

**ETHNIC AND GENDER DIFFERENCES IN SELF-
REPORTED ACHIEVEMENT AND ACHIEVEMENT-
RELATED ATTITUDES IN SECONDARY SCHOOL
STUDENTS IN TRINIDAD¹**

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In this study, self-reported achievement, achievement-related behaviours, and achievement-related attitudes of 1,434 students attending secondary schools in Trinidad were examined. Females reported higher achievement than males, and males reported cutting class more than females, and both of these differences yielded medium effect sizes. Females also reported completing homework more frequently and higher academic perceived life chances than males. East Indian students reported higher achievement, homework completion, time on schoolwork, and academic perceived life chances than their Black and Mixed counterparts, as well as spending less time with friends during the week and lower rates of cutting class. However, all of the ethnic comparisons yielded low effect sizes. Given the differences found and the potential for achievement differences to increase over time, more research on gender and ethnic group differences is recommended.

Although no consistent gender differences have been found in measures of general cognitive ability (Burstein, Bank, & Jarvik, 1980; Hyde, 2005; Lezak, 1976; Maccoby & Jacklin, 1974), consistent gender differences have been reported in specific domains (Denno, 1982; Moore & Smith, 1987). For example, researchers have reported that females obtain higher scores than males on verbal ability measures (e.g., Burstein et al.; Cohen & Wilkie, 1979; Maccoby & Jacklin; Matarazzo, 1972), and males obtain higher scores than females on spatial tasks from adolescence onward (e.g., Cohen & Wilkie). Similar patterns have been reported with

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regard to self-concept and motivational variables, with males obtaining higher scores on mathematical self-concept, females obtaining higher scores on verbal self-concept (e.g., Marsh, Parker, & Barnes, 1985), and neither gender consistently higher on global academic self-concept (e.g., Battle, 1976; Mullis, Mullis, & Normandin, 1992; Worrell, Roth, & Gabelko, 1998).

With regard to ethnicity, studies in the US have indicated that African Americans generally obtain lower scores on both cognitive (Neisser et al., 1996; Williams & Ceci, 1997) and achievement measures (Singham, 2003) than their White and Asian American counterparts, and though trends indicate that the gap has diminished since the 1970s, there are still substantial differences between the groups. In this paper, I examined gender and ethnic group differences in self-reported achievement and variables related to achievement in adolescents in Trinidad.

Gender Differences in Achievement

In spite of the apparently consistent findings in earlier research in this area (Burstein et al., 1980; Cohen & Wilkie, 1979), more recent research evidence has questioned the generality of the findings on gender differences in the US (e.g., Kohr, Masters, Coldiron, Blust, & Skiffington, 1989; Sabers, Cushing, & Sabers, 1987; Skaalvik & Rankin, 1994), as well as the magnitude or meaningfulness of these differences when they occur (e.g., Hogebe, Nist, & Newman, 1985). For example, in reporting on a meta-analysis of 165 studies that examined gender differences in verbal ability, Hyde and Linn (1988) concluded that gender differences in verbal ability are so small, they “can effectively be considered zero” (p. 64). A meta-analysis of spatial ability tasks led to a more nuanced conclusion about gender differences. Linn and Petersen (1986) found consistent gender differences favouring males on spatial perception and mental rotation. However, on spatial visualization tasks, which make up “the largest category of spatial ability tests,...no significant or meaningful gender differences were found” (p. 74).

Hogebe et al. (1985) examined gender differences in reading achievement using an extremely large sample from the High School and Beyond national survey ($N = 48,040$). Not only were some of the relationships between gender and reading achievement not significant in

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spite of the enormous sample size, gender also accounted for less than 1% of the variance in reading achievement. These researchers concluded that the null hypothesis of no relationship between gender and reading achievement was supported.

In a recent article, Hyde (2005) summarized meta-analytic studies on gender differences across a variety of constructs and domains, including cognitive variables, communication, social and personality variables, psychological well-being, motor behaviours, moral reasoning, charting behaviours and attitudes, job preference attitudes, and computer use and self-efficacy. Only 28 (22%) of the 124 effect sizes examined were in the moderate to large range—“that is, 78% of gender differences are small or close to zero” (pp. 582-586). The largest and most consistent differences favoured males in motor performance, casual attitudes about sex, and aggression. Differences in achievement that yielded moderate to large effect sizes were spelling and language favouring females, and mechanical reasoning, spatial perception, and mental rotation favouring males. In sum, the research on gender differences in achievement indicates that males and females are more alike than different on most variables.

Ethnic Differences in Achievement

Research on Black-White differences in the US has indicated that although the magnitude of some of the differences declined through the 1970s and 1980s, they stabilized in the 1990s and gaps still remain (e.g., Lee, 2002). For example, African Americans have scored about one standard deviation (SD) lower than Whites (Neisser et al., 1996) on early editions of IQ tests—i.e., 16 points on the Stanford-Binet and 15 points on the Wechsler scales. However, the Black-White difference on the fourth edition of the Stanford-Binet test ranged from 10 to 13 points (Thorndike, Hagen, & Sattler, 1986), and the difference on the most recent edition of the Wechsler Intelligence Scale for Children-Fourth Edition, which was published in 2003, is 11.5 points (Sattler & Dumont, 2004). Information on racial and ethnic group differences is not included in the technical manual for the fifth edition of the Stanford-Binet (Roid, 2003).

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The decrease in the IQ difference is also reflected in reading and mathematics achievement scores (e.g., Lee, 2002; Williams & Ceci, 1997). For example, the average difference in mathematics achievement for 17-year-olds dropped from 1.1 SDs in 1978 to .65 SDs in 1990 (Neisser et al.). Although the differences are smaller, they are still substantial, and African Americans still graduate from high school and enrol in college at lower rates than their White counterparts (Frederick D. Patterson Research Institute, 1997a, 1997b). Thus, unlike the gender differences, ethnic differences in achievement in the US are robust and reported consistently in the literature.

The Cultural Context of the Study

Before proceeding further, it is important to provide the cultural context for the current study. Trinidad and Tobago is a twin-island nation and the southernmost country in the Caribbean chain. The country is less than 2,000 square miles in area, but it is one of the most prosperous nations in the Caribbean, due to large oil and natural gas reserves (Brereton, 1981). The country is also one of the most cosmopolitan of the Caribbean nations. Based on the 2000 census, the country's population of 1.1 million includes people of African (37.5%), East Indian (40%), and Mixed (20.5%) descent, as well as smaller numbers of Chinese, European, and Arabic descent (1.2%), and an even smaller (0.8%) unspecified group. Trinidad and Tobago boasts one of the highest reported literacy rates in the world at 98% (Central Intelligence Agency, 2006¹), although the functional literacy rate may only be about 55% (Health Ministry Official, personal communication, January 3, 2003).

Economic prosperity notwithstanding, Trinidad and Tobago (T&T) does not yet have universal education. The primary school attendance rate is only 93% (United Nations Development Programme² [UNDP], 2001), and this figure decreases at the beginning of secondary school by at least three percent (Trinidad and Tobago Central Statistical Office [CSO], 1998). Additionally, as in the US, there are increasing complaints from the business community about students completing their primary and secondary education with low literacy and numeracy skills. The claims of poor educational outcomes are complemented by dire crime statistics for adolescents and young adults. The largest age group in prison falls "between the ages of 17 and 21" (UNDP, 2001, p. 77), and "the average

age of the vast majority of violent perpetrators [is] 18 to 25” (Marajh, 2001, p. 10).

Gender and Ethnic Differences in Achievement in T&T

The problems in T&T noted above, particularly in the areas of crime and education, are often presented in specific ethnic and gender terms. In 1997, Gypsy, a leading calypsonian, won the Calypso Monarch title with a song entitled, *Little Black Boy*. In this calypso, Gypsy argued that Black boys study music and clothing in school, rather than reading and mathematics, and concluded that the fate of these Black boys, who are unemployable, is stealing and dying from a police bullet through the skull. To the extent that calypsoes reflect the zeitgeist of the culture, this calypso presents a bleak description of young Black males in T&T society.

Nor is Gypsy alone in his analysis. In 1998, Noguera and Worrell commented on the increased use of terms like *endangered*, *at-risk*, *marginal*, and *in crisis*, to discuss Black males in the Caribbean region (e.g., see Miller, 1992, 1994). Subsequently, Worrell and Noguera (2000) reported that Black male secondary school students in T&T agreed that Black males in T&T are in crisis, and they defined the crisis in terms of personal responsibility, much as Gypsy defined it. In another line of research on gender, Parry (1996) discussed the patriarchal view in Caribbean society of education as effeminate and, consequently, inferior, leading to an anti-academic orientation on the part of males in schools.

The concerns about gender are also evident in the crime statistics, and declining male enrolment at The University of the West Indies (UWI), alongside increasing female enrolment. The concern about the gender gap was reflected in the theme chosen by the School Leadership Center of Trinidad and Tobago for its 2002 institute: “Boys to men: The challenges of engaging boys academically and emotionally in the primary and secondary school system” (see Worrell, 2003a, 2003b). Traditionally, little empirical data have been available in the less-developed countries, as these governments do not provide substantial funding for educational and social science research as in the more-developed countries. However, there are a number of sources of data in

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Trinidad and Tobago that address gender or ethnic differences on educational variables.

Gender differences

Government statistics indicate that males are being held back a grade in greater numbers at all of the primary grade levels, except Standards 5 and 6—the years of transition to the secondary school system (CSO, 1998). Moreover, primary school dropout rates for the school years for 1993/1994, 1995/1996, and 1996/1997 indicate that males are also leaving school in greater numbers than females (UNDP, 2001). Additionally, the percentage of females enrolled in all secondary schools is higher than the percentage of males enrolled, with the difference being greatest in the rural counties (UNDP), although boys are being placed in junior secondary schools in greater numbers than females. In sum, these data indicate that boys are more likely to leave the school system before the secondary school years, and are more likely to be placed in the lowest-tier schools when they do attend secondary school. The higher placement rates in junior secondary schools also suggest that boys may be less likely to repeat Standard 5 to attain the test scores necessary to get into a higher-tier secondary school (Worrell, 2003b).

Kutnick, Jules, and Layne (1997) also examined data on gender differences in achievement in the early secondary school years. These researchers examined gender differences in student achievement at the end of the first and third years of secondary school for a group of males and females whose secondary school entrance examination scores did not differ significantly. Their results indicated that one and three years after entering secondary school, males were a substantial majority in the lower third of the achievement scores and were a minority in the upper third of achievement scores.

More recently, Worrell and his colleagues completed several projects involving primary and secondary school students in Trinidad and Tobago (Hall, Watkins, & Worrell, 2002; Watkins, Worrell, & Hall, 2002; Worrell, Hall, & Watkins, 2002; Worrell, Watkins, Runge, & Hall, 2002). In one study, Worrell, Watkins, et al. (2002) examined differences in scores on a phonemic awareness measure in a sample of over 4,000 students attending the first three years of school. They found no

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differences between boys and girls on this measure of pre-reading skills. These findings were replicated in a second study using a representative sample of the school population (Hall et al., 2002).

Worrell, Hall, et al. (2002) examined gender differences on teacher ratings of student behaviour. The students who were rated ($N = 700$) were randomly sampled from all seven years of the primary school, and males and females were equally represented. Teachers completed the Learning Behaviors Scale (LBS, McDermott, Green, Francis, & Stott, 1999) and the Adjustment Scales for Children and Adolescents (ASCA, McDermott, 1994; McDermott, Marston, & Stott, 1993). Factor analyses yielded two LBS factors (Attitude Toward Learning and Strategy Flexibility) and three ASCA syndromes (Attention-Deficit Hyperactive, Conduct Problems, and Underactivity) that were invariant across gender and ethnicity (Worrell, Hall, et al.). Reliability estimates for subscale scores by gender grouping ranged from .80 to .91. No gender differences were found in Attitude Toward Learning or Strategy Flexibility. However, males were rated significantly higher on the Attention-Deficit Hyperactive factor, a common finding in the US (Havey, Olson, McCormick, & Cates, 2005).

At the secondary level, Watkins et al. (2002) collected self-report data from 897 Trinidadian students on depression and anxiety symptoms; verbal, mathematics, and global self-concept; and student fears. The instruments included the Reynolds Adolescent Depression Scale (RADS, W. M. Reynolds, 1987), the Revised Child Manifest Anxiety Scale (RCMAS, C. R. Reynolds & Richmond, 1985), questions from the Self-Description Questionnaire-II (SDQ-II, Marsh, 1990), and the Fear Survey Schedule for Children and Adolescents-II (FSSC-II, Burnham & Gullone, 1997). Construct validity analyses, including internal consistency estimates and factor analysis, indicated that the scales' scores were valid in the Trinidad sample (Watkins et al.). Adolescent females reported significantly more depression symptoms and fears than their male counterparts. Females also reported higher verbal self-concepts and lower math self-concepts. Effect sizes were only in the low to moderate range for the self-concept variables, but were in the moderate and high range for depression and fear, respectively.

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In the most recent examination of gender differences in Trinidad and Tobago, Brown (2005) reported that in the CXC examinations, girls outperformed boys in all subjects except mathematics, and the gender differences in obtaining the highest mathematics grade favoured boys by less than 3%. Based on an examination of mathematics performance on the Continuous Assessment of Progress (CAP) data for Standards 1 to 3, Brown also found that females were outperforming males. Females omitted fewer items on the examination, were over-represented in the upper tail of the distribution, and under-represented in the lower tail, and had significantly higher mean scores than did males. In almost all cases, however, effect sizes were small.

Ethnic differences

Since differences in attainment among T&T's ethnic groups are a source of controversy, much like Black-White differences in the US, these differences are seldom discussed openly, and there are limited data available on them. Indeed, much of the data reported by the T&T Government is not disaggregated by ethnicity. Hall et al. (2002) examined ethnic group differences in phonemic awareness in 300 students from the first three years of school. They found no differences among Black (38.4%), East Indian (36.7%), and Mixed (21.3%) students on this pre-reading skill.

Worrell, Hall, et al. (2002) also found no differences on teacher ratings of learning behaviours in a nationally representative primary school sample, but Black students were rated higher on Attention-Deficit Hyperactive and Conduct Problems than East Indian students. At the secondary level, East Indian students reported higher math self-concept scores than Black students (Watkins et al., 2002). Brown (2005) found that students in Hindu and Muslim schools, in which students are predominantly East Indian, had higher mathematics scores than students in other schools.

The Current Study

As the review of the literature suggests, there are gender and ethnic differences in T&T for some variables at some ages. In this study, I examined differences in self-reported achievement, as well as attitudes

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and behaviours related to achievement, by gender and ethnicity. The public perception in, and extant data about, Trinidad and Tobago would suggest that females will report higher scores than males, and that East Indians will report higher scores than Black Trinidadians. The contributions of the attitudes and behaviours to academic achievement were also examined across ethnic and gender groupings.

Method

Participants

Participants consisted of 1,434 students from 15 secondary schools in Trinidad. All schools were members of the School Leadership Center network. Ten of the schools were located in northwest Trinidad, one was from Central Trinidad, two were in the northeast, and two were in the south. Fifty-eight percent of the participants were male, 40% were female, and 2% did not report their gender. Ethnic designations were in keeping with the Trinidad and Tobago Census, which uses four categories: Indian descent (East Indian), African descent (Black), Mixed, and Other. Self-designated ethnic group representation in the sample included 26.3% African descent, 40.4% East Indian descent, and 33.3% Mixed descent. Based on 2000 census data, these figures indicated an 11% under-representation of participants of African descent and 13% over-representation of participants of Mixed descent. Students ranged in age from 11 to 19 ($M = 14.5$, $SD = 1.71$), and Forms 1 through Upper Six were represented, although representation from the two examination years—Form 5 (4.2%) and Upper 6 (2%)—each constituted less than 10% of the sample.

About a third of the students (32.6%) did not report their fathers' education level, and about a quarter (26%) did not report that information for mothers. However, those who did provide the information indicated that 20% of fathers had some high school or less, 24% had completed 'O' Level or CXC examinations, 16% had completed 'A' Levels, and 40% had at least some college. The equivalent percentages for mothers were 18%, 31%, 19%, and 32%, respectively. Gender representation did not differ across the ethnic groups, $\chi^2(2) = 2.06$, $p > .05$, and males and females did not differ by age, $F(1, 1394) = .76$, $p > .05$. However, Black

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students were older than the East Indian students, $F(2, 1394) = 10.14, p < .001$, but the effect size was small (Cohen's $d = .30$).

Measures

In addition to demographic data (e.g., age, gender, parental education level), students were asked to report on six single item variables: (a) how well they were doing in school (6-point Likert scale; 1 = *Below 40%*, 6 = *80% or higher*); (b) how often they completed homework in the previous year (5-point Likert scale; 1 = *Never*, 5 = *Always*); (c) how often were they unsupervised when not in school (5-point Likert scale; 1 = *Never*, 5 = *Always*);, (d) how many days *during the school week* they *lived* with friends (from zero to 5); (e) how many hours of schoolwork they completed outside of class per week; and (f) how many times did they miss class periods in school without permission (4-point Likert scale; 0 = *Never*, 3 = *1 – 2 times per week*).

Students also completed two self-report scales—the Almost Perfect Scale-Revised (APSR, Slaney, Rice, Mobley, Trippi, & Ashby, 2001) and the Measure of Perceived Life Chances (MPLC, Jessor, Donovan, & Costa, 1990). The APSR consists of three subscales: Order (4 items), High Standards (6 items), and Discrepancy (12 items). Order questions assess students' level of organization and neatness, and High Standards questions assess students' striving for excellence in their work. The Order and High Standards subscales represent adaptive or healthy perfectionism. The Discrepancy subscale assesses students' failure to achieve the goal standards that they have set for themselves, and represents maladaptive perfectionism. Internal consistency estimates for the three subscales were in the moderate to high range (see Table 1), with two estimates for Order scores falling below .70.

The MPLC (Jessor et al., 1990) is a 10-item scale that assesses respondents' global perceptions of their future. The scale's two academic items asking about graduating from high school and college were replaced for this study with three questions that asked respondents about getting at least 5 CXC passes, going on to "A" levels, and going to university or getting professional qualifications. An exploratory factor analysis of scores on the modified 11-item measure yielded two factors: a four-item academic perceived life chances and a seven-item general

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perceived life chances, and reliability estimates for these scores were in the moderate range (see Table 1).

Table 1. Internal Consistency Estimates for Subscales by Group

	Black		East Indian		Mixed	
	Male	Female	Male	Female	Male	Female
Almost Perfect Scale Revised						
Order (4)	.66	.78	.79	.78	.67	.83
High Standards (6)	.82	.65	.71	.77	.72	.77
Discrepancy (12)	.85	.83	.86	.90	.85	.86
Perceived Life Chances – TT						
Academic (4)	.77	.73	.79	.79	.80	.74
General (8)	.80	.74	.80	.85	.82	.81

Note. Number of items on subscale in parentheses.

Procedure

Students completed the measures in their classrooms, and were supervised by teachers who were provided with an administrator version of the questionnaire. Teachers answered any questions that students had about the study. The measures were completed anonymously and were turned in upon completion. The study was approved by the Institutional Review Board at the Pennsylvania State University.

Results

Preliminary Analyses

Table 2 contains the means and standard deviations for the major variables in the study. Students reported Marks in the 4 to 5 range, indicating average achievement scores in the 60% to 79% range. Students also indicated that, on average, they completed homework *sometimes*, they were *rarely* supervised by adults when not in school, and they spent time with friends about *one to two days* during the week. Reports of cutting class were very low, with all groups averaging less

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than one, indicating that most students *never* cut class. Maladaptive perfectionism scores (Discrepancy) were generally lower than adaptive perfectionism scores (Order, High Standards), and both Academic and General PLC scores were near the top of the distribution with means between four and five.

Correlations among the variables were generally low (see Table 3). Of the 55 correlations, only 9 attained values of at least .30 (i.e., accounting for at least 9% shared variance), and the directions of these correlations made theoretical sense. For example, Marks were positively correlated with Homework Completion and Academic Perceived Life Chances. Homework Completion also had positive relationships with High Standards and Order, and negative relationships with Time Spent with Friends and Cutting Class. High Standards was positively correlated with Order and General Perceived Life Chances, and Academic and General Perceived Life Chances were also positively correlated. The nine correlations were significant at .001, the adjusted alpha level for these analyses.

Major Analyses

Group differences

Two (gender) by three (ethnic group) univariate ANOVAS were used to examine group differences, and the adjusted alpha rate (Bonferroni correction) for analyses was .001. Females reported significantly higher scores on Marks ($F[1, 1329] = 72.58, p < .001, \text{Cohen's } d = .50$), Homework Completion ($F[1, 1392] = 12.46, p < .001, \text{Cohen's } d = .18$), Hours Unsupervised ($F[1, 1377] = 24.8, p < .001, \text{Cohen's } d = .28$), and Academic Perceived Life Chances ($F[1, 1396] = 22.12, p < .001, \text{Cohen's } d = .26$), and males reported significantly higher scores on Time Spent with Friends ($F[1, 1377] = 34.42, p < .001, \text{Cohen's } d = -.32$) and Cutting Class ($F[1, 1374] = 53.19, p < .001, \text{Cohen's } d = -.41$). However, only the Marks and Cutting Class differences had effect sizes in the medium range. There were no significant differences on Order, Discrepancy, High Standards, or General Perceived Life Chances. To compare our results to those reported by Kutnick et al., 1997, we graphed the six achievement levels of Marks by gender, and found that males outnumbered females in the four lower levels and females outnumbered males in the two upper levels of achievement (see Figure 1).

Table 2. Descriptive Statistics for Major Variables in the Study

Variables	Black				East Indian				Mixed			
	Male		Female		Male		Female		Male		Female	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age	14.83	1.68	14.61	1.80	14.33	1.75	14.11	1.56	14.45	1.67	14.65	1.78
Grades Earned (1-6)	3.99	1.16	4.48	1.06	4.26	1.00	4.79	0.90	4.07	1.15	4.56	0.93
Homework Completion (1-4)	2.79	0.94	3.13	0.85	3.15	0.88	3.28	0.76	3.01	0.92	3.05	0.83
Hours Unsupervised (1-4)	2.12	1.24	2.52	1.08	2.36	1.07	2.73	1.11	2.24	1.09	2.41	1.20
Time with Friends (1-5)	1.85	1.75	1.23	1.48	1.33	1.58	0.87	1.31	1.86	1.81	1.37	1.49
Hours on Schoolwork	8.09	7.63	9.78	10.42	11.23	9.58	11.74	6.32	8.27	7.08	10.16	8.10
Cutting Class (0-3)	0.67	0.94	0.29	0.69	0.46	0.84	0.14	0.50	0.64	0.99	0.35	0.70
Discrepancy (1-7)	4.04	1.28	4.06	1.13	4.25	1.21	4.04	1.34	4.04	1.24	4.26	1.21
High Standards (1-7)	5.97	1.03	6.11	0.76	6.00	0.76	6.07	0.75	5.98	0.83	5.91	0.91
Order (1-7)	5.45	1.11	5.41	1.21	5.43	1.20	5.58	1.14	5.39	1.13	5.20	1.28
Academic PLC (1-5)	4.00	0.89	4.27	0.76	4.21	0.74	4.38	0.69	4.05	0.86	4.23	0.79
General PLC (1-5)	4.18	0.56	4.22	0.47	4.13	0.54	4.29	0.55	4.19	0.59	4.13	0.54

Note. PLC = Perceived Life Chances. The ranges of responses for items using Likert-scales are in parentheses.

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Table 3. Correlations Among Major Variables in the Study

	1	2	3	4	5	6	7	8	9	10	11
1. Grades Earned	1.00										
2. Homework Completion	.31 ^a	1.00									
3. Hours Unsupervised	.11	.28	1.00								
4. Time with Friends	-.19	-.30 ^a	-.21	1.00							
5. Hours on Schoolwork	.14	.17	.04	-.13	1.00						
6. Cutting Class	-.20	-.41 ^a	-.18	.28	-.04	1.00					
7. Discrepancy	-.23	-.09	-.03	-.01	-.11	.03	1.00				
8. High Standards	.24	.30 ^a	.16	-.12	.13	-.16	-.08	1.00			
9. Order	.06	.35 ^a	.21	-.16	.04	-.23	.00	.46 ^a	1.00		
10. Academic PLC	.39 ^a	.20	.03	-.13	.26	-.10	-.21	.29	.06	1.00	
11. General PLC	.09	.18	.15	-.04	.03	-.10	-.13	.38 ^a	.26	.34 ^a	1.00

Note. Correlations of at least .09 were significant at the .001 level.

^a Correlations that were interpreted.

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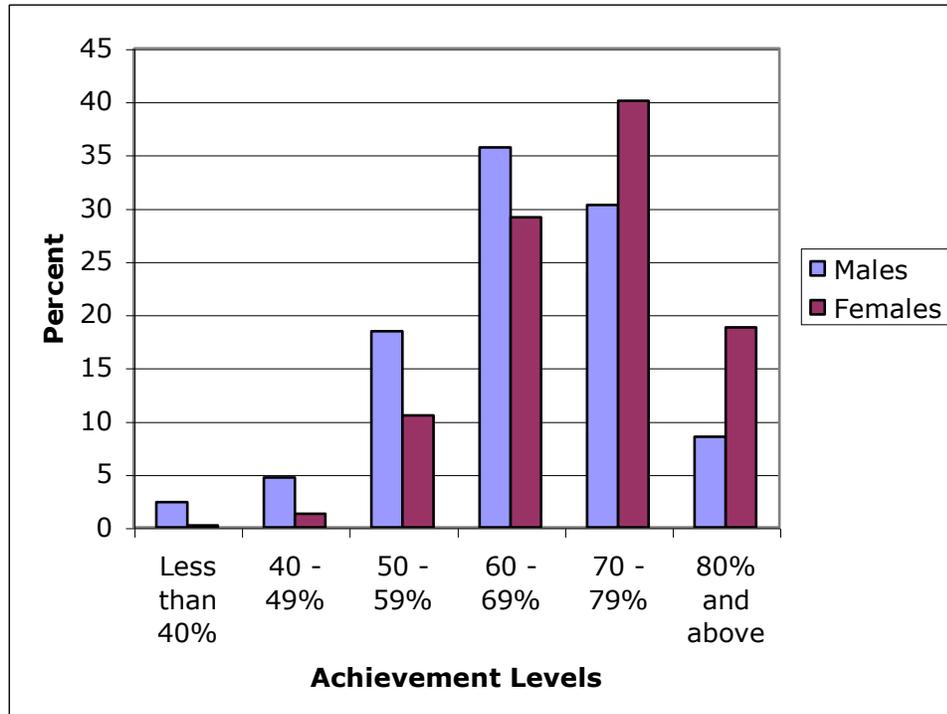


Figure 1. Proportion of males and females across the achievement levels.

The analyses based on ethnicity yielded similar findings. Students of East Indian descent reported significantly higher scores than students of African and Mixed descent on Marks ($F[2, 1329] = 9.03, p < .001$), Homework Completion ($F[2, 1392] = 10.42, p < .001$), Hours Spent on Schoolwork ($F[2, 1313] = 11.86, p < .001$), and Academic Perceived Life Chances ($F[2, 1396] = 7.04, p < .001$), and significantly lower scores than these two groups on Time Spent with Friends ($F[2, 1377] = 15.34, p < .001$), and Cutting Class ($F[2, 1374] = 8.74, p < .001$). Effect sizes (Cohen's d) for these differences were generally small, ranging from $|.21|$ to $|.33|$.

Predicting achievement

Four regression analyses were computed to examine the contributions of the variables with significant and meaningful relationships (i.e., $r \geq .3$) to student achievement. In the first equation, we examined the contributions of gender, Homework Completion, Hours Unsupervised, Cutting Class, Time with Friends, and Academic PLC on Marks. The variables predicted 24% of the variance in Marks, $F(6, 1292) = 67.9, p < .001$, with significant contributions from gender, Homework Completion, and Academic PLC. The effect size measure for multiple regression ($f^2 = .32$) was large.

The other three regression equations examined the contributions of the same predictors to Marks, with a separate equation for each ethnic group. These results are summarized in Table 4. The equation for Black students accounted for 27% of the variance, $F(6, 1292) = 67.9, p < .001$, and only Academic PLC contributed significantly. The equations for East Indian and Mixed students accounted for 21% and 23% of the variance in Marks, respectively, and gender, Homework Completion, and Academic PLC were significant contributors.

Table 4. Regression Analyses Predicting Student Achievement by Group

	Black		East Indian		Mixed	
	B	β	B	β	B	β
Gender	.17	.07	.44	.22*	.30	.14
Homework Completion	.20	.16	.22	.18*	.31	.26*
Hours Unsupervised	.05	.05	-.02	-.03	.00	.00
Time with Friends	-.05	-.08	-.02	-.03	-.03	-.05
Cutting Class	-.08	-.06	.02	.02	-.12	-.10
Academic PLC	.50	.37*	.44	.32*	.33	.26*
Adjusted R^2	.27*		.20*		.23*	
f^2	.37 ^a		.25 ^b		.30 ^b	

Note. PLC = Perceived Life Chances.

^aLarge effect size. ^bMedium effect size.

* $p < .001$.

Discussion

In this study, gender and ethnic differences on self-reported achievement, achievement-related behaviours, and achievement-related attitudes were examined in a sample of secondary school students in Trinidad. The contributions of the achievement-related variables to achievement were also examined. Females reported significantly higher scores on achievement and achievement-related behaviours than did males, but in keeping with Hyde's (2005) and Brown's (2005) findings, effect sizes were generally small for all but one variable, Marks. East Indians also reported higher scores on these variables than Blacks, but, as with gender, the effect sizes suggest that the differences are not of practical significance. Moderate amounts of variance in student achievement were predicted by gender, behaviours, and attitudes, but there were differences in significant predictors by subgroup.

The results of this study indicated that, with the exception of self-reported achievement, there were no meaningful differences in attitudes and behaviours by gender. Our findings mirrored findings reported by Kutnick et al. (1997) who found that females outnumbered males in the upper distributions of achievement in Forms 1 and 3, and Brown (2005) who reported similar findings in mathematics for Standards 1 to 3. The findings suggest that the differences between genders should be examined further. For example, although the effect sizes of the differences were small, if the impact of these variables is cumulative over time, they may lead to substantial differences in patterns of achievement and goal-setting across student subgroups.

This hypothesis is supported by recent work on teacher expectancy effects, which suggests that even though teacher expectations are not sizeable in any one classroom, they do accumulate into sizeable effects over a number of school years (Weinstein, 2002). In all three ethnic groups, females reported completing homework more frequently, spending more time on schoolwork, spending less time with friends during the school week, and cutting class less. This pattern of behaviour, both in theory and in the empirical literature, is associated with higher academic achievement in the US. East Indian students reported a similar pattern in comparison to Black and Mixed students. An equally intriguing finding that is in need of more research is the prediction of

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school achievement by the attitudinal variables, which differed across ethnic groups. It is difficult to know how to interpret this finding. These findings certainly need to be replicated in other samples before coming to firm conclusions.

Limitations and Conclusion

As with all studies, this study had several limitations. First, even though the sample was large, it was not random and may not be representative of the secondary school population in Trinidad. In fact, prestige schools were over-represented in the sample. Second, a number of variables were single-item variables, which can attenuate the validity of the constructs being measured. Third, the constructs that were measured using subscales have not been examined in this population before, and more analyses will need to be conducted to examine the validity of the instruments' scores in this population.

Limitations notwithstanding, however, the findings are in keeping with the other research in this population on gender (Brown, 2005; Kutnick et al. 1997; UNDP, 2001) and ethnicity (e.g., Brown; Worrell, Hall, et al., 2002). Thus, they cannot be dismissed without some consideration. At the very least, they suggest that gender and ethnic differences on school achievement and attitudes toward school—although currently small—are areas in need of a serious research agenda in Trinidad and Tobago.

Endnotes

¹ The data in the Central Intelligence Agency factbooks are from local sources such as the Census Bureau and the Central Statistical Office.

² This report was compiled by the United Nations Development Programme based in Port of Spain, Trinidad, and is based on data provided by the Trinidad and Tobago Central Statistical Office.

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