

The Moderating Role of Anxiety in Predicting Academic Achievement in Children

Jae Boda

Thesis submitted to the faculty of Virginia Polytechnic Institute and State University

in partial fulfillment of the requirements for the degree of

MASTERS OF SCIENCE

in

Clinical Psychology

Approved by:

Thomas Ollendick, Ph.D., Committee Chair

Martha Ann Bell, Ph.D.

Lee D. Cooper, Ph.D.

October 9, 2003

Blacksburg, Virginia

Key words: Academic Achievement, Intelligence, and Anxiety

Copyright 2003, Jae Boda

The Moderating Role of Anxiety in Predicting Academic Achievement in Children

Jaee Bodas

ABSTRACT

The present study examined the relationship between anxiety and academic achievement in a sample of clinic-referred children. Specifically, the study investigated whether anxiety contributed to the prediction of academic achievement above and beyond the influence of IQ. Furthermore, the study explored whether anxiety moderated the already established relationship between IQ and academic achievement. In the present study, the WISC-III Verbal IQ, the RCMAS factors of physiological anxiety (i.e., emotionality) and worry/oversensitivity, and the WIAT total and composite achievement scores were examined to investigate these relationships. Results indicate that anxiety failed, for the most part, to moderate these relationships.

REFERENCES

- Alpert R., & Haber, R. (1960). Anxiety in academic achievement situations. Journal of Abnormal and Social Psychology, 61, 207 – 215.
- Anastasi, A. (1976). Psychological Testing. (4th ed.). New York: Macmillan Publishing Co. Inc.
- Beck, I.L., Lindsey, J.D., & Frith, G.H. (1981). Effects of self contained special class placement on intellectual functioning of learning disabled students. Journal of Learning Disabilities, 14, 280-282.
- Benjamin, M., McKeachie, W. J., Lin, Y. G., & Holinger, D. P. (1981). Test anxiety: Deficits in information processing. Journal of Educational Psychology, 73, 816 – 824.
- Beidel, D.C. (1988). Psychophysiological assessment of anxious emotional states in children. Journal of Abnormal Psychology, 97, 80-82.
- Beidel, D.C., & Turner, S. M. (1988). Comorbidity of test anxiety and other anxiety disorders in children. Journal of Abnormal Child Psychology, 16, 275 - 287.
- Brooks, C.R. (1977). WISC, WISC-R, S-B L & M, WRAT: Relationships and trends among children ages six to ten, referred for psychological evaluation. Psychology in the Schools, 14, 30 – 33.
- Cassady, J.C., & Johnson, R. E. (2002). Cognitive test anxiety and academic performance. Contemporary Educational Psychology, 27, 270-295.
- Costello, E. J., & Angold, A. (1995). Epidemiology. In J. March (Ed.), Anxiety disorders in children and adolescents (pp. 109-124). New York, NY: Guilford Press.

- Costello, E. J., Egger, H. L., & Angold, A. (in press). The developmental epidemiology of anxiety disorders. In T. H. Ollendick and J. March (Eds.), Phobic and anxiety disorders in children and adolescents. New York: Oxford University Press.
- Cowen, E.L., Zax, M., Klein, R., Izzo, L.D., & Trost, M.A. (1965). Relation of anxiety in school children to school record, achievement, and behavioral measures. Child Development, 36, 685-695.
- Culbertson, J.L. (1998). Learning Disabilities. In T.H. Ollendick & M.J. Herson (Eds.), Handbook of Child Psychopathology (3rd ed., pp. 117-155), New York: Plenum Press.
- Culler, R. E., & Hollahan, C. J. (1980). Test anxiety and academic performance: The effects of study-related behaviors. Journal of Educational Psychology, 72, 16 – 20.
- Ertl, J.P., & Schafer, E.W.P. (1969). Brain response correlates of psychometric intelligence. Nature, 223, 421-422.
- Feldhusen, J.F., Klausmeier, H.J. (1962). Anxiety, intelligence, and achievement in children of low, average, and high intelligence. Child Development, 33, 403-409
- Figueroa, R. A., & Sassenrath, J. M. (1989). A longitudinal study of the predictive validity of the system of multicultural pluralistic assessment (SOMPA). Psychology in the Schools, 26, 5 – 19.
- Finch, A.J., Jr., Blount, R.L., Saylor, C.F., Wolfe, V.V., McIntosh, J.A., Griffin, J.M., & Carek, D.J. (1988). Intelligence and emotional / behavioral factors as correlates of achievement in child psychiatric inpatients. Psychological Reports, 63, 163 – 170.
- Grossman, F. M., & Johnson, K. M. (1982). WISC-R Factor scores as predictors of WRAT Performance: A multivariate analysis. Psychology in the Schools, 19, 465 – 468.

- Hale, R. L. (1978). The WISC- R as a predictor of WRAT performance. Psychology in the Schools, 15, 172 – 175.
- Hartlage, L., & Steele, C. T. (1977). WISC and WISC – R correlates of academic achievement. Psychology in the Schools, 14, 15-18.
- Hembree, R. (1988). Correlates, causes, effects, and treatment of test anxiety. Review of Educational Research, 58, 47-77.
- Hodges, K., McKnew, D., Cytryn, L., Stern, L., & Kline, J. (1982). The Child Assessment Schedule (CAS) diagnostic interview: A report on reliability and validity. Journal of American Academy of Child Psychiatry, 26, 654-661.
- Hong, E. (1999). Test anxiety, perceived test difficulty, and test performance: Temporal Patterns of their effects. Learning and Individual Differences, 11, 431-447.
- Horn, W.F., & Packard, T. (1985). Early identification of learning problems: A meta-analysis. Journal of Educational Psychology, 77, 597-607.
- Jastak, J.F., & Jastak, S.R. (1965). Manual, the Wide Range Achievement Test. (Rev. ed).
Wilmington, DE: Guidance Associates of Delaware.
- Kaufman, A.S., (1979). Intelligence Testing with the WISC-R. New York: Wiley
- Kaufman, A.S., (1994). Intelligence Testing with the WISC III. New York: Wiley
- King, N.J., Mietz, A., Tinney, L., & Ollendick, T.H. (1995). Psychopathology and cognition in adolescents experiencing severe test anxiety. Journal of Clinical Child Psychology, 24, 49-54.
- King, N.J., Ollendick, T. H., & Prins, P. J. M. (2000). Test-anxious children and adolescents: psychopathology, cognition, and psychophysiological reactivity. Behaviour Change, 17, 134-142.

- King, N.J., Ollendick, T. H., & Gullone, E. (1991). Test anxiety in children and adolescents. Australian Psychologist, 26, 25-32.
- Kovacs, M. (1985). The interview schedule for children (ISC). Psychopharmacology Bulletin, 21, 991-994.
- Lee S. W., & Piersel W.C. (1987). Pilot study of the physiological subscale of the Revised Children's Manifest Anxiety Scale. Psychological Reports, 60, 1299-1304.
- Lee, S. W., Piersel, W.C., Unruh, L. (1989). Concurrent validity of the physiological subscale of the Revised Children's Manifest Anxiety Scale : A multitrait- multimethod analysis. Journal of Psychoeducational Assessment, 7, 246-254.
- Liebert, R. M., & Morris, L. W. (1967). Cognitive and emotional components of test anxiety: a distinction and some initial data. Psychological Reports, 20, 975-978.
- Mattison, R.E., & Bagnato, S.J., (1987). Empirical measurement of overanxious disorder in boys 8 to 12 years old. Journal of American Academy of Child and Adolescent Psychiatry, 26, 536-540.
- McIlroy, D., & Bunting, B. (2002). Personality, behavior, academic achievement: Principles for educators to inculcate and students to model. Contemporary Educational Psychology, 27, 326-337.
- Morris, L. W., Smith, L. R., Andrews, E. S., & Morris, N.C. (1975). The relationship of emotionality and worry components of anxiety to motor skills. Journal of Motor Behavior, 7, 121-130.
- Naveh-Benjamin, M. (1991). A comparison of training programs for intended different types of test anxious students: Further support for information processing model. Journal of Educational Psychology, 83, 134 – 139.

- Naveh-Benjamin, M., McKeachie, W. J., & Lin, Y. G. (1987). Two types of test anxious students: Support for an information processing model. Journal of Educational Psychology, 79, 131 – 136.
- O'Neil, H.F., & Fukumura, T. (1992). Relationship of worry and emotionality to test performance in a Juku environment. Stress and Coping, 5, 241-251.
- Padua, U. (1993). Anxiety, cognitive interference, and school performance of Italian Children. Psychological Reports, 73, 747- 754.
- Pedhazur, E.J. (1997). Multiple regression in behavioral research (3rd ed.). Thomson Learning.
- Perin, S., & Last, C.G. (1992). Worrying thoughts in children clinically referred for anxiety disorder. Journal of Clinical Child Psychology, 26, 181-189.
- Reese, H. W. (1961). Manifest anxiety and achievement test performance. Journal of Educational Psychology 52, 132-135.
- Reilly, T. P., Owen, W. D., Rosen, J.C., Loew, D. E., & Fischer, M. (1985). Concurrent and predictive validity of the WISC –R, McCarthy Scales, Woodcock-Johnson, and academic achievement. Psychology in the Schools, 22, 380-382.
- Reschly, D. J., & Reschly, J. E. (1979). Validity of WISC –R factor scores in predicting achievement and attention for four sociocultural groups. Journal of School Psychology, 17, 355-361.
- Reynolds, C.R., (1980). Concurrent validity of what I think and feel: the Revised Children's Manifest Anxiety Scale. Journal of Consulting and Clinical Psychology, 48, 774-775.
- Reynolds C.R., & Paget, K.D. (1981). Factor Analysis of the Revised Children's Manifest Anxiety Scale for blacks, whites, males, and females with a national normative sample. Journal of Consulting and Clinical Psychology, 49, 352-359.

- Reynolds, C.R., & Richmond, B. O. (1985). Manual, Revised Children's Manifest Anxiety Scale. Los Angeles, CA: Western Psychological Services.
- Sarason, I. G. (1984). Stress, anxiety and cognitive interference: Reactions to tests. Journal of Personality and Social Psychology, *46*, 929-938.
- Sarason, S., & Mandler, G. (1952). Some correlates of test anxiety. Journal of Abnormal and Social Psychology, *47*, 810 – 817.
- Schwarting, G. F., & Schwarting, K. R. (1977). The relationship of the WISC – R and WRAT: A study based upon a selected population. Psychology in the Schools, *14*, 431-433.
- Seipp, B. (1991). Anxiety and academic performance: A meta-analysis of findings. Anxiety Research, *4*, 27-41.
- Seligman, L.D., & Ollendick, T.H. (in press). The clinical utility of measures of child and adolescent anxiety: A metanalytic review of the RCMAS, STAIC, and CBCL.
- Sewel, T. E. (1979). Intelligence and learning tasks as predictors of scholastic achievement in black and white first - grade children. Journal of School Psychology, *17*, 325-332.
- Slate, J. R. (1994). WISC-III correlations with the WIAT. Psychology in the Schools, *31*, 178 – 285.
- Snider, V.E., & Tarver, S.G. (1989). The relationship between achievement and IQ in students with learning disabilities. Psychology in the Schools, *26*, 346-353.
- Sowa, C. J., & LaFleur, N. K. (1986). Gender differences in test anxiety. Journal of Instructional Psychology, *13*, 75-80.
- Spielberger, C.D. (1980). Preliminary professional manual for the Test Anxiety Inventory (“Test Attitude Inventory”) TAI. Palo Alto, CA: Consulting Psychologists Press.

- Sternberg, R.J. & Kaufman, J. C. (1998). Human abilities. Annual Review of Psychology, 49, 479-502
- Terman, L. M., & Merrill, M.A. (1973). Manual, Stanford-Binet Intelligence Scale. Boston: Houghton Mifflin.
- The Psychological Corporation. (1992). Manual, the Wechsler Individual Achievement Test. San Antonio, TX: Author.
- The Psychological Corporation. (2002). Examiner' Manual, the Wechsler Individual Achievement Test.- Second Edition. San Antonio, TX: Author.
- Tittmore, J.A., Lawson, J.S., & Inglis, J. (1987). Research Note: A learning disability index (LDI) derived from the WISC- R: Age differences in referred children. Journal of Child Psychiatry, 28, 173-180.
- Tobias, S. (1985). Test anxiety: Interference, defective skills, and cognitive capacity. Educational Psychologist, 20, 135 – 142.
- Tyron, G. (1980). The measurement and treatment of test anxiety. Review of Educational Research, 50, 353 – 372.
- Vernon, P.A. (1993). Intelligence and Neural Efficiency. In D.K. Detterman (Ed.), Current Topics in Human Intelligence, (Volume 3, pp. 171- 187). NJ: Ablex Publishing Corporation.
- Warren, M. K., Ollendick, T. H., & King, N.J. (1996). Test anxiety in girls and boys: A clinical - developmental Analysis. Behaviour Change, 13, 157-170.
- Wechsler, D. (1949). Manual for the Wechsler Intelligence Scale for Children. New York: The Psychological Corporation.

- Wechsler, D. (1974). Manual for the Wechsler Intelligence Scale for Children-Revised. New York: The Psychological Corporation.
- Wechsler, D. (1991). Manual for the Wechsler Intelligence Scale for Children- Third Revision. San Antonio, TX: The Psychological Corporation.
- Wesman, A.G. (1968). Intelligent testing. American Psychologist, *23*, 267-274.
- Wikoff, R. L. (1979). The WISC- R as a predictor of achievement. Psychology in the Schools, *16*, 364 – 366.
- Wine, J.D. (1971). Test anxiety and evaluation threat: Children’s behavior in the classroom. Journal of Abnormal Child Psychology, *7*, 45- 49.
- Woodward, L. J., & Fergusson, D. M. (2001). Life course outcomes of young people with anxiety disorders in adolescence. Journal of American Academy of Child and Adolescent Psychiatry, *40*, 1086-11093.
- Yerkes, R.M., & Dodson, J.D. (1908). The relation of strength of stimulus to rapidity of habit-formation. Journal of Comparative Neurology and Psychology, *18*, 459 – 482.
- Zatz, S., & Chassin, L. (1983) Cognitions in test anxious children. Journal of Consulting and Clinical Psychology, *51*, 526-534.
- Zdep, S.M. (1966). Intelligence, creativity, and anxiety among college students. Psychological Reports, *19*, 420 -427.