (1967) achievement scale, and coefficients of .59 for males and .68 for females between the 1978 and the 1969 versions.

The *Intellectual Achievement Responsibility Scale* (IAR) by Crandall et al. (1965) is an instrument made up of 34 forced-choice items which essentially describe a positive or negative achievement experience followed by two alternatives; one attributes an internal locus of control, the other an external source. In addition to a total responsibility score, the scale yields two subscores, one for responsibility for success (I^+), and one for failure (I^-). Test-retest coefficients for I^{tot} = .69; .66 for I^+, and .74 for I^-.

The *Irrational Beliefs Test* (IBT) based on Ellis' theory of psycho-

TABLE 2
Group Comparisons of Psycho-educational Measures

Comparison Measures	*NONLDA*		*LDA-1*		*LDA-2*				$\bar{X}$**
	$\bar{X}$	*SD*	$\bar{X}$	*SD*	$\bar{X}$	*SD*	*F**	*P* <	*Pattern*
Anagram									
No. Correct	12.9	3.97	10.2	4.30	6.5	3.97	10.71	0.000	1 2 3
Lat. Right	10.2	4.62	15.6	7.29	17.4	11.30	3.58	0.035	1 2 3
Lat. Wrong	25.4	12.26	30.4	17.58	32.4	17.37	0.88	0.420	1 2 3
Hopelessness	2.8	2.32	4.7	3.36	8.0	4.63	9.22	0.000	1 2 3
Self-Concept									
Self	20.6	4.55	19.7	4.96	17.9	6.49	1.16	0.322	1 2 3
Peer	7.5	2.06	6.4	2.33	7.3	2.73	0.93	0.402	1 2 3
Home	6.3	2.09	5.4	2.70	5.0	1.87	1.58	0.215	1 2 3
School	5.7	2.14	4.2	1.89	4.2	2.19	2.89	0.065	1 2 3
Total	40.2	8.10	36.3	9.22	34.1	10.50	2.90	0.060	1 2 3
MAACL									
Anxiety	2.7	1.99	1.9	1.39	3.6	2.14	3.65	0.033	3 1 2
Depression	3.8	3.12	2.9	3.66	4.4	4.01	0.73	0.488	1 2 3
Hostility	5.0	2.91	6.1	2.13	7.5	3.00	3.56	0.036	1 2 3
MIDAT	114.1	20.18	96.7	20.74	90.2	16.80	6.98	0.002	1 2 3

TABLE 2 (*concluded*)

Comparison Measures	*NONLDA*		*LDA-1*		*LDA-2*				$\bar{X}$** *Pattern*
	$\bar{X}$	*SD*	$\bar{X}$	*SD*	$\bar{X}$	*SD*	*F**	*P* <	
IAR 1+	13.3	2.84	13.2	2.88	12.8	2.48	0.15	0.865	1 2 3
1−	11.9	2.52	10.8	3.07	11.2	3.10	0.64	0.532	1 2 3
1^{to}	25.2	3.63	24.0	4.55	24.0	4.37	0.45	0.642	1 2 3
Irrational Beliefs Test									
Approval	26.5	8.93	26.3	8.45	21.5	7.45	2.04	0.140	1 2 3
High Self-Expectancy	24.9	7.13	22.4	6.50	23.1	6.25	0.63	0.536	1 2 3
Blame Proneness	32.6	6.83	26.2	7.77	28.9	6.87	3.58	0.035	1 3 2
Frustration Reactive	23.4	6.38	22.7	6.41	20.5	6.46	0.93	0.403	1 2 3
Emotional-Irresponsibility	24.0	5.32	20.8	6.14	20.6	7.27	1.57	0.220	1 2 3
Anxious-Overconcern	29.1	8.55	24.8	7.34	23.8	7.38	2.25	0.116	1 2 3
Problem-Avoidance	25.3	5.11	25.3	4.40	21.5	5.37	3.32	0.044	1 2 3
Dependency	32.8	5.81	26.2	5.39	27.1	3.88	8.32	0.000	1 2 3
Helplessness	24.2	8.55	23.3	7.06	23.9	8.38	0.06	0.944	1 2 3
Perfectionism	27.3	6.38	26.9	8.39	23.5	4.74	1.62	0.208	1 2 3
Total	27.1	3.44	24.5	2.06	23.4	2.74	4.27	0.023	1 2 3

*($df = 2.49$)
**($p < .05 = 3.19$); ($p < .01 = 5.07$)

pathology and developed by Jones (1968) is a 100-item graded response scale consisting of ten subscales: demand for approval; high self-expectations; blame proneness; frustration reactive; emotional irresponsibility; anxious overconcern; problem avoidance; dependency; helplessness and perfectionism. Jones reported a test-retest reliability of .92 for the full scale, a range from .67 to .87 for the subscales, and concurrent validity of .42 with clinical factors of the 16PF.

RESULTS

The data for the three groups were analyzed using analysis of variance. Tests on ordered means (Newman-Keuls) were also done. The same line pattern as used in Table 1 to report differences between ordered means has been employed. The results are summarized in Table 2.

On the *Anagram* task the normally achieving boys (NONLDAs) produced significantly more correct responses ($\bar{X}$ = 12.9) than the LDA-1 ($\bar{X}$ = 10.2) and LDA-2 ($\bar{X}$ = 6.5). Response latency for the NONLDA group for correct answers was shorter than that for LDA-2. The latencies for wrong solutions were longer for all groups than were latencies for correct responses, though there was little to differentiate the latency of one group from another.

The *Hopelessness* measure found the NONLDAs the least hopeless ($\bar{X}$ = 2.8) and LDA-2, the most ($\bar{X}$ = 8.0). The LDA-1 with a mean of 4.7 falls between those means.

The *Self-Esteem* measure produced no significant differences on any of its four subscales among the three groups. The subscale "school," however, approached significance ($p. < .065$) with the two LDA groups having the lower means. The "total" scale approached significance at the .060 level with the NONLDA group having the highest mean score.

On the MAACL, the anxiety and hostility scales evidenced significant differences with LDA-2 having the higher anxiety ($\bar{X}$ = 3.6) and hostility ($\bar{X}$ = 7.5) scores. The scores for the NONLDAs are $\bar{X}$ = 2.7 and 5.0, respectively.

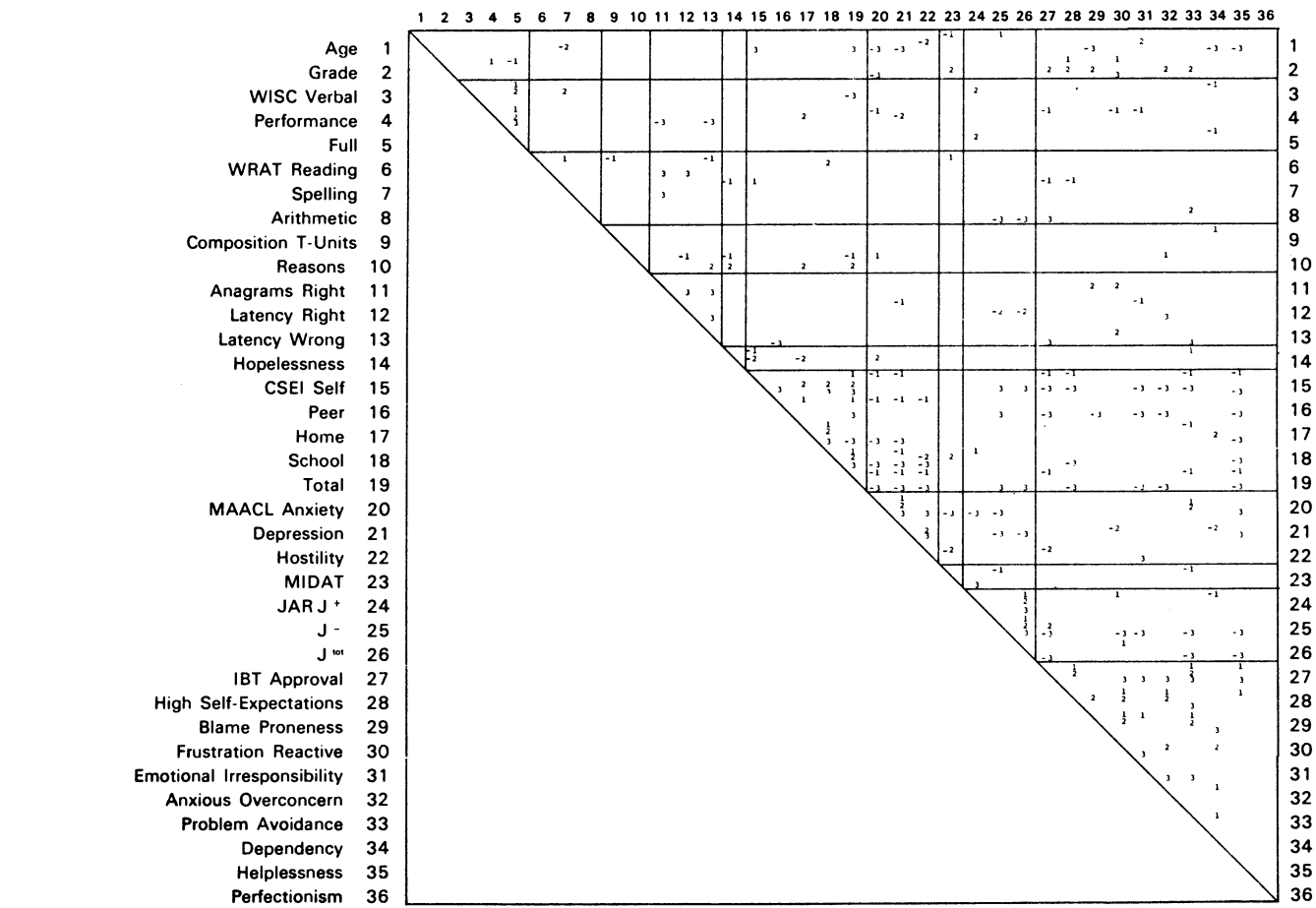
On the MIDAT the NONLDAs demonstrated the highest achievement tendency ($\bar{X}$ = 114.1) and the LDA-2, the lowest ($\bar{X}$ = 90.2). The LDA-1 group takes an in-between position with a means score of 96.7. No differences were ascertained for the IAR on any of its subscales.

Of the IBT measures only three subscales, blame proneness, problem avoidance, and dependency registered significant differences. The NONLDAs scored consistently higher ($\bar{X}$ = 23.6; 25.3; 32.8 vs 28.9; 21.5; 27.1) on all three measures than the LDA-2 boys. On the overall measure the NONLDAs reached a significantly higher score ($\bar{X}$ = 270.1) when compared with the two LDA groups which did not differ between themselves (LDA-1, $\bar{X}$ = 244.9; LDA-2, $\bar{X}$ = 233.9).

Next, correlation matrices were constructed for each of the three

TABLE 3

Intercorrelations of Selecting and Psycho-educational Measures for NONLDA, LDA-1, and LDA-2



* $p < .05$ and higher

NONLDA = 1 LDA = 2 LDA = 3

groups in order to investigate the relationships between the various measures. The data, condensed in Table 3, show the significant relationships at the .05 or beyond level only. In the majority of cases, the writers have drawn attention to "correlational clusters." What constitutes a cluster, however, is a subjective matter.

The *Hopelessness* measure correlated negatively with the "self" sub-scale of the *Self-Esteem* inventory for the NONLDAs and LDA-1s. Inspection of the score pattern shows that the higher the self-esteem of the subject, the lower the feeling of hopelessness. The tendency apparently does not hold for the LDA-2 group. It should be pointed out here that the hopelessness scale does not correlate with the IAR (locus of control) nor the helplessness subscale of the IBT for any of the groups.

The *Self-Esteem* inventory evidenced several correlations among its subscales and the total for each of the three groups suggesting that these scales are not independent in measuring components of the self-esteem of individuals. With a single exception, the above inventory and the MAACL produced negative correlations for the NONLDAs and the LDA-2 only, leading to the conclusion that for these two groups more positive expressions of self-esteem are related to decreasing levels of anxiety, depression, and hostility.

The table shows a cluster of significant negative correlations between the *Self-Esteem* inventory and the IBT for the NONLDAs and LDA-2s on all but the perfectionism scale. The distribution of correlations is such (8 vs 18) that the likelihood of a combination of high irrationality scores and a low self-esteem score is twice as high for the LDA-2 group as is that for the NONLDAs.

The MAACL and IAR produced a cluster of negative correlations exclusively for the LDA-2 group leading to the conclusion that for this particular group low achievement responsibility (locus of control) is associated with a higher incidence of negative affect. An obvious cluster of negative correlations is produced between the IAR and IBT measures for the LDA-2 group. Only for this group is an increase in independent achievement responsibility (locus of control) related to a lower level of irrational thinking or the reverse of this function.

A final cluster is shown between the various subscales of the IBT with the occurrence of an almost equal number for each of the three groups. One could conclude that knowing the level of scores on a few scales of the IBT is a relatively good predicter for the general level of scores on the remaining ones.

DISCUSSION

This investigation began with the assumption that students whose performance is below the anticipated grade level (two or three years, respectively) but whose assessed intellectual ability is within the normal range,

would demonstrate a lower self-esteem as a result of their lower performance. Grade failure is associated with repeated reports of failure in either class work or end-of-year results. It was assumed that those students who experienced such repeated negative results would dissociate themselves from these negative experiences by placing the responsibility for their failures on such outside factors as teachers and school. Failure experiences would not only result in the shifting of responsibility but also produce affective responses directed either against self or peers. In turn, the affective response to persistent failure experiences is thought to result in irrational beliefs (Ellis, 1962) to explain away the failing performance. At the outset of the study it was assumed that, as compared to a normally achieving group (NONLDAs), students with a wide discrepancy between performance and grade placement (LDA-1, LDA-2) would experience, in proportion to this discrepancy, lower self-esteem, higher negative affect, higher frequency of responsibility displacement together with higher levels of irrational beliefs.

The hypothesized decrease in self-esteem as a result of achievement discrepancies was not substantiated. Inspection of the means, however, shows that the trend is in the anticipated direction with the LDA-2s having the lowest overall self-esteem. This lends some support to the findings of Rosenberg and Gaier (1977) who reported lower "social self-peer" self-concepts for the LD students and a trend to lower "school-academic" and "general-self" self-concepts.

With regard to future orientation, the normally achieving students showed least hopelessness and the LDA-2s the most, with the other group taking an intermediate position. Although there is no clear-cut difference between the three groups in terms of self-concept, it is suggested that, at least for the normally achieving students and those in the LDA-1 group, hopelessness increases with a lowering of the self-concept. An overall increase in negative affect, particularly anxiety and hostility, is also associated with a lower self-concept, definitely for the NONLDA and LDA-2 group and a strong, although not significant, trend in the intermediate group. An almost identical pattern was found with respect to the holding of irrational beliefs and the self-concept – the lower the self-concept the higher the irrational beliefs. It must be mentioned, however, that the normally achieving students scored higher than the LDA groups, with the LDA-2s having the lowest *overall* irrational beliefs score.

The students, regardless of group, took equal responsibility for their success or failure, i.e., students with greater achievement discrepancies were not more likely to place the locus of control externally as anticipated. *Achievement Tendency* (MIDAT), highest for the NONLDA group and lowest for the LDA-2s, does not consistently correlate with the *Independent Achievement Responsibility* measures. Thus for the LDA students greater actual achievement discrepancy and lower achievement motivation do not lead to externalizing of locus of control. Support for this is also found in

the results of the *Irrational Beliefs Measure* on which LDAs demonstrated lower blame-proneness, lower approval seeking and lower self-expectations and an overall lower irrational beliefs score.

Contrary to expectations, the LDA groups did not manifest greater frustration during the anagram task. Although their total correct scores differed significantly (which may be attributed to their lower spelling ability), latency times actually increased with the degree of learning disability, not only for correct solutions but even more so for latencies for incorrectly solved ones.

The lower overall irrational beliefs score (greater rationality) and those supporting measures explained above, contrast, however, with the greater expression of anxiety, hostility and hopelessness as well as lower self-esteem, particularly among the more severe LDA students. It raises the question as to whether the LDA student, more so than the normally achieving one, suppresses conflicting cognitive components but retains the affective components as reflected in the higher anxiety and hostility scores.

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