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DIFFERENCES BETWEEN IQ AND SCHOOL ACHIEVEMENT IN ANOREXIA NERVOSA

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Anorexia nervosa is a multidimensional syndrome in which perfectionistic striving appears as a common component of the symptom cluster. Multiple studies have linked this character trait to attempts to achieve a "perfect" weight. In contrast, no empirical data are available that document perfectionistic striving outside of food and weight themes. The present study (N = 20) looked for evidence of perfectionistic striving in school behavior by comparing school achievement and IQ scores. School achievement was found to be significantly greater than would be predicted by IQ scores. This finding and directions for future research are discussed.

Anorexia nervosa is a multidimensional syndrome. One prominent dimension that appears consistently in discussions of anorexia nervosa is perfectionism (Strober, 1980). This trait is hypothesized to be expressed symptomatically in an effort to achieve the "ideal" weight, and while self-report surveys indicate that perfectionism is a commonly admitted theme for anorexics (Strober, 1983), no research is available that documents behavioral correlates in domains outside of the syndrome symptomatology. Perfectionistic striving might be a more pervasive personality attribute and, thus, not be restricted to food and weight themes. Therefore, it could be hypothesized that perfectionistic striving might be evidenced in other behavioral domains, e.g., school behavior.

Multiple studies have demonstrated high correlation between tests of intelligence and school achievement in the general population (Blossard & Galusha, 1979; Hartlage & Boone, 1977; Kitson & Vance, 1982). However, this relationship appears to break down in many clinical samples (Grossman & Johnson, 1982; Hale 1978). In the context of the present study, it was hypothesized that anorexics' perfectionistic standards might be expressed in terms of school achievement greater than would be expected on the basis of intelligence tests. This hypothesis was tested by statistical comparison of academic achievement and IQ scores.

METHOD

Subjects

The subjects were 20 White female inpatients with a DSM-III diagnosis of anorexia nervosa who had been referred for routine evaluation for inpatient school placement during 1984-1986. They ranged in age from 12 to 17 years, with a mean age of 14.7 years (SD = 1.78).

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Procedure

Each subject was administered a psychoeducational test battery that included an age-appropriate intelligence test (Wechsler Intelligence Scale for Children-Revised [WISC-R] for subjects 15 years old and under and the Wechsler Adult Intelligence Scale-Revised [WAIS-R] for subjects 16 years old and over) and the Wide Range Achievement Test (WRAT), 1978 version for subjects admitted during early 1984 and Revised version for subjects admitted during late 1984-1986.

Results

Descriptive statistics are presented in Table 1. A comparison of means and standard scores reveals higher scores on the reading and spelling subtests of the WRAT in comparison to the IQ scores. The statistical significance of the differences between the mean WRAT and IQ standard scores (achievement test-intelligence test) was determined by *t*-tests. These data are presented in Table 2.

Table 1
Means, Standard Deviations and Ranges for Intelligence and Achievement Test Standard Scores

	M	*SD*	Range
WISC-R/WAIS-R			
Verbal IQ	102.85	10.39	84-125
Performance IQ	102.25	14.54	76-126
Full Scale IQ	102.45	11.84	79-128
WRAT			
Reading	108.60	11.20	89-125
Spelling	111.20	11.10	94-128
Arithmetic	99.90	16.80	72-129

Table 2
Mean Difference Scores Between Intelligence and Achievement Test Standard Scores

	WRAT		
WISC-R/WAIS-R	Reading	Spelling	Arithmetic
Verbal IQ	5.75*	8.35**	−2.95
Performance IQ	6.35*	8.95**	−2.35

*$p < .05$. **$p < .01$.

Discussion

Results of the present investigation suggest a pattern of performance in which anorexics' school achievement is significantly greater than would be suggested by intelligence testing. Achievement scores on Reading and Spelling subtests were significantly higher than Verbal, Performance, and Full Scale IQ. The strength of the result is illustrated by the finding that 17 of 20 subjects had Spelling achievement scores greater than Verbal IQ; 12 had an advantage of 8 points or more. While these data support the notion of perfectionistic striving as a pervasive theme that extends to school behavior, other explanations of the results are tenable. For example, no significant difference was

found between the Arithmetic subtest of the WRAT and Verbal, Performance, or Full Scale IQ. Therefore, it could be argued that the Reading and Spelling subtests of the WRAT are imprecise and overestimate abilities, which could account for our findings. However, previous research has supported the subscales of the WRAT as valid and comparably so (Jastak & Jastak, 1978).

Similarly, it could be argued that our achievement tests tapped a form of reasoning that was different from that contained within the ability test and in which anorexics were superior. However, previous research that investigated Bruch's (1962) hypotheses that anorexics differ in cognitive style (i.e., that they are superior in concrete and deficient in abstract tasks) found no significant differences between anorexics and a matched sample of nonanorexic peers (Kowalski, 1986).

Previous research has shown school achievement to be behind expected levels in clinical samples (Grossman & Johnson, 1982; Hale, 1978). The present results appear to be the first that associate a clinical syndrome with superior school achievement. Caution should be used in generalizing from the present results to all anorexics. The sample size was limited, and no effort was made to differentiate among subtypes of anorexics. Further research is suggested in which replication with a larger sample size is undertaken, subtypes of anorexics are examined separately, and performance patterns of other eating disorders are explored.

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