The Affective Characteristics of Underachieving Intellectually Gifted Children [R]

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Underachievement has long been recognised as a problem for some gifted children. In such cases, the potential of these children may be a loss to society. Indeed, it has been argued that these individuals not only turn out to be relatively non-productive members of adult society but also they have potential personal problems (McCoach & Siegle, 2003). In spite of its importance there has been little research into underachieving gifted children since the seminal studies of Whitmore (1980). The aim of this research was to investigate the affective characteristics of achieving and underachieving intellectually gifted children. In particular, the three affective characteristics were academic self-concept, self-expectations for future achievement and academic locus of control for children who were moving from elementary school to a middle school setting. Forty-one participants were chosen who had a Full WISC-R test over 125 from a large sample of middle school-aged children. Of these 41 intellectually gifted participants, 7 were classified into an underachieving group as a result of their scores on a Performance Achievement Test. The remaining 34 were classified into an achieving gifted group. A third group, classified as average achievers, was composed of students who had average WISC-R FS IQs and whose achievement test scores were also average. Three constructs, academic self-concept, self-expectations of future academic achievement and academic locus of control, were measured on two occasions for the three groups, to assess if there were changes after the students had entered the middle school setting. The results indicated that the most discriminating construct between the groups was self-expectations for future achievement. The discussion will focus on appropriate remediation and on how newer areas of motivation, self-regulation and goal orientations (Martin, 2002) may be more appropriate constructs to discriminate this group of learners.

Introduction

Underachievement has long been acknowledged as a problem for some gifted children. In some cases, the potential of these gifted children maybe a loss to society. Indeed it has been argued that these individuals not only turn out to be relatively non-productive members of adult society but they also have potential personal problems (McCoach & Siegle, 2003). In spite of its importance, there has been little recent research into underachieving gifted children since the seminal studies of Whitmore (1980).

There are a number of purported explanations for underachievement amongst gifted students. These can be summarised as inadequate motivation leading to poor study habits with skill deficits and an inability to persevere, social pressure from peers resulting in rejection unless they conform to group standards, inadequate school curriculum and poor teaching, lack of identification for gifted students and home factors such as unrealistic pressures to achieve, and high ability environments. However, the main thrust of the research to date has looked within the individual to basic personality inadequacies which are often associated with lowered academic achievement (Reis & McCoach, 2000).

Affective characteristics are now being recognised for the significant interaction they have with academic achievement (Marsh, Craven & Martin, (in press). Marsh et al.(in press) have found that affective variables such as self-concept can enhance or inhibit an individual's academic potential because they predetermine whether a person will be sufficiently motivated to persevere. Recent affective characteristics which have a significant relationship to achievement are academic self-concept, self-expectations for future achievement and academic locus of control.

Literature Review

Academic self-concept of academically gifted children

Most studies have found that gifted school children have significantly higher self-concepts than the other students (Dwairy, 2004, Zeidner & Schleyer, 1999). Although numerous studies have found that non-gifted underachievers have lowered self-concepts, this same result has not been found with underachieving gifted. Underachieving gifted children have shown a range of results ranging from no differences in self-concept (Tong & Yewchuk, 1996) to significantly lower self-concept scores only in the area of academic self-concept (Marsh & Craven, 1994, 1997). As this is the area that most logically relates to gifted underachievement, this is the area of self-concept that will be addressed in this study.

Self-expectations for Future Academic Achievement

The second affective variable to be examined in this study is self-expectations as they relate to future academic performances. Self-expectations depend upon the degree to which individuals predict their own abilities and performance levels. These expectations have been shown by many researchers to be related to school achievement and have been demonstrated to discriminate failure-prone from achieving children.

Self-expectations for Future Academic Achievement for Academically Gifted Students.

High achieving children have been shown to have very high expectations for academic success and to have very high aspirations for future career success. As would be expected, self-expectations for success have consistently shown that failure-prone and underachieving children have low expectations. Not only are self-expectations different for high and low achieving children, expectations seem to be come more consistent over time. High ability children have more stable self -expectations whereas poor achievers were much less accurate in evaluating their own performance.

As gifted achievers experience constant success and generate consistent feedback, it is reasonable to expect that their expectations will be extremely, yet realistically high. The situation for underachieving gifted children is not as clear cut. As underachieving gifted children's achievement is more closely related to average achievement, it is hard to predict their self-expectations for future achievement. However, it has been demonstrated that underachievement worsens every year but is set by high school (Lau & Chan, 2001). So self-expectations of gifted underachievers is probably going to be lower than for achieving gifted students and much closer to average achievers. It may or may not be stable by the middle school years.

Academic Locus of Control

The third main variable to be considered in this study is academic locus of control. The locus of control construct is defined as a generalised expectancy for internal or external control of reinforcements. Internal control refers to an individual's belief that outcomes depend on one's own behaviour. External control is the belief that outcomes depend upon factors beyond the individual's control (Rotter, 1990).

Academic Locus of Control of Academically Gifted Children

Overall the research has shown that high achievers have an internal locus of control and that low achievers have an external orientation (Dixon, 2004). Newer conceptualisations of this construct have shown that there is not an overall locus of control construct but that many people have accept responsibility for positive outcomes but reject responsibility for failure outcomes (Rotter, 1990).

The Present Study

Underachievement in gifted children is a persistent problem. However, there is burgeoning recognition that it must be addressed early as it is present by high school and intensifies every year after that (Lau & Chan, 2001). Hence the early identification and remediation of the underachiever who is gifted is vital. The majority of the research has examined adolescents but as remediation at the high school level has been found to be relatively ineffective (Reis & McCoach, 2000), examining the problem before high school is necessary. Therefore, this study aimed to examine the phenomenon of underachievement amongst academically gifted children in a population that was moving from elementary school to a middle school setting.

The three variables, chosen for this study, are closely related to academic achievement and have presented a coherent picture of underachieving and failure-prone children. These students exhibit lower academic self-concepts, lower expectations for future success and a belief that success in school is a function of external sources beyond their control. These negative school-related variables interact to suppress achievement.

Specifically, this study examined academic self-concept, self-expectations for future academic achievement and academic locus of control of 3 groups: a group of achieving academically gifted children (FSIQ>125) 11 year old children, a group of underachieving academically gifted children (FSIQ>125) 11year old children and an average achieving group (FSIQ 90-110) of 11 year old children. All of these children were studied in the first year that they moved from elementary school to a middle school setting.

Methods

Participants

Forty-one children with a WISC-R FS IQ greater than or equal to 125 were included in this study. They were part of a group of 1220 who were the total cohort entering Middle School in a New Zealand city. From within this group of participants a regression equation method (Thorndike, 1963) was used to discriminate the achieving gifted (n=34) from the underachieving gifted group. The WISC-R (Wechsler, 1974) FS IQ scores were used to form a regression line equation which predicted an expected achievement on four Performance Achievement Test (PAT; Beck & St. George, 1983) measures for each child. Those students whose actual PAT scores were one standard error of estimate below their expected scores on 3 of the 4 scales were classified as underachievers (n=7).

The average achieving group was chosen from those students who scored in the 90-110 range of the WISC-R FS IQ test. Those students whose achievement was within one standard error of estimate of their predicted achievement as determined by the regression equation were classified as average achievers (n=39).

Instruments

IQ Measure

The WISC-R (Wechsler, 1974) was used to assess the IQ of all the individuals participating in this study. This test is the most routinely used in the identification of gifted children. The technical data and characteristics of the WISC-R are very well known and it is one of the most extensively used tests in psychological research.

Achievement Measures

To assess achievement levels four PAT (Level 5, Form B) (Beck & St. George, 1983) Reading Comprehension, Reading Vocabulary, Listening Comprehension and Mathematics were used. These tests are group administered, New Zealand normed, paper and pencil scales, administered by the majority of New Zealand middle schools at the beginning of each school year.

Affective Measures

Academic self-concept was assessed using Boersma and Chapman's (1977) Student's Perception of Ability Scale (SPAS). Future academic expectations were assessed using the Projected Academic Performance Scale (PAPS) (Chapman & Boersma, 1978) and academic locus of control was assessed using the Intellectual Achievement Responsibility Questionnaire (IAR) (Crandall, Katovsky & Crandall, 1965).

Procedure

The SPAS, PAPS and IAR were administered in February and November of the school year. The PAT data was obtained after the schools' routine administration in March of the school year. The WISC-R was administered after March by the researcher.

Statistical Procedures

Differences between the groups in the affective variables (SPAS, PAPS and IAR) were examined using a hierarchical procedure beginning with analysis of variance with repeated measures (MANOVA) and examining univariate effects when appropriate.

Results

Academic Self-concept

As predicted,, the repeated measure analysis of variance for academic self-concept revealed a statistically main effect for group ($F=6.31$, $p<0.05$, $df=2$). Analysis of variance was performed to clarify this result. These results revealed that on both testing occasions the group effect was the result of a significant difference between the achieving gifted (Time1M=55.2, Time 2,M=55.14), and the average achieving group (Time 1,M=46.82, Time2, M=46.09). There was no significant difference between the gifted groups, although the mean score of the underachieving group was below that of the achievers. There was no statistically significant difference between the underachieving gifted and average achieving groups on the SPAS at either testing time. The repeated analysis of variance also revealed that there was no main effect for time nor was there any interaction effect. In other words over a 10 month period between the first and second testing occasions, there was no change in the children's academic self-concept, not did any groups change with regard to each other.

Self-expectations for Future Achievement

For the PAPS there was a main effect for group ($F=18.97$, $p<0.01$) and time ($F=18.09$, $p<0.01$) but there were no interaction effects. The univariate analysis of variance at Time 1 revealed that the significant group effect was caused by the underachieving gifted and average achieving groups differing significantly from the achieving gifted group but not from each other (average achieving M=117.67; achieving gifted M=138.97; underachieving gifted M=123.33). At T2 only the average achieving group differed significantly from the achieving gifted, although the results of the underachieving group approached significance. The PAPS scores deteriorated over the school year. At Time 2 all group mean scores on the PAPS had decreased (average achievers, M=114.75; achieving gifted M=129.52; underachieving gifted M=119.71). The greatest difference was recorded for the achieving gifted group (9.45 points) and the least by the average group (2.92 points). Underachieving gifted and average achievers clearly hold lower expectations for future academic performance than achieving gifted children. The move to the middle school environment had an effect on the future aspirations of all groups but was marked for the achieving gifted group.

Academic Locus of Control

For academic locus of control, analyses were performed separately on the I+(positive) and the I-(negative) subscales of the IAR. There were no significant main effects for either scale at Time 1 or Time 2 and no interaction of

group by time. The scores on the positive subscale were higher that on the negative subscale for all groups. The results for academic locus of control as measured by the IAR did not reveal any discrete characteristics. None of the groups differed significantly from one another on either scale at the beginning or end of the year, nor was there any change in scores over the 10 month period.

Discussion

The findings of the study showed that achieving gifted children have significantly higher academic self-concepts than achieving average children at both testing times. Obviously the success experienced by these gifted students in the academic area has led to relatively high perceptions of ability, confirming the indications in the literature that academic self-concept would discriminate more consistently for gifted children. This supports previous research (Ablard, 1997; Dwairy, 2004).

Academic Self-concept

For the underachievers, academic self-concept was not significantly below the gifted group at either time. These buoyant academic self-concepts are not a reflection of their academic achievement as their achievement is not significantly different to that of the achieving average children.

Clearly then academically gifted children are characterised by higher academic self-concepts than average academically achieving children. Underachieving gifted children could not be discriminated on this variable, nor did this variable show any change over the school year.

Given the finding that academic self-concept was not overly depressed for gifted middle-school underachievers, remediation efforts might be more successful than similar efforts with other underachievers who are not gifted. They have not as yet developed the very negative self-perceptions of ability which tend to lead to the attenuation of any remediation efforts with other underachieving groups and perpetuate low academic achievement.

Self Expectations for Future Achievement

The findings of the second variable support the contention that underachievers hold lower expectations of future academic success than achievers of the same ability level. Underachieving gifted students clearly hold lower expectations of future success than achieving gifted, as at neither testing time were they significantly different from average achievers. These expectations are consistent with their average achievement levels. This occurs in spite of their high potential, which their high academic self-concepts score indicate that they are quite aware of.

The implications of these relatively lower expectations for underachieving gifted children are potentially serious. A low expectation of success would probably contribute to reduced motivation to learn and thereby interfere with attempts aimed at helping such children reach their potential, setting up a self-fulfilling prophecy that traps the child into perpetual underachievement.

Academic Locus of Control

The lack of any significant differences between the groups in the locus of control construct as measured by the IAR must inevitably lead to the questioning of the utility of using this instrument. In the light of advance in attribution theory and motivation theory (Hidi & Harackiewicz, 2000; Ryan & Deci, 2000) the continued use of this construct now seems dubious.

Conclusion

Academically gifted students appear to develop a distinctly different set of affective characteristics to average achieving children. These are a relatively high academic self-concept which appears to be stable by age 11 and high expectations for academic success in the future. Underachieving gifted children also have high academic self-concept, however, their expectations for future achievement are only average as is their achievement. This finding of high self-concept but low expectations seems to be an interesting paradox. It could be that these results are actually highlighting the differences between self-concept and self-efficacy for these children.

Whilst the image of the underachieving academically gifted child in this study is not as dismal as that portrayed in the literature, there are some indications that depressed affective variables could influence their subsequent achievement. Their expectations for future success are consistently below their own evaluations of their ability suggesting that these students lack the necessary motivation or self-efficacy to succeed. It is imperative that the expectations of these students be increased. To do this, teachers and parents will have to be made aware of their potential so that the students will not be confirmed in their beliefs by correspondingly low teacher and parental expectations.

The results of this study imply that expectations/self-efficacy are still sensitive to changes and this is where remediation efforts might begin. It is fortunate that underachieving children who are gifted do not express the very

depressed academic self-concept ratings that so often hamper remediation efforts with other underachievers, and hence amelioration of these gifted students's academic achievement may be more easily attainable.

Directions for Future Research

Future research might include looking at other factors which are linked to academic achievement and seem to be highlighted by the future academic findings of this study. One of the most important and one that was indicated by the significant findings of this study was motivation. Motivation is an important concept in the learning process and relevant to all students (Martin, 2002). Ryan and Deci (2000) and Mattern (2003) consider motivation as the child's energy and the drive to try hard, study effectively, improve and work to his or her potential. In sum, motivation may play and important role in differentiating gifted achievers from gifted underachievers. This area of research would seem to be a productive area for future research.

About the Authors

Dr. Roselyn M. Dixon is a lecturer in Special Education in the Faculty of Education at the University of Wollongong. She has published extensively in the areas social skills development and self-concept for adults and students with special needs and early intervention for young children with special needs. She is also, involved in research projects with underachieving and learning disabled gifted students. Another particular area of interest is the application of social psychological theoretical perspectives to students with special needs. She is also the Deputy Director of the Early Childhood program and Undergraduate Coordinator for Special Education.

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