

**Eastern Caribbean Education Reform Project
STUDENT ATTITUDE SURVEY
RESEARCH REPORT**

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PROJECT TEAM

Dr. Henry Hinds

Curriculum Specialist
OECS Education Reform Unit
St. Lucia

Dr. Arthur Richardson

University of the West Indies
Cave Hill Campus, Barbados

Mr. Mark Ernest

Information Systems Specialist
OECS Education Reform Unit
St. Lucia

Dr. Natalie Kishchuk

Social Science Research Consultant
Montréal, Canada

Ms. Susan Sproule

Project Manager
Tecsult Eduplus
Montréal, Canada

Local Counterparts

Mrs. Anita Martin-Ruan

Guidance Counsellor, ALCHS
Anguilla

Mrs. Cleon Athill

Guidance Counsellor, Princess Margaret School
Antigua and Barbuda

Mrs. Abigail Daniel

EO, Guidance and Counselling,
British Virgin Islands

Mrs. Isaline Titre

Education Officer, East
Dominica

Mrs. Myra Lewis

Guidance Counsellor
Grenada

Mrs. Oeslyn Jemmotte

Chief Education Officer
Montserrat

Mr. John Charles

Education Officer
St. Kitts and Nevis

Mrs. Arthusa Semei

Curriculum Officer, Guidance and Counselling
St. Lucia

Dr. Yolande Wright

Education Officer, Examinations
St Vincent and the Grenadines

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REPORT SUMMARY

1. BACKGROUND

Objectives

There is widespread concern throughout the Eastern Caribbean that youth are becoming increasingly disaffected and disengaged from school, and that schools and teachers do not have the capacities to prevent or overcome these problems. The Student Attitudes Survey was conducted to **"better understand students' hopes, fears, aspirations and ambitions as well as their attitudes towards school work and their future lives."** Consulting those most directly concerned by education reform -- students themselves -- was seen as an important contribution to education reform process.

Methods

The survey was preceded by extensive preparatory consultations with students, parents, teachers, guidance officers, principals, Ministry of Education officials, employers, police and youth leaders in the OECS countries. These consultations, supplemented by a review of the research literature, ensured that the survey addressed all relevant questions about students' attitudes and motivations, and the factors which influence them.

The survey was administered and co-ordinated by Local Counterparts in each participating country. It had three complementary components:

1. a 117-item, standardised questionnaire completed by 5,028 randomly selected secondary school students in the nine OECS countries, assessing students' school related feelings, attitudes, motivations and aspirations, and the main determinants of these;
2. ratings of those same students' performance and behaviour by the teachers most familiar with them;
3. more than 20 focus group discussions and qualitative interviews held in each country with parents, teachers and out-of school youth.

2. FINDINGS

The number of students who completed survey questionnaires in each country is shown in the following table. The number of students absent on the day of administration is also indicated, to provide an estimate of the generalisability of the results to all students in the country. That is, the higher the percentage of students who were absent when the survey was administered, the less confident we can be that the results represent the entire student population.

Table 1: Student Respondents by Country

Country	Number of respondents	Number (%) of students absent	Percent of whole OECS sample
Anguilla	266	not available	5.3
Antigua and Barbuda	462	47 (9.2)	9.2
British Virgin Islands	199	100 (33.3)	4.0
Dominica	510	43 (7.8)	10.1
Grenada	670	60 (8.2)	13.3
Montserrat	65	0 (0.0)	1.3
St. Kitts and Nevis	557	56 (9.1)	11.1
St. Lucia	1,312	127 (8.8)	26.1
St Vincent and the Grenadines	987	not available	19.6

Ninety-three percent of students who completed the survey were between 12 and 16 years of age inclusively. Fifty-nine percent attended urban schools, while 41% attended rural schools. Over 90% of respondents were attending secondary school leading to CXC, with the remaining from primary, junior secondary and senior primary schools.

Students' Family Characteristics

The survey provided valuable information about OECS students' families. As the table below shows, a large proportion of students live in single-parent families, while about half live with two parents (either both natural parents or a parent and step-parent). The overall level of educational achievement – in terms of the proportion who had completed secondary education -- of the mothers of survey respondents was quite varied across countries.

Table 2
Respondents' Family Characteristics by OECS country

	Anguilla n= 266	Antigua n =462	BVI n=199	Dominica n=510	Grenada n=670	Montserrat n=65	St Kitts/ Nevis n=557	St. Lucia n=1312	StVincent / Grenad n= 987
Family Type (%)									
Two-parent family (%)	26.8	42.0	37.3	33.2	29.6	38.7	44.7	39.3	37.3
Mother-headed, single parent family (%)	48.3	41.1	47.5	45.4	40.2	35.5	34.1	43.5	38.3
Mothers' education (%)¹									
Completed secondary school or higher	71.0	81.7	71.8	41.5	37.4	74.2	87.1	50.1	39.4
Mothers' work pattern									
Working most days (%)	58.4	60.8	59.5	50.8	47.2	56.9	60.0	51.8	48.8
Not working (%)	10.6	15.6	12.3	30.9	31.2	22.4	17.3	24.2	30.5

¹Among children who knew their mothers' education level, which varied from one-half to three-quarters of students in each country.

Students' Outcomes

The survey focussed on four kinds of outcomes that result from students' experiences with school and from their family environments. **Psychological outcomes** include the child's **attitudes to school**, his or her **sense that attending school has a long-term purpose**, and his or her **feelings of competence** and of **self-esteem or self-worth** in relation to school. Behavioural outcomes include the **level of effort** that the student feels he or she puts into school work. Independent ratings of student outcomes were obtained through teachers' ratings of each student's **academic performance** and **classroom behaviour problems**.

Psychological outcomes

Attitudes of OECS students toward school are very positive. Scores on survey items measuring feeling about and liking for school such as *"Each morning I look forward to coming to school"* were very high (average of 3.2 on a 4-point scale). Even more favourable was students' sense of purpose in attending school, with items such as *"I do my best in school because I can get ahead in the world with a good education"*. The average score on these items was 3.6 on the four-point scale.

Students' sense of competence and self-esteem in school are also very high. The average score on the items measuring sense of competence, such as *"Most of the time I feel that I can do my school work"*, was 3.1 on the 4-point scale. For school-related self-esteem, on items such as *"On the whole, I am pleased with myself at school"*, the average score was 3.2 on a four-point scale.

Behavioural outcomes

Behavioural outcomes were also very positive. On items assessing how hard students want to work in school, such as *"I try hard to make sure that I am good at my schoolwork"*, the average was 3.4 on a 4 point scale.

Problem behaviours

Teachers' ratings of problem behaviours such as lateness, absenteeism, inattentiveness, disruptiveness, failure to complete assignments and lack of effort showed a low prevalence of these problems overall. On a 4-point scale where 1 meant "most of the time" and 4 meant "never", the average score for these problems combined was 3.4.

Academic performance

The teacher most familiar with each student rated his or her performance compared to others at the same level. The average scores on these ratings confirmed the representativity of the sample.

As the table below shows, there are few differences in these outcomes across OECS countries.

Table 3
Average scores for types of outcomes by OECS country

Type of determinant	Anguilla n= 266	Antigua n =462	BVI n=199	Dominica n=510	Grenada n=670	Montserrat n=65	St Kitts, Nevis n=557	St. Lucia n=1312	St.Vincent, Grenadines n= 987
Psychological outcomes ¹	3.28	3.30	3.25	3.31	3.34	3.29	3.29	3.29	3.26
Behavioural outcomes (level of effort) ¹	3.20	3.19	3.14	3.26	3.32	3.15	3.22	3.26	3.26
Problem behaviours (teacher rating) ²	3.36	3.35	3.33	3.44	3.33	3.40	3.43	3.37	3.24
Academic performance ³ (teacher rating)	2.07	2.04	2.08	2.12	2.04	2.26	2.24	2.08	2.08

¹4 point agree-disagree scale, where a score of 4 is most positive.

²4 point frequency scale, where 4 is least frequent.

³ 3-point scale, where 3 is in the top third of students, 2 is in the middle third, and 1 is in the bottom third.

Summary

These very positive results are in stark contrast to the many concerns and difficulties expressed by stakeholders throughout the education system in the OECS. From a research point of view, the results are not unexpected: many of the difficulties experienced by teachers in particular are focussed on the small proportion of problem students, who consume a disproportionate amount of their attention. This survey clearly shows that the vast majority of children attending OECS schools enjoy school and see it as means to improve their futures. They want to work hard in school and generally feel confident that they can succeed. And most, according to teachers' own ratings of a representative sample of students, have no behaviour problems.

Influences on Student Outcomes

The survey also assessed the main influences on students' attitudes to and their behaviours in school. These included the quality of the school experience in terms of the value placed by the student on recognition and praise from teachers and co-operation with other students, the level of support and interest shown by the students' teachers, the cohesiveness, competitiveness and orderliness of the classroom environments, parents' level of involvement and support with the students' schooling, and influence of the student's peer group.

Influences on Attitudes Toward School

Multivariate analyses were conducted to determine which factors most strongly influence students' attitudes toward school. These analyses showed that each of the following factors makes an important independent contribution, over and above all the others, to how OECS students feel about school:

- parental support and involvement: the more strongly the student feels that his parents support, follow, and encourage his progress in school, the more positive his attitudes toward school
- quality of support and interest provided by teachers: the more positively the student views his teachers, the more positive his attitudes toward school
- recognition: the more the student seeks and receives praise and recognition from his teachers through his school work, the more positive his attitudes toward school
- student gender: girls have more positive attitudes toward school than boys
- quality of the classroom environment: the more cohesive, non-competitive and orderly the student perceives his classroom, the more positive his attitudes toward school
- peer influence: the more the student sees school as a place oriented around interactions with friends, the less positive his attitudes toward school
- age: when all other factors are considered, older students have more positive

attitudes toward school.

Influences on Behaviour Problems

In multivariate analyses of the survey data, the most important influences on students' behaviour problems as rated by their teachers were:

- student gender: girls have behaviour problems less frequently than boys
- age: older students have more frequent behaviour problems
- students' perceptions of the quality of support and interest provided by their teachers: the more positively the student views his teachers, the less frequently the teacher reports behavioural problems with that student
- quality of the classroom environment: the more cohesive, competitive and orderly the student perceives his classroom, the less frequently the teacher reports behavioural problems with that student
- quality of the student's experience in school: the less value the student places on praise and recognition and the less he seeks to co-operate with others, the more frequently the teacher reports behavioural problems with that student.

Influences on Academic Performance

The teacher most familiar with each student surveyed rated the student's school performance as being in the top third, middle third or bottom third of other students at the same level. Multivariate analyses were conducted to identify the factors that influence these ratings most strongly. These were:

- student gender: girls' performance was rated better than boys'
- student age: younger students' performance is rated as better than older students'
- quality of support and interest provided by teachers: the more positively the student views his teachers, the more highly his performance is rated by the teacher.

Summary

The survey results show that several factors have strong and consistent influences on OECS students' attitudes toward, and behaviour in, school. The two most important influences come from the most significant adults in these young people's lives: their parents and their teachers. The analyses also clearly show that girls' experience in school is more positive than boys': they like school more, have higher academic performance, and have less frequent behaviour problems. The results also suggest that students' attitudes and outcomes evolve over the secondary school period.

ACTION IMPLICATIONS

The survey findings were presented to stakeholders in each participating country in a series of workshops held in September and October 1999. Present at these meetings were representatives of each Ministry of Education, teachers, principals, parents and employers. After a presentation of the main findings for the overall OECS and for the specific country, stakeholders discussed the implications of the findings for the future of education and education reform in their respective countries. The results of these discussions have been synthesised below.

Overall Levels of Student Attitudes

It is clear from the survey data that students throughout the OECS generally have positive attitudes and positive experiences in school, and see education as a means to achieve future life goals. According to these data, collected systematically from a large representative sample, Caribbean youth are not generally disaffected or disengaged from school and indeed have strong motivation for both academic performance and school completion. While this result was not surprising to many of those stakeholders who interact regularly with many young people, especially teachers and parents, it was agreed that these positive attitudes are major strength in the region, and **should be recognised and applauded as a veritable foundation for the future.**

The survey data also disconfirmed the perceived erosion of the link students see between schooling and life success. Eastern Caribbean students have a strong sense of purpose in attending school, definitely seeing a connection between education and later opportunities. Moreover, even out-of-school youth recognise the importance of education. In the focus group discussions with these youth, most stated that school was important and that they might want at some point to further their schooling, despite their repeated experiences of failure.

To reinforce the links between schooling and life success, it was recommended **that private industry should be encouraged to play a more vibrant role in the school system, through apprenticeship schemes and other partnership ventures.** It was felt that wide dissemination of the survey results will assist in making employers aware of the need to co-operate with the school system. In this regard, it was **recommended that media houses, both public and private, take on an essential role.**

It was also recommended **that educational opportunities become more accessible throughout the Eastern Caribbean**. Schools system should pay careful attention to the secondary school curriculum, the teaching methods used as the linkage to the world of work. The issue of the large number of students in the post-primary section of the school system and the curriculum used in these schools needs addressing.

Roles of parents and families

The critical role of significant adults, both parents and teachers, in promoting positive attitudes and behavioural orientations toward school is among the most important findings of the survey.

The survey data show clearly that students who have strong support and encouragement from their parents regarding school like school more, feel better about themselves in relation to school, have a stronger belief that schooling will be valuable to them in their future lives, have fewer behavioural problems and perform better academically. The role of parents in determining their children's orientation to school and their academic achievement is therefore critical.

In the dissemination workshops in every OECS country, the issue of parent-school linkages was addressed. It was **recommended that interventions promoting parental involvement in schools and supporting the development of parental skills** in helping their children with schoolwork and reinforcing their progress be developed. As parents in the focus group discussions pointed out, parents -- especially those with low levels of education or negative experiences with school --- may need support or training to create home environments which are conducive to learning and can support school programmes. (e.g., with supervised and structured homework sessions, away from television or other distractions).

It was also **recommended that schools adopt a more modern and flexible view of parents and parenting**. First, links to parents should **go beyond the traditional PTA**, adapting to social and economic reality by reaching out in proactive ways that are compatible with parents' resources and schedules. The survey data on the nature of parents' work schedules strongly support this point: only about two thirds of working parents usually work days only, meaning that many are unavailable to help their children with school work or to become involved in school activities during the regular school days.

Intervention targeting parents should take into consideration the realities of Eastern Caribbean families, finding ways to empower them and increase their sense of involvement and responsibility for their children's school progress. A recommendation emerged from one country **to implement a parents' charter, specifying the roles and responsibilities of parents as partners in the schooling of their children**.

Third, it was recommended **that the crucial role of extended family and neighbourhood**

networks in raising children be recognised, and that school include these in their definition of the child's family and try to involve them more directly in schooling.

Fourth, it was **recommended that schools or Family Life Education units encourage employers to take responsibility for developing family-friendly work policies**, by allowing parents time off to attend school meetings or to meet with their children's teachers.

The survey findings showed that parental support is significantly greater for students who live with both their mother and father. This suggests that families headed by a single parent or with other forms of living arrangements find it less easy to communicate with, and to support and encourage their children. The dissemination workshop participants in several countries **recommended that schools find ways to actively involve fathers who do not live with their children**, for example by inviting them separately to activities, or by sending them the same information they send mothers. In the focus groups, it was also mentioned that younger parents have more difficulty promoting the development of positive attitudes and self-discipline in their children. To counter this, some workshop participants recommended **more emphasis on primary of prevention teen pregnancy**.

Discussion in the dissemination workshops also focussed on other community resources that could be used to strengthen the support networks of children and families. It was **recommended that churches, which often have programs or services for families in difficulty, expand their role** to include more general forms of family support in relation to schooling. It was also pointed out that government agencies other than the Education Ministry are responsible for many of the social issues that lead to school-related problems, and that **a more concerted approach should be developed**. Finally, it was recommended that **resources within the school system be increased to provide more social work services** to families at risk.

It was also recommended that **posters and radio and television spots emphasising the contribution of parents to the educational success of students be developed**.

Teachers' roles

The role of teachers in determining students' attitudes is extremely important. The survey results show that when teachers are supportive of their students' education and take an interest in their progress, students have more positive feelings about school and their own competencies, and are less likely to exhibit disruptive or problem behaviour. In the survey data, teacher interest and support is the most important predictor of liking for school and of the level of effort that students make in the classroom. Among the variables measured, it is also the only significant predictor other than age and gender -- in other words, the only modifiable determinant -- of academic performance.

It is therefore very clear that teachers wield great potential to shape student attitudes and outcomes and to maintain them throughout the secondary school years. The extent to which teachers

demonstrate interest in their students' lives and value and encourage their personal, social and academic development, in addition to being knowledgeable about, prepared for and inspired by the material they teach, are evident and influential for students.

In the dissemination workshops, many specific recommendations addressing teachers' crucial role were made. Three of these dealt with teacher preparedness: it was felt that teachers' negative influence was greatest where they were unprepared for teaching or lacking in commitment or interest in teaching as a professional role. First, it was recommended **that resources be increased to permit greater access to teacher training**. Second, the circuitous route to complete teacher training was questioned, and calls were made for **a shorter training period**. This would make teaching training more attractive to prospective teachers. Third, many stakeholders (including teachers) are aware that some teachers see the job as a stop gap or step into more interesting work, and have very little commitment to teaching or their students. To limit this problem, it was recommended that **a better job of selecting people for teaching positions be done**.

Within the school, it was also felt that teachers may not receive enough recognition and reinforcement from the superiors or their peers, and that this may contribute to poor commitment. It was recommended in several dissemination workshops that there be **a teacher recognition day or other form of reward for teachers** who are exemplary roles models in the various possible facets of school life. To help motivate teachers, a recommendation was also made **to create a level of "Master Teacher"**.

A major issue under discussion at the dissemination workshops was teachers' working conditions. Since teacher support and interest are critical to students' attitudes and achievement, it is **necessary to address teachers' conditions of service if teachers are to maintain the high level of motivation required**.

The role of peers

It is interesting and perhaps not surprising that according to the survey data, students whose main orientation toward school is peer-related --as a place to socialise, as sources of discussion about schoolwork, have less positive attitudinal and behavioural outcomes in the survey data. In the focus groups with out-of school youth, several young people stated that they often came to school to be in the company of their friends, or that seeing friends was the things they had liked most about school.

In other focus groups, both parents and teachers indicated that peers had more negative influences than positive. In the dissemination workshops, it was **recommended that ways be found to minimise the negative impacts of peers**.

Classroom and school environment

The quality of the classroom climate was found to be a strong predictor of many of the psychological and behavioural outcomes examined in the survey. These findings are of particular interest because to the extent that teaching practices and classroom management skills can make

classrooms more cohesive and less competitive (for example, through the use of group-based or co-operative learning strategies), students' motivation and level of effort can be improved.

Overall, children in rural schools seem to have somewhat more positive attitudes and experiences, although their academic performance does not differ as measured by teacher reports. In the dissemination workshops, stakeholders stated that the advantages of rural school lie in their smaller size and in their close integration into community life: factors which could be encouraged in urban settings.

Although the quantitative survey did not assess quality of the physical plant, problems with degraded conditions, lack of equipment and conditions not conducive to learning were mentioned in focus groups in every country. In many classrooms, teaching and learning were said to be impeded by high noise levels due to lack of sound insulation between classrooms, corridors and outside recreation or traffic areas. These noisy conditions disrupt students' concentration and make classroom control more difficult for teachers. Many classrooms were also said to be too hot or to have poor air circulation, with the results that students report being uncomfortable and sometimes sleepy in class, especially in the afternoons. These problems are compounded by classrooms which are too small for the number of students, which means that the arrangements of desks and tables often does not allow the teacher to circulate and provide individualised support to students; but rather forces them to adopt a "chalk and talk" teaching method. Also mentioned were conditions of disrepair, such as leaking roofs and broken furniture and screens, as well as defective plumbing and attendant problems of sanitation in school toilet facilities.

Gender Issues

The survey results confirm unequivocally that boys are disadvantaged in terms of their educational experiences in secondary school. In fact, boys fared worse on every psychological and behavioural outcome examined in this survey: boys like school less, have lower self-esteem, perceived competence, and sense of purpose in attending school, exert less effort in school, and have more frequent behaviour problems and poorer academic performance. In the focus group discussions, the differences between boys and girls were readily acknowledged

It was clear from the attention devoted to this aspect of the results in the dissemination workshops that the issue of gender disparity in student attitudes and motivation is of great and worrisome significance. Stakeholders were deeply concerned about the long-term implications of these findings for human resource development and for the stability of family life in the region. It was clear to all that specific efforts must be made to target boys and improve their psychological and behavioural outcomes.

It was felt that schools are currently not meeting boys' needs for praise and recognition, and that their search for development of personal identity lies outside the school system. To counter this, it was recommended **that special enrichment programs for boys emphasise the importance of academic achievement**, and that this be reinforced by employers. It was also recommended that **teaching methods be modified to provide more "hands on" experiences to cater to boys' need for activity-oriented learning**. Also, there is a need **to introduce and sustain a more varied curriculum**, so that students are provided with a choice of skills and knowledge to apply to the world of work. Finally, within the classroom, **appropriate means of providing recognition to boys and of building their self-esteem** should be developed.

Boys' relatively poorer outcomes could also be addressed by providing stronger male role models both inside and outside the home. First, it was recommended that more attention be paid **to ensuring that boys have at least some exposure to male teachers in both primary and secondary school**. Second, it recommended that **male mentoring programs be developed to provide boys with positive adult male role models**. Finally, it was recommended **that the role of fathers in supporting their sons' academic progress be reinforced**, especially in situations where the father is not present in the home.

Conclusion

The ECERP Student Attitudes Survey has provided invaluable information about not only the levels and determinants of student attitudes in the Eastern Caribbean, but also a wealth of information on family structures and living and parenting conditions. While in general the results are very positive, they also show that the road to improvement of students' attitudes and behaviour in regard to school lies clear straight ahead. We hope that the survey results will be put to use by participating countries in the design and implementation of programs and services which can produce even more positive

results for all Eastern Caribbean youth, can help improve the futures of the minority of students with negative attitudes and behaviours in school, and can address the looming implications of gender disparities in educational outcomes.

1. BACKGROUND

1.1 OECS Education Reform and the ECERP Project

The Organisation of Eastern Caribbean States (OECS) has recently undertaken a series of major reforms of the educational systems and infrastructures of its member states. The overall OECS Reform Strategy encompasses several major projects, including the Eastern Caribbean Education Reform Project (ECERP), which is being implemented with support from the Canadian International Development Agency. With the overall goal of improving the quality of the human resource base for development, ECERP has implemented a number of systemic, structural and local initiatives aimed at improving school performance, completion and post-primary enrolment in the Eastern Caribbean region. The specific projects are being implemented over a five-year period, from 1995 to 2000, and range from curriculum harmonisation and reform, to teacher training initiatives, to infrastructure improvement.

1.2 Student Attitudes and Education Reform: Study Context

As a support to these initiatives, ECERP conducted a major survey of students' attitudes towards school. In the fall of 1998, 5,028 randomly selected students in the nine OECS countries completed a standardised survey, complemented by teacher ratings and focus groups with parents, teachers and out-of-school youth. The survey administration was managed by local counterparts in each participating country.

The survey was included in the ECERP program as a response to widespread concern among education and human resource stakeholders in the region, expressed in both the planning of the ECERP program and the survey itself, that Eastern Caribbean youth, especially boys, are becoming increasingly disaffected and disengaged from school. This disaffection is felt to be

expressed in negative attitudes toward school, poor motivation for both academic performance and school completion, more prevalent behavioural and disciplinary problems, and erosion of the perceived link between schooling and life success. There was thus concern that as a result, Eastern Caribbean youth's opportunities for personal, economic and social fulfilment are increasingly limited and the capacity for human resource development in the region increasingly compromised. Coupled with concern that schools and teachers in the region do not have the capacities to prevent or overcome these problems, these issues signalled a need to assess objectively the extent of these problems and to develop strategies for redressing them. Moreover, consulting those most directly concerned by education reform -- students themselves -- was seen as an important contribution to the overall education reform process.

This report provides detailed information on all aspects of the design, conduct and analysis of the survey, as well as its results. As will be shown in the following chapters, this systematic assessment of student attitudes proved extremely valuable, because it revealed many findings at odds with the concerns which led to the conduct of the survey. It will also help to identify and prioritise avenues for intervention.

1.3 Study Objectives

The Student Attitudes Survey aimed to better understand Caribbean youth's attitudes toward school, as well as the important factors that determine their attitudes. Specifically, the objective of the survey was:

"to better understand students' hopes, fears, aspirations and ambitions as well as their attitudes toward school, work and their future lives" (ECERP Initiative #10: Terms of Reference for Design Phase, p. 1).

The survey was expected to provide results which could be useful to improve the design and

targeting of preventive and remedial interventions, most particularly in practical and affordable recommendations for improved guidance and counselling services in junior secondary and secondary schools, as well as information relevant to several specific ECERP initiatives, including the curriculum reform initiative, the teacher training initiative, the teacher working conditions initiative. These interventions would aim to promote the outcomes of most interest, such as school motivation, performance and completion.

2. RESEARCH CONTEXT

2.1 Summary of Approach Adopted

The approach adopted for the Student Attitudes Survey emphasised scientific rigour grounded in the issues and concerns of stakeholders in participating countries. Two main sources of information were used to develop the initial versions of the survey. First, a review of the current scientific literature served to orient the theoretical underpinnings of the survey and to suggest solutions to methodological problems. Second, extensive consultations with stakeholders in OECS countries were conducted to identify relevant issues and concerns and to validate findings from literature review. Once an initial version of the survey had been developed, project counterparts in each participating country provided expertise and feedback on the survey content and design. Finally, both qualitative and quantitative pre-testing improved the quality of the final survey product.

The approach adopted also made a clear distinction between student outcomes of interest in the OECS and the factors that determine those outcomes. Outcomes refer therefore to the problems or issues facing youth, addressed by the survey, which would eventually be expected to be improved as a result of preventive or remedial interventions. Determinants include all the factors, and all the interactions between them, which could affect those outcomes and which the interventions could address. Because the determinants predict students' outcomes in a statistical

sense, the terms "determinants" and "predictors" are used interchangeably throughout the remainder of this report.

2.2 Literature Review

The design phase for the survey included a review and synthesis of literature in four areas: 1) conceptual models of student attitudes and educational outcomes; 2) existing empirical studies of student-related issues conducted in the Caribbean or other developing areas; 3) reports on existing, validated measures of concepts of interest; and 4) pertinent documentation on children, families, schools, work and culture in the Eastern Caribbean region. This review provided the background to the development of the survey conceptual framework and the survey questions.

Although the literature in the area of student attitudes and motivation is vast, much of it is North American and therefore tends to focus on some issues which are of less relevance for Caribbean society while downplaying the role of other factors of central importance in the Caribbean (such as educational needs for a service or agriculture based economy; effects of selection into or exclusion from secondary school). Where possible, efforts were made to concentrate on areas of greatest relevance to the Caribbean context.

Another focus of the literature review was the identification of validated or standardised instruments (questionnaires) measuring outcomes and predictors of interest, already available in the research literature and which could be considered culturally appropriate to the Eastern Caribbean school context. The literature review therefore concentrated on measures which had been validated in more than one cultural group (i.e., had been shown to have some cross-cultural validity) and in populations with significant school completion, motivational or performance problems.

The literature review used computer and library-based searches in the international scientific

literature and on-site searches for unpublished or limited-circulation reports available through the University of West Indies and documentation centres or individuals in the OECS Ministries of Education or other organisations.

2.2.1 Outcome Variables: Aspects of Student Attitudes

Attitudes are defined as generalised, learned core dispositions that guide thoughts, feelings, and actions. All attitudes, including those toward school, are composed of both cognitive (psychological) and behavioural components. Children's attitudes toward school are thus defined, for the purposes of the Student Attitudes Survey, as the core dispositions that children use to orient their thoughts, feelings and actions about school and themselves in relation to their school experiences. The theoretical models of student attitudes found most relevant to this survey were those of McInerny (1994; McInerny, Roche, McInerny & Marsh, 1997), Maehr (1984) and Vallerand (Vallerand, Fortier & Guay, 1997).

Psychological Outcomes

Among the most basic psychological components of school attitudes is feelings towards school, i.e., the extent to which the student likes or dislikes school (McInerny, 1994; McMillan, Simonetta & Singh, 1994; Gilbert & Castonguay, 1994). Studies have shown that feelings about school are closely tied to the student's experiences of success or failures in school. In particular, feelings of self-efficacy (Bandura, 1977) strongly influence children's overall school liking and motivation (McMillan, Simonetta & Singh, 1994). Perceived self efficacy is defined as the strength of the child's expectation that he can successfully execute a behaviour required to produce a desired outcome (such as getting a good grade, passing the Common Entrance Examination). Children with low perceived self-efficacy have lower motivation and performance (McMillan et al, 1994). Self-efficacy is in turn related to self-esteem, both in terms of general feelings of self-worth and in relation to specific life domains. Self-esteem is also an important predictor of school motivation and performance (Maehr et al., 1994; McInerny et al., 1997). The transition from primary to post-

primary or secondary school is accompanied by naturally occurring, developmentally-related drops in self-esteem (Anderman & Maehr, 1994), suggesting that this is a critical point at which failure experiences may be particularly damaging. A similar concept is feelings of academic competence, or the child's subjective estimate of his or her competency in academic matters. Based on feedback from actual school performance as well as from the parents and teachers about performance, children develop a strongly rooted sense of their level of competency which in turn orients them to expect continued good or poor performance in the future, and ultimately, to remain engaged or to become disengaged from the pursuit of academic achievement (McInerney, 1994). For example, students who are held back a year in primary school are more likely to drop out of high school, even after pre-existing differences in abilities and performance are controlled (Roderick, 1994). These feelings of academic competence may be assessed in terms of general academic performance as well as in specific subject areas: children may feel relatively good about their abilities in mathematics, for example, while feeling less competent about their abilities in English or Social Studies (McMillan et al., 1994). They may also frame their understanding of why they succeed or fail differently in different subject areas (Vispoel & Austin, 1995).

Another relevant psychological outcome of is school-related motivation. In the vast literature the relationship between school-related motivation and school performance, a distinction is drawn between intrinsic motivation, where the student is motivated because of factors internal to himself or herself (such as aspirations or desires to succeed) versus external factors (such as pressure from parents). Some students may also show high levels of amotivation or apathy towards school (Vallerand et al., 1997). Higher intrinsic motivation is generally linked to better academic performance and lower likelihood of dropping out (Vallerand, 1997 et al; McInerney, 1994; Anderman & Maehr, 1994). Positive school motivation generally declines with increasing age, so that motivation is naturally lowest in middle high school (Anderman & Maehr, 1994). The immediate quality of the student's experience in school is directly related to motivation, in that children who find a sense of intellectual accomplishment, personal fulfilment, or enjoyment in their school participation, are more likely to show higher motivation (Anderman & Maehr, 1994).

Another important component of attitudes toward school is related to the perceived value of school to the child's immediate and future desires and aspirations, and his or her sense of purpose in school (McInerny, 1994; McInerny et al., 1997). To the extent that children have acquired, by early adolescence, a definite self image and a sense of their preferences and desires in terms of occupational and life goals (Anderson & Maehr, 1994), school may be seen as more or less relevant to the pursuit of those goals. For those children with few role models and little sense of aspiration or sense of purpose in attending school, school will be seen as increasingly irrelevant and uninteresting (McInerny et al., 1997; Anderman & Maehr, 1994). For those with more well-defined goals, the perceived value of school will depend on the congruence between what is offered in school and the skills required to reach the goals (McInerny, 1994; Delgado-Gaitan, 1988). This issue could be of particular concern in the Eastern Caribbean States, where the formal education system has not yet been fully adjusted to take into consideration the new realities of economic and social life for today's Caribbean youth. Children may also differ in the extent of their future orientation: how oriented they are to future as opposed to current gratification. Those with less future orientation are more likely to perceive school as less relevant, to drop out, or to otherwise become disengaged (Nurmi, 1991; Pulkkinen & Ronka, 1994).

Behavioural Outcomes

Behavioural expressions of students' attitudes toward school may be observed in the level of effort expended in schoolwork and studying, the degree to which the student becomes active or involved in school activities such as sports teams, and incidence of problem or disruptive behaviours inside and outside the classroom. Poor academic performance and motivation are consistent predictors of drug and alcohol use, delinquent behaviour, teenage pregnancy, and school dropout (Gottfriedson, Fink & Graham, 1994; Gilbert & Castonguay, 1994).

Attitudes and school performance

These psychological and behavioural components of attitudinal outcomes are eventually expressed in school performance. Children with negative feelings toward school, low expectations of efficacy and competence, and little sense of purpose in school, are likely to make less effort in their studies, to distance themselves from school-related activities and friendships, and more likely to show disruptive or problem behaviours. They may have higher absenteeism rates, lower achievement as measured by both in-class and standardised tests, and be less likely to successfully complete any entrance examinations and finishing requirements (McInerny et al., 1997; Vallerand, Fortier & Guay, 1997).

2.2.2 Determinants of Student Attitudes

The research literature suggests that the outcome variables discussed above are influenced by many factors. Some of these are related to the student's immediate social world: his or her family, other significant adults including teachers, and friends. Others are related to more systemic or structural characteristics of the student's broader social environment -- including socio-economic status, family structure, and school location and physical quality.

Social determinants of student attitudes

Social determinants of student attitudes can be grouped into three broad categories: factors related to parents and family, to the student's peer group, and to teachers and the classroom environment.

Parents' support of and involvement in their children's schooling is an important determinant of school performance and achievement. The extent to which parents show concern about the child's progress and accomplishments, support and supervise homework and school assignments and even merely communicate about school with their children have been shown to determine students' tendency to successfully complete school and to maintain good grades (McInerney, 1994). In addition, the extent to which the parents communicate with the child's teachers or school authorities and become involved with school activities are also favourable determinants of student outcomes. Adolescent school performance and engagement with school are particularly strong in families where the parents have an authoritative parenting style (characterised by high acceptance and supportiveness, close supervision, and granting of psychological autonomy to the child) in addition to parental involvement in the school (Steinberg, Lamborn, Dornbusch & Darling, 1992; see also Vallerand et al., 1997). Continuity and stability in family structure and values are also positively related to completing school (Garnier, Stein & Jacobs, 1997).

Peer support and influence have also been shown in the research literature to be important sources of positive attitudes toward school (Jones, 1988; Schebeci, 1989). For example, the time a child's friends spend doing homework is a strong correlate of the child's attitudes toward school (Schebeci, 1989). Social support from friends can be instrumental in preventing drop-out among at-risk youth (Rosenthal, 1995).

Ample research has now confirmed that teachers can have strong effects on students' motivation and success in school. Of particular importance is the extent to which students perceive

their teachers to be involved in and committed to teaching and to their students. Students who feel that their teachers are indifferent or rejecting have lower levels of motivation, school completion, and performance (Epstein, 1992; Delgado-Gaitan, 1988). The degree to which students find their school environment supportive, as shown through teacher encouragement and support, significantly predicts intentions to stay in school (McInerny, 1994). Teachers' support for student self-determination is associated with greater perceived school competence, stronger self-determined motivation, stronger behavioural intentions to remain in school, and lower likelihood of dropping out (Vallerand et al., 1997). This research is supported by studies of teachers themselves, where it has been found that the teacher's degree of interest and concern for how and what all students under his or her charge learn is associated with better educational outcomes for those students (Lee & Smith, 1996; Bos et al., 1990).

The types of praise and reward students receive from teachers, as well as parents and peers, is predictive of students' levels of motivation. Some authors claim that extrinsic or token reinforcement is generally detrimental to maintenance of high intrinsic motivation in school (Anderman & Maehr, 1994; McInerny et al., 1997). Others find that both internal rewards (the student's own sense of achievement and pride in accomplishing desired goals) and reward from external sources, such as teachers, are important but independent determinants of school motivation (Cameron & Pierce, 1994).

Closely related to teacher variables as determinants of student attitudes toward school are the quality of the school and classroom social environment. School and classroom environments can be characterised on several dimensions: cohesion, level of friction or conflict, competitiveness versus co-operativeness, and task orientation. Studies using the School Environment Scale (Moos, 1979) or the My Class Inventory have shown that these dimensions reliably predict student attitudes and performance in several domains (e.g., Goh, Young & Fraser, 1995; Richardson, 1988). Task orientation, which refers to the extent to which the classroom or school is well-organised, orderly, and focussed on the learning tasks, is especially strongly related to

academic performance (Lee & Bryk, 1989). Children who feel a sense of social cohesion and belongingness in the school environment, are more likely to feel positively toward school, while children who feel rejected, little social connection with their peers or teachers, or that they don't fit in, find their school experience less motivating (Epstein, 1992). Classrooms in some Eastern Caribbean states¹ have been shown to differ among countries on several of these dimensions, including satisfaction, friction, competitiveness and difficulty but not cohesiveness (Richardson, 1988).

Systemic Determinants of Student Attitudes

At a broader level, socio-economic status has been shown to be related to student outcomes, so that students from middle to upper class families tend to outperform those from less advantaged backgrounds (Kutnick & Jules, 1988; Gilbert & Castonguay, 1994). There are a number of paths through which higher socio-economic status may affect educational outcomes. First, children from higher income families will also tend to be children of more highly educated parents, who may place more value on school and become more involved in their children's schooling than children of more poorly educated parents. Second, children living in poorer communities may have fewer resources and materials available to them (books, equipment, computers) and so may receive a poorer quality education than children in better-off communities. In addition, children from less advantaged homes are likely to face additional barriers: single parents, with less time and resources to care for the family, additional family responsibilities, poor living, studying and sleeping conditions, and poor nutrition. However, the most important effect of socio-economic pressure is that it generally make parents less available to support and encourage their children in their schooling (Delgado-Gaitan, 1988).

Other, more macrosocial research has shown that variables related to the organisation of the

¹ Barbados, Grenada and St. Vincent were included in this study.

education system and its resources can also be related to student attitudes. Larger class size, for example, has been associated with poorer attitudes, attendance, and achievement (Bos, Ruijters & Visscher, 1990), as has rural school location and less prestigious school reputation (Kutnick & Jules, 1988). Single-sex schools have been shown to positively influence girls' achievement (Lee & Lockheed, 1990). Private school students also tend to have higher achievement than public school students, as do students from certain religious backgrounds in some countries (Kutnick & Jules, 1988). Of particular relevance to the Eastern Caribbean educational system, changes in classroom learning environments between primary and post-primary school which fail to compensate for naturally declining self-esteem and motivation may directly contribute to poorer academic performance (Wigfield, Eccles, MacIver, Reuman, & Midgely, 1991; Delgado-Gaitan, 1988).

Summary

The literature review underscored the importance of assessing not only students' attitudes, but also the social and systemic determinants of and influences on those attitudes. According to the literature, students' attitudes and motivation are formed and sustained by a constellation of influences including their families, teachers, and the broader structure of the educational system. Developmental changes in self-perception, particularly acute in the first years of adolescence, also play a role in the critical transition period from primary to secondary school.

2.3 Conceptual Framework

Based on the literature review, a conceptual framework was adopted for the survey (see Figure 1). The framework was used to guide the choice of survey questions as well as the analysis of survey data. It distinguishes formally between student outcomes and determinants of the outcomes. Student outcomes are those characteristics (termed variables because they vary among individuals) which are believed to be of most importance to the development of human resources in the Eastern Caribbean region, and therefore those to which corrective interventions would most likely be applied based on the results of the survey. These outcomes were divided into three types:

Psychological Outcomes: including feelings about and liking for school; self-determined academic motivation; academic self-efficacy, sense of competence and academic self-esteem; future orientation and level of aspiration; sense of purpose and perceived value of school;

Behavioural Outcomes: level of effort expended in schoolwork, involvement in school activities, attendance and truancy; interest in working rather than attending school.

School Achievement Outcomes: current level of academic performance.

All these three types of outcomes are hypothesised to be inter-linked, so that, for example, a student with low academic self-confidence may also be likely to have poor achievement and perhaps some problems with attendance or delinquency.

These three types of outcomes are posited in the conceptual model to be determined by several characteristics of the student's social environment, including :

Parental Support and Involvement: the degree to which parents value school and provide support and encouragement for education

Perceived Teacher Support: the level of interest and support provided by the teachers, as well as the students' perception of the level of teacher motivation and dedication to teaching

School and Classroom Environment: classroom and school orderliness, competitiveness, friction, and cohesion.

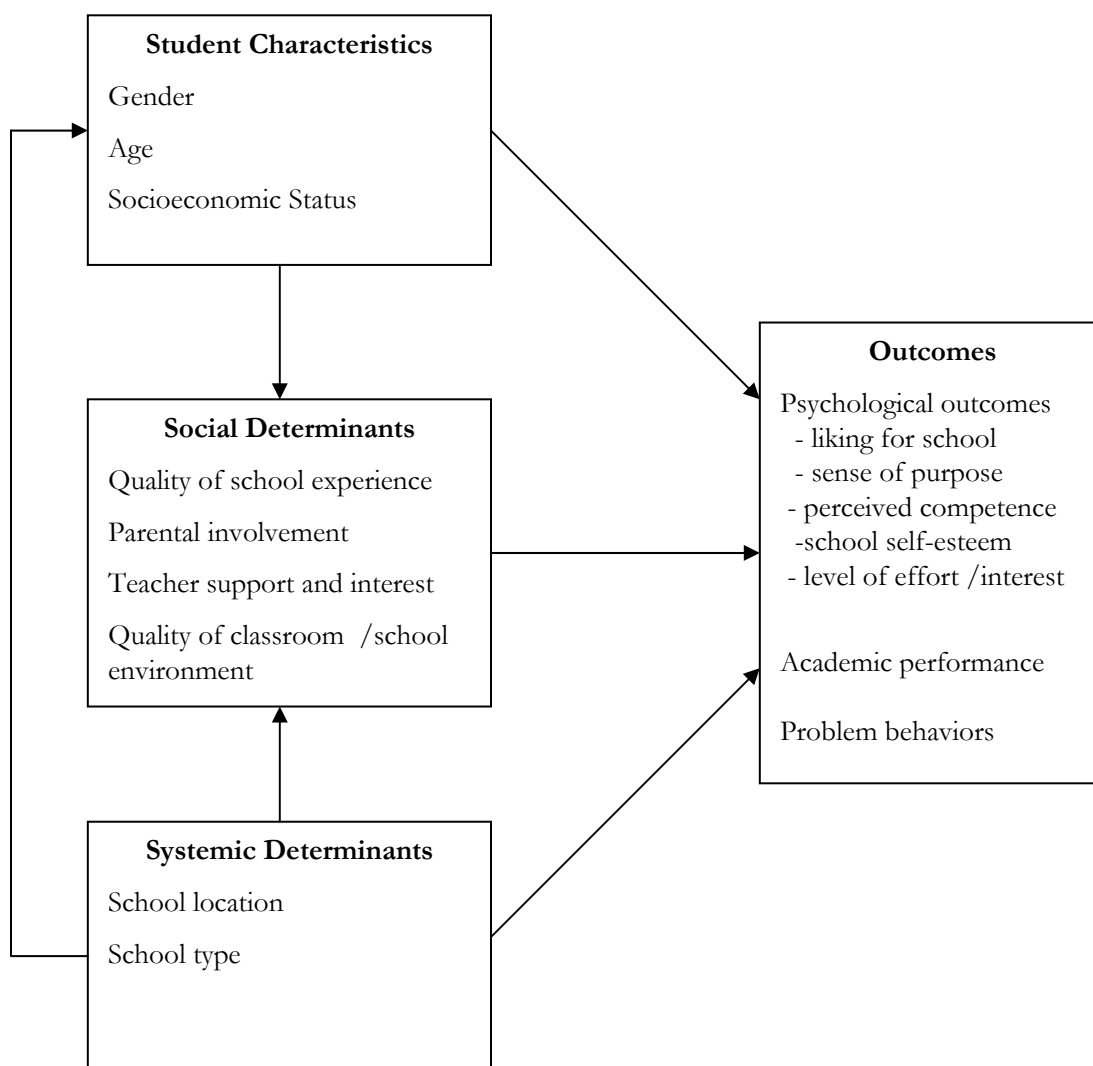
Peer Support and Influence: degree to which the student sees school as a place to interact with peers and is influenced by them;

Several more general systemic variables influence both the social determinants and the child's outcomes. These include:

Family Socio-economic Status, to be measured by parental educational attainment and parental occupational status

School characteristics: school type (Primary, Senior Primary, Junior Secondary or Secondary); program (academic versus technical); urban versus rural location.

Conceptual Framework for the Student Attitude Survey



3. SURVEY DESIGN AND METHOD

The survey was designed to provide valid information for each country as well as for the OECS as a whole.

3.1 Development and Design

3.1.1 Stakeholder Consultations

In conjunction with the literature review, an exploratory research phase involving consultations with stakeholders was undertaken. Its purpose was three-fold. First, and most importantly, it was intended to elicit salient beliefs, attitudes, issues and concerns from stakeholders, including youth themselves, without imposing any *a priori* external concepts. Second, it was intended to validate and adapt concepts found in the literature review. Finally, it was expected to enable the development of the theoretical universe of constructs to be measured in the survey, using a domain sampling model². This phase was conducted in October 1997, in Grenada, Dominica and BVI. In these countries, meetings and visits were held with groups and individuals representing students, parents, teachers, Ministry of Education officials, school administrators, employers, police and youth workers.

Overall, these consultations revealed both commonalities and differences among the countries consulted. Concern was expressed in all settings about student attitudes, including poor

2. *Domain sampling-model.* This refers to a classic approach in psychological measurement where test or survey items are said to be sampled from a universe of potential items, each representing, in a statistically-measurable way, a theoretical construct. To the extent that the sample of items in a survey instrument represents the theoretical domain, the survey instrument will have construct validity. In the exploratory research phase, an effort is made to have participants explore their feelings and attitudes in depth and to express their ideas in a number of different ways, so that a pool of potential items can be made up and later used from in the design of a standardized survey.

motivation, little sense of purpose in school, and feelings of frustration and failure. Many similar issues were discussed with respect to influences on or determinants of student attitudes, with the most common themes being parental and teacher influences. However, in all countries, the attitudes of students consulted seemed more positive, goal-oriented and intrinsically motivated than was the perception of teachers, parents and ministry officials. Economic factors were recognised as important determinants of parents' capacities and availability to be involved with their children's schooling. Students in all countries consulted had felt let down or disappointed by some of their teachers, who were perceived as teaching only for their remuneration and not out of love for either teaching or young people. Other important influences on student attitudes were related to the school system. Although there are differences in the educational practices among countries, some frustration was universally expressed with the negative effects of the end-of-primary examination on children who fail it. The educational system was also seen in all three countries as being poorly adapted to the world of work, although in some areas, efforts were being made to help students adapt their education according to career choices.

Taken all together, the results of the consultations confirmed the validity of the preliminary conceptual framework developed by the team on the basis of the literature review, although different stakeholders in different settings placed differential emphasis on various components. Moreover, the consultations provided many ideas for specific survey items.

Preliminary versions of all research instruments -- self-administered questionnaires for students, the teacher rating form, and the interview guides for focus groups with non-student youth, teachers and parents -- were then developed, based on the findings of the literature review and the consultations described above.

3.1.2 Counterpart Training

Following the stakeholder consultations, local counterparts from all OECS countries except Montserrat participated in a two-day workshop, held in January 1998. Recruited with the help and approval of their respective educational authorities, the counterparts were primary managers of the survey in their countries. The workshop goals were: 1) to familiarise counterparts with the survey design and to provide training in the necessary aspects of educational and survey research design thus enabling them to assume their roles as primary managers of the survey to be conducted in their country, and 2) to create and strengthen links among the counterparts and with the OERU project team. The workshop covered all aspects of the survey, including its purpose and objectives, the conceptual model underlying the choice of issues to be examined and the survey instruments. The survey sample and sampling procedures were discussed in depth, as were the mechanics of survey administration, and issues of standardisation, quality control and ethical issues in research with children. The needs of counterparts for assistance in conducting the survey in their countries were identified. The preferred timing of the survey was also discussed.

During this workshop, training was also provided on the conduct of focus groups, and a demonstration focus group was conducted with students from a local comprehensive high school.

3.2 Student and Teacher Survey

3.2.1 Student Attitude Instrument Development

Qualitative Pre-test

During the counterparts' training workshop, a focus group centred on the draft survey questionnaire was conducted with students from a St-Lucia secondary school. In this qualitative

pre-test, students were asked first to discuss their attitudes toward school in an open-ended discussion, and then to complete the draft questionnaire. During the completion of the questionnaire, they were asked to identify, using a system of coloured stickers:

- unfamiliar words: to identify vocabulary problems in the items
- unclear questions: to identify items with wording problems
- questions to which the student did not know the answer: to identify questions for which the student did not have access to the required information, and on which they might be expected to guess rather than answer
- questions which students did not feel comfortable answering a question: to identify items considered too intimate or with strong social desirability biases, on which students might feel inclined to provide less than veridical responses.

Finally, students were asked to discuss the face validity of the questions identifying questions they felt were not relevant to the survey purpose as well as items which could be added.

This pre-test also allowed a preliminary estimate of the time required to complete the questionnaire by students at different form levels.

The qualitative pre-test resulted in several adjustments to the questionnaire, as did feedback from the local counterparts who were present. Several words were replaced by less-complex synonyms. It was also observed that the participants were often reticent or uncomfortable making inferences or statements about the internal motivations or feelings of their parents and teachers. Three items requiring students to make these types of judgements were dropped.

Quantitative Pre-test

The revised version of the questionnaire was then subjected to a second, quantitative pilot test at two secondary schools in an urban location in St. Lucia during March 1998. The objective of this pre-test was to ensure, within a reasonably representative sample of OECS youth, that all items had adequate psychometric properties: symmetrical, ideally normal, distributions rather than bimodal or flat distributions, which would indicate adequate variation and lack of ceiling or floor effects. It also provided an estimate of the average length of time required to complete the survey under real school conditions, as well as an opportunity to assess any difficulties students had in completing the questionnaire. The same sticker system used on the qualitative pre-test was used to identify unfamiliar words, unclear or unanswerable questions, and questions causing discomfort.

Fifty students (25 from each school) participated in the pre-test. There were equal numbers of male and female students overall. Respondents were drawn from all age groups targeted and lived in a variety of family types. Also, there was variation in mothers' and fathers' educational attainments as well as types of occupation and pattern of working arrangements.

The data were coded and entered by the OERU project staff, thus providing an opportunity to develop the preliminary template and data entry procedures for the main survey. Analyses of the pre-test data were conducted using SPSS-PC version 6.1. First, all negatively worded items were reversed coded. Then, internal consistency coefficients (Cronbach's alphas) were calculated for the scales as based on their theoretical justification in the conceptual framework. Also examined were patterns of inter-item correlations within the scales, the scale alphas when each item was deleted, and patterns of missing data. Factor analyses using principal components analysis and varimax rotation were then used to confirm the factor structure underlying the various sets of items. In all analyses, mean scores were substituted for missing values.

Quantitative results

In general, the results tended to confirm the hypothesised factor structure. However, in some cases scores were quite skewed (generally indicating strongly and uniformly positive responses). Based on the results of these analyses, the following changes were made to the survey instrument:

- Psychological outcomes, Feeling and liking scale:** two items with poor negative inter-item correlations were eliminated, and replaced by negatively worded items in order to reduce skew.
- Peer influence scale:** in order to boost a weak alpha, addition of two items similar to those loading most prominently on the first factor extracted
- Behavioral outcomes, Level of effort scale:** one item eliminated because of lack of inter-item correlation
- Parental support scale:** elimination of one item with aberrant factor analytic results
- Teacher supportiveness scale:** one item eliminated because of higher proportion than the others of missing data; two others eliminated because of poor inter-item correlations.
- Quality of classroom environment, cohesion scale:** one item eliminated because of poor-inter-item correlations.

In total, these changes resulted in the addition of two new items and the removal of six items.

Assessment of difficulties

The assessment of difficulties students experienced with the questionnaire yielded the following:

- Unfamiliar word: 1 item out of 121, for one student out of 50
- Question not understood: 21 items of 121 were not understood by one or two students out of 50; while one item of the 121 was not clear for 11 students out of 50. (This was the item eliminated due to missing data.)
- Question unanswerable: 24 items were indicated as not answerable by one or two students. Four students were unable to answer the question about their fathers' work.
- Question uncomfortable: for 33 of the 121 items, one or two students indicated they did not wish to respond. These were most heavily concentrated in the teacher and classroom subscales, confirming the observation in the qualitative pre-test that OECS students are often uncomfortable making inferences about their teachers' feeling or motivations.

Final Instrument

The final student survey instrument consisted of 117 items with closed-ended Likert responses. The cover page of the questionnaire contained only administrative information and instructions, so that no answers were visible to other students or survey administrators. The questionnaire, in booklet form, contained 12 pages. The content was divided as follows the following table:

Socio-demographic information: 8 items: student gender, age, family structure, mothers' education, fathers' education, mothers' work schedule and job, fathers' works schedule and job, urban versus rural school location

Psychological outcomes:

Feeling and liking for school: 10 items, assessed on four-point agree-disagree scales.
Examples are: *Each morning I look forward to coming to school* and

If I had the choice, I wouldn't go to school at all

Sense of purpose in attending school: 7 items, assessed on four-point agree-disagree scales. Examples are: *I try hard to do well at school so I can get a good job when I leave* and *I want to do well at school so that I can have a good future*

Perceived competence in school: 6 items, assessed on four-point agree-disagree scales. Examples are: *Most of the time I feel that I can do my school work* and *I am very confident in school*

School self-esteem 7 items, assessed on four-point agree-disagree scales. Examples are: *I can do things as well as most people at school* and *On the whole, I am pleased with myself at school*

Behavioural outcomes:

Level of effort in school: 12 items, assessed on four-point agree-disagree scales. Examples are: *I like the challenge of a difficult assignment* and *I work hard to try to understand something new at school*

Involvement in school 4 items, assessed on four-point agree-disagree scales. Examples are: *My interest in learning would be greater if school subjects were related to the "world of work"* and *If I were provided the opportunity to work and earn money right now, I would not continue my schooling.*

Determinants

Quality of school experience:

Recognition 8 items, assessed on four-point agree-disagree scales. Examples are: *I like to be encouraged for my school work* and *Praise from my teachers for good school work is important to me*

Affiliation 4 items, assessed on four-point agree-disagree scales. Examples are: *I like working with other people at school* and *I can do my best work at school when I am working with others*

Teacher interest and support: 17 items, assessed on four-point agree-disagree scales. Examples are: *Most of my teachers seem concerned about my education* and *Most of my teachers seem to enjoy the job of teaching.*

Parent support and involvement: 9 items, assessed on four-point agree-disagree scales.
Examples are: *My parents show great interest in my school work* and *I think my parents would like me to do well in school*

Peer influence: 6 items, assessed on four-point agree-disagree scales.
Examples are: *I like to discuss my school problems with my friends* and *My friends influence the way I behave at school*

Quality of classroom environment: the My Classs Inventory (Goh et al., 1995)

Cohesion: 7 items, assessed on a four point-frequency scale, from *seldom* to *most of the time*. Examples are: *In my classes everybody is my friend* and *Some of the students in my classes are unkind*

Competitiveness: 4 items, assessed on a four point-frequency scale. Examples are: *Some students feel bad when they don't do as well as others* and *Some students try to do their work better than others*

Orderliness and friction: 8 items assessed on a four point-frequency scale.
Examples are: *Some students fight in my class* and *Some students spend more time talking about other things than lessons*

3.2.2 Teacher Ratings

In order to obtain independent ratings of students' academic performance, behavioural problems, and parental involvement, the teacher most familiar with each sampled student completed a one-page, 8-item questionnaire about the student. Academic performance was rated in one item, in relation to other students at the same level. Teachers then indicated how often they had interacted with each student's parents. Unfortunately, the response scale for this item was ambiguous, and it was dropped from the analyses. Finally, frequency of five behavioural problems was rated on a four point-frequency scale from *seldom* to *most of the time*: lateness, absenteeism, disruptive classroom behaviour, inattention in class, failure to complete assignments, and lack of effort in school work.

Each of the teacher questionnaires was paired with the student's questionnaire using the

student's ID code.

3.2.3 Survey Design

Target population

The target population for the survey was children aged 12 to 16 currently attending school in an OECS country, regardless of their school level or type but including only those who had already taken the Common Entrance exam at least once. This therefore included children in senior primary or junior secondary programs in some countries, not attending high school after failing the Common Entrance Exam, as well as those in secondary schools.

While it would have been of interest to systematically survey all youth in this age group, including those who were not attending school, this would have entailed defining an appropriate sampling frame and method to contact youth aged 12 to 16 who had already left school. Because of the impossibility of establishing an adequate sampling frame for this group, an alternative methodology was used. A series of focus groups was conducted with youth who have dropped out of or become disengaged from school in each territory, as a qualitative complement to the quantitative survey (see below).

Sampling Objectives and Stratification Variables

In order to determine the sample size required to achieve the necessary statistical power, it was necessary to first determine the stratification variables to be used in the analysis, as these determined the level at which statistically-appropriate conclusions can be drawn about differences between subgroups. The stratification variables included were: country, urban versus rural school location, gender, and age. The sampling objective was 10 percent of all students from ages 12 to 16, with the minimum sample size required per country being set at 300 (i.e., in countries where 10 percent of enrolment in the target age group was less than 300 students, 300 students would be sampled).

Sampling targets for each of the countries based on the most recently available enrolment data are shown in the table below.

Table 3.1
Enrolment and Proposed Sampling Frame of 12-16 Year Old Students

Country	1995 Enrolment	Desired Survey Sample Size
Anguilla	972	300*
Antigua/Barbuda	5,108	450
British Virgin Islands	1,098	300*
Dominica	5,474	550
Grenada	8,512	750
Montserrat	649	300*
St. Kitts/Nevis	3,742	325
St. Lucia	13,341	1,150
St. Vincent/Grenadines	10,634	925

* minimum sample size

For the smaller countries, the differences between 10% of school enrolment and actual sample size (300) to be selected was as follows:

Anguilla	$300 - 97 =$	203
BVI	$300 - 109 =$	191
Montserrat	$300 - 64 =$	236
Total	$=$	630

The proportionate sample to be drawn from each of the countries excluding Anguilla, BVI and Montserrat was calculated as follows:

$$\frac{10\% \text{ of country enrolment} - (\text{Country enrolment} \times 630)}{\text{Total enrolment}}$$

The total planned sample size for the survey was therefore 5,050 students.

Sampling of Schools and Students

Many surveys of student attitudes sample schools and then classrooms within those schools. The survey is then administered to all students from those classrooms. However, this sampling design has the major drawback that the correct unit of analysis is the classroom or school, since the observations within each are not independent. The OECS Student Attitudes Survey used a completely random sampling design, in which individual students could be treated as the unit of analysis. Although this required that students be surveyed in a large proportion of the schools in each country, the design ensured complete representativity of the sample.

Sampling Procedures for Students

Starting from the total sampling target for each country, local counterparts identified the numbers of urban and rural students required in each sex and age category of the sample in order to

draw a sample representative of enrolments in that country. They then contacted by letter and then in person school principals throughout the country and solicited their participation in the survey. Using whatever form of enrolment lists made available to them (in some cases no computerised lists were available), they then randomly selected individual students until all quotas had been reached. Each selected student was assigned an identification code number, which permitted identification of the country and school.

Sampling Procedures for Students' Teachers

With the help of school administrations, the teacher most familiar with each selected student was identified. The method for selecting teachers was left to the discretion of counterparts' in each jurisdiction. In some cases, this was a homeroom teacher, while in others it was an English or other teacher.

3.2.4 Survey Administration

Arrangements were made with all participating schools for the survey to be administered to all selected students in each school on the same day, avoiding scheduling conflicts with planned curricular or extracurricular activities. On those days, the counterpart and in some cases, an assistant, arrived at the school with all the necessary questionnaires. Selected students were excused from class and completed the questionnaire in a separate location, under the supervision of the counterpart and his or her assistant.

In the separate location, the counterpart or assistant read the instructions aloud to students and then remained available to answer questions as students completed the questionnaires.

Teachers of those students completed their questionnaires on the same day. These questionnaires were distributed to the teachers concerned by the counterpart upon his or her arrival

at the school and then collected at departure.

Questionnaires were generally completed during the allotted time of one classroom period, i.e., in about 45 minutes. Survey administration was generally smooth, and counterparts reported no particular problems with any of the items or procedures.

Counterparts then collected the completed questionnaires and sent them by express e-mail to the OERU offices for data entry.

Despite the distances involved in travelling to schools in remote areas of some territories, most surveys were completed within a two-week period, from October 5 to 19, 1998. Hurricane conditions delayed survey administration by two weeks in St-Kitts and Nevis.

OERU staff were available to counterparts throughout the survey administration period to respond to any questions about sampling or survey administration.

Ethical Issues

The survey was conducted using procedures consistent with ethical guidelines for the collection and use of survey data from children. Questionnaires were completed anonymously. Students were assured that the survey data would be confidential from parents and teachers, and that responses of individual students would not be revealed. Procedures for dealing with disclosures of serious problems were discussed with counterparts during their training session. No problems of this nature arose during the survey administration.

3.3 Focus Group Interviews

The Student Attitudes Survey included a complementary qualitative component, assessing the same conceptual issues as those covered in the student questionnaire (i.e., based on the conceptual framework) among three key stakeholder groups: out- of-school youth aged 12 to 16, parents, and teachers.

During the January workshop, local counterparts were given a brief training session on the conduct of focus groups, and observed a demonstration of a group with students.

3.3.1 Interview Guide Development

Focus group interview guides for all three types of focus groups (out-of-school youth, parents, and teachers) were prepared, following the same conceptual framework as the quantitative survey. These interview guides were reviewed by counterparts and team members during the January training workshop. Counterparts were also provided with a methodological guide for conducting focus groups.

3.3.2 Participant Recruitment and Group Administration

Local counterparts organised the focus group sessions, including the recruitment of participants and the logistical arrangements. Recruitment for each group used sources available to counterparts within their countries. For example, out-of school youth were recruited from among youth club participants, alternative programs or the social welfare system. Parents were generally recruited from parents' associations or other intact groups. Teachers were recruited through the school system.

The focus group interviews were conducted in November 1998, with the exception of Montserrat, where the groups were postponed to January 1999 due to volcanic activity.

The settings for focus groups varied from country to country and group to group. Most typically, however, they were held in school, ministry of education resource centre facilities. The groups were held at times of day most convenient to participants, either during the day or after working hours.

In some countries, counterparts or other experienced interviewers moderated the focus groups, while in other a members of the design team acted as moderator. In all cases, either the design team members or the counterpart acted as observer and took notes throughout the session. The group sessions were also recorded on audio-tape.

A total of 25 focus groups and interviews were conducted, involving a total of about 120 participants across the nine countries. The groups held are summarised in Table 3.2.

Table 3.2
Summary of focus groups held

Country	Groups held and number of participants
Anguilla	Parents: 3 participants (two mothers, one father) Students: 5 participants (in school youth) Out of school youth: 1 participant, under child welfare protection Teachers: 6 participants, ranging in age, experience and subject area
Antigua	Youth: 3 participants (one in school, one drop-out because of pregnancy and one completed but unemployed) Teachers: six participants: all over 15 years' experience, different subject areas Parents: 2 mothers
British Virgin Islands	Teachers: 1 primary teacher
Dominica	Parents: 8 participants: 7 mothers, 1 father Teachers: 9 participants Out of school youth: 3 participants
Grenada	Teachers: 8 participants: 6 females, 2 males Parents: 13 participants: 9 mothers, 4 fathers Out of school youth: 3 participants: 2 females, 1 male
Montserrat	Teachers: 8 participants Out of school youth: 6 participants
St. Kitts and Nevis	St. Kitts: Parents: 6 participants (5 mothers, one father) Out of school youth: 2 participants, accompanied by two teachers Nevis: Teachers: 9 participants in varied subject areas
St. Lucia	Parents: 8 participants: 4 mothers, 4 fathers Teachers: 9 participants Out of school youth: 2 participants, girls
St Vincent and the Grenadines	Teachers: 8 participants Parents: 3 participants Out-of school youth: 7 participants

3.3.3 Analyses

The focus group sessions were summarised by the local counterpart, his or her assistant, or the design team member assigned to that country. Summaries were prepared according to the main components of the conceptual model. The findings from the focus groups are presented as adjuncts to the results of the quantitative analyses, in the concluding chapter of the report.

4. FINDINGS

4.1 Return Rate and Data Quality

Sampling targets were very nearly met or exceeded in all countries. A total of 5, 028 questionnaires were returned from students.

The following table shows the distribution of student respondents by country. It also shows the number of selected students who were absent of the day of survey administration. These response rates are generally quite high, with the exception of BVI, and therefore suggest that it is very unlikely that there are any important sampling biases in most of the sample. Moreover, the data were generally of very high quality with less than five percent of data missing on most items. The survey sample can be considered representative of secondary school-aged students in the OECS.

Table 4.1: Distribution of Student Respondents by Country

Country	Number of respondents	Number (%) of students absent	Percent of sample
Anguilla	266	not available	5.3
Antigua	462	47 (9.2)	9.2
British Virgin Islands	199	100 (33.3)	4.0
Dominica	510	43 (7.8)	10.1
Grenada	670	60 (8.2)	13.3
Montserrat	65	0 (0.0)	1.3
St. Kitts and Nevis	557	56 (9.1)	11.1
St. Lucia	1,312	127 (8.8)	26.1
St Vincent and the Grenadines	987	not available	19.6

4.2 Survey Sample Characteristics

Of the 5,028 respondents to the student survey, 44% (2,203) were male and 56% (2, 803) were female. Twenty-two respondents did not indicate their gender.

Fifty-nine percent attended urban schools while 41% attended rural schools. Over 90% of respondents were attending secondary schools leading to CXC, with the remaining from primary, junior secondary and senior primary schools.

The age distribution of respondents is shown in Table 4.2. Ninety-three percent were between 12 and 16 years old inclusively at the time of the survey.

Table 4.2
Distribution of Student Respondents by Age

Age	Percent
Under 11 years	0.1
11 years	2.2
12 years	15.0
13 years	20.7
14 years	20.8
15 years	20.7
16 years	13.3
17 years	5.5
More than 17 years	1.5
Missing	0.3

Fifty-two percent of respondents live in two-parent families, while one quarter live with their mothers only. Grandparents account for 8% of heads of households, and a small proportion of students live with their father only or other relatives. These data are shown in Table 4.3.

Table 4.3
Distribution of Student Respondents by Family Type

Family Type: Respondent lives with ...	Percent
Mother and father	41.1
Mother only	25.6
Mother and stepfather or father and stepmother	11.8
Grandparents only	8.0
Other	7.3
Father only	2.4
Uncle or aunt only	2.4
Brother or sister only	0.9
Missing	0.5

As Table 4.4 shows, the proportion of OECS students living in single-parent and two parent family types varies substantially by country.

Table 4.4
Distribution of Student Respondents by Family Type, by OECS country

Family Type: Respondent lives with (%)...	Anguilla n= 266	Antigua n =462	BVI n=199	Dominica n=510	Grenada n=670	Montserrat n=65	St Kitts/ Nevis n=557	St. Lucia n=1312	StVincent / Grenad n= 987
Mother and father	26.8	31.5	24.2	25.3	18.8	24.2	34.8	23.7	25.6
Mother only	48.3	41.1	47.5	45.4	40.2	35.5	34.1	43.5	38.3
Parent and step-parent	9.1	10.5	13.1	7.9	10.8	14.5	9.9	15.6	11.7
Grandparents only	7.2	5.0	4.5	9.2	13.3	8.1	5.9	4.6	12.1
Other	1.9	7.4	6.1	6.9	7.6	14.5	9.9	7.4	6.7
Father only	3.4	2.6	2.0	1.2	4.3	3.2	2.7	1.5	2.6
Uncle or aunt only	2.6	1.8	1.0	3.5	2.4	0.0	2.2	3.0	2.0
Brother or sister only	0.8	0.0	1.5	0.6	2.5	0.0	0.5	3.0	2.0

Among the two-thirds of the sample who knew their mother's level of education (see Table 4.5), 29 % of mothers had completed primary school and 28 % had completed secondary school. The remainder had either no formal education or had not completed primary school (5%) or had completed college or university (11%).

Only about 60% of students were able to report their fathers' level of education. Among these, 18% of fathers had completed primary school and 21% had completed secondary school, with 14% having completed college or university.

Table 4.5
Distribution of Student Respondents by Parents' Education Level

Level of Education	Mothers: Percent	Fathers: Percent
Primary school incomplete	4.9	4.2
Completed primary school	28.6	17.9
Completed secondary school	27.6	21.3
Completed college/university	11.1	13.9
Don't know	27.0	41.2
Missing	0.7	1.5

Table 4.6 shows that mothers' education level varies by OECS country. However, because the proportion of children who do not know their mother's education level is sometimes quite high, these results should be interpreted with caution.

Table 4.6
Distribution of Student Respondents by Mother's Education Level, by OECS Country

Mother's highest level of education completed (%)	Anguilla n= 266	Antigua n =462	BVI n=199	Dominica n=510	Grenada n=670	Montserrat n=65	St Kitts/ Nevis n=557	St. Lucia n=1312	StVincent / Grenad n= 987
Primary school incomplete	2.3	3.7	4.0	8.1	5.4	0.0	0.4	6.6	5.0
Completed primary school	17.3	9.7	15.2	38.1	40.9	12.5	7.1	30.7	41.4
Completed secondary school	33.5	39.6	29.8	21.3	21.7	25.0	38.0	27.1	23.3
Completed college / university	14.3	20.4	19.2	11.5	6.0	10.9	12.7	11.4	6.9
Don't know	32.7	26.6	31.8	20.9	25.9	51.6	41.8	24.2	23.3

As Table 4.7 shows, among those who responded, three quarters of mothers (76%) were working full-time or part-time. A larger proportion of students did not respond to the question about their fathers' work schedules than their mother's (17% versus 8%). Among those who responded, eighty-nine percent of fathers were working full-time or part-time.

Table 4.7
Distribution of Student Respondents by Parents' Work Schedule

Parent ...	Mothers: Percent	Fathers: Percent
Works most days	48.8	49.9
Works most nights	2.2	2.4
Works some days	7.8	7.2
Works some nights	0.6	0.7
Works most days, some nights	4.2	4.6
Works most nights, some days	0.4	0.8
Works most days and most nights	2.9	5.8
Works some days and some nights	2.9	3.5
Is not working right now	22.2	9.0
Missing	8.1	17.0

In Table 4.8, mothers' work schedule is shown for each OECS country.

Table 4.8
Distribution of Student Respondents by Mothers' Work Pattern, by OECS country

Mothers' Work Type (%)	Anguilla n= 266	Antigua n =462	BVI n=199	Dominica n=510	Grenada n=670	Montserrat n=65	St Kitts/ Nevis n=557	St. Lucia n=1312	StVincent / Grenad n= 987
Most days	58.4	60.8	59.5	50.8	47.2	56.9	60.0	51.8	48.8
Most nights	4.7	2.1	5.1	1.1	1.2	1.7	5.0	1.5	2.5
Some days	82.	6.3	5.6	8.5	10.0	6.9	5.6	7.6	12.1
Some nights	1.6	0.2	0.5	0.2	0.3	0.0	0.6	0.8	1.0
Most days, some nights	4.7	5.8	10.3	4.5	3.2	3.4	5.0	5.7	6.7
Most nights, some days	0.0	1.2	2.1	0.0	0.5	0.0	0.2	0.3	2.0
Most days, most nights	7.5	2.8	3.1	2.5	4.3	6.9	2.7	4.0	1.6
Some days, some nights	13.0	5.1	1.5	2.6	2.2	1.7	3.7	4.1	1.3
Not working at present	10.6	15.6	12.3	30.9	31.2	22.4	17.3	24.2	30.5

Table 4.9
Distribution of Student Respondents by Parents' Work Type

Type of work	Mothers: Percent	Fathers: Percent
Management or administration	4.2	5.6
Professional, technical or teaching	15.7	24.6
Service/ hotel	36.0	25.5
Clerical	5.4	0.6
Agriculture	4.0	9.0
Other, labourer	4.7	5.4
Missing	30.1	29.4

Mothers' and fathers' work type are shown in Table 4.10.

Table 4.10
Distribution of Student Respondents by Mothers' and Fathers' Work Type, by OECS country

Work Type: Mother (%) Father (%)	Anguilla	Antigua	BVI	Dominica	Grenada	Montserrat	St Kitts/ Nevis	St. Lucia	StVincent / Grenad
Managerial/administrative	4.2	7.9	11.9	7.2	2.8	10.5	7.7	7.2	2.4
	6.6	10.1	15.3	10.1	5.8	2.7	8.1	8.8	4.5
Professional/technical	20.6	27.9	29.4	24.0	27.5	28.9	22.4	21.1	16.6
	27.8	26.4	47.1	29.4	32.2	48.6	31.3	44.3	30.4
Service/hotel	66.4	45.0	39.4	47.4	56.7	39.5	51.5	49.9	54.5
	59.6	57.4	14.0	33.2	42.2	2.7	45.3	26.0	33.1
Clerical	8.4	15.0	10.0	8.7	6.1	13.2	6.4	7.1	4.9
	0.5	0.0	0.0	1.1	1.5	2.7	0.5	0.9	0.7
Agricultural	0.0	1.5	0.0	6.3	3.6	5.6	1.3	6.6	13.2
	5.6	5.8	0.2	18.5	9.7	5.4	6.8	14.4	21.2
Other, labour	0.5	2.6	9.4	6.3	0.0	0.0	10.6	8.1	8.4
	0.0	0.3	22.9	7.6	8.5	37.8	8.1	5.6	10.0

4.3 Data Analyses: Summary of steps

The main steps in the analysis of the survey data were:

- Data verification: frequencies and search for outliers
- Factor analyses to form and/or validate scale factor structure
- Descriptive statistics for all survey items and scales
- Psychometric analyses (internal consistency) for all scales and subscales
- Cross-tabular (bivariate) analysis by main stratification variables
- Multiple linear regression analyses predicting each of the outcome variables from the set of predictors, according to the conceptual framework.

The final two steps were prepared for both all OECS countries participating in the survey, and for each country separately.

All negatively worded items were reversed coded. In all analyses, mean scores were substituted for missing values.

4.2 Psychometric Analyses

Internal consistency coefficients (Cronbach's alphas) were calculated for the scales as based on their theoretical composition. Also examined were patterns of item-to-scale correlations within the scales and patterns of missing data.

4.2.1 Outcome Variables

In the following table, the results of the internal consistency analyses and item to scale correlation analyses are shown for the outcome variables included in the survey. As these analyses show, most of the scales and subscales have acceptable psychometric properties. Although internal consistency coefficients should ideally be .75 or higher, these levels are acceptable for research

examining inter-group, as opposed to inter-individual, differences. The only scale with a completely unacceptable alpha is the Involvement in School subscale. No further analyses were conducted with this scale.

Table 4.11
Psychometric Analysis Results, Outcome Variables

Scale	No. of items	Reliability coefficient	Range of Item-to-Scale Correlation
Psychological Outcomes	30	.81	.04 to .47
Liking for school	10	.56	.30 to .57
Sense of purpose in attending school	7	.75	.59 to .67
Perceived competence in school	6	.58	.49 to .64
School self-esteem	7	.65	.41 to .66
Behavioural outcomes	15	.66	.02 to .46
Level of effort	12	.74	.30 to .66
Involvement in school	4	-.00	.39 to .59
Student Achievement (Teacher rating)	1	-	-
Student Behaviour (Teacher rating)	6	.84	.62 to .82

4.2.2 Determinant Variables

The results of the internal consistency and item- to- scale correlation analyses are shown for the determinant variables in Table 4.12. These scales all have acceptable psychometric properties.

Table 4.12
Psychometric Analysis Results, Determinant Variables

Scale	No. of items	Reliability coefficient	Range of Item-to-Scale Correlation
Quality of School Experience	12	.67	.03 to .47
Recognition	8	.77	.39 to .96
Affiliation	4	.51	.54 to .69
Teacher Support and Interest	17	.74	.38 to .57 ¹
Parental Support and Interest	9	.72	.37 to .69
Peer Influence	6	.52	.62 to .82
Quality of Classroom Environment	19	.68	.01 to .41
Cohesion	7	.63	.33 to .66
Competitiveness	4	.58	.63 to .69
Disorganisation and Friction	8	.70	.34 to .69

¹One item, “*Most of my teachers do not recognise my right to a different opinion*” had a negative correlation with the scale and its items, and was excluded from these correlations. It was retained in the scale for its theoretical interest.

4.3 Bivariate Analyses: Outcome Levels by Student Characteristics

These analyses examine the main variables of interest in the survey, both the outcomes and the predictors, according to their relationships with characteristics of OECS students and their learning environments. The objective of these analyses is to identify the characteristics of students and learning environments which present the most and least favourable profiles in terms of school-related attitudes and behaviours.

4.3.1 Overall Outcome Levels

Overall, the results show that Eastern Caribbean secondary students' attitudes toward school, as measured by the various psychological outcome variables, are very positive. Average scores for the psychological outcomes range between 3.1 and 3.6 on the four-point scale, with the

highest average rating for sense of purpose in school.

On the behavioural side, the results disconfirm the widespread perception that behavioural problems are extremely frequent. Both students' own ratings of their level of effort in school and their teachers' ratings of their frequency of problem behaviours converge to suggest that behavioural problems are confined to a small minority of students.

Given the comparative nature of the rating scale used to assess academic performance, it is of little interest to examine the average score on this scale except to mention that, as expected, the mean falls quite squarely in the middle of the three point scale.

Table 4.13, below, shows the average scores for these outcomes.

Table 4.13
Average scores for types of student outcomes

Type of student outcome	Average (standard deviation) N = 5,028
Psychological outcomes ¹	3.3 (.29)
Liking for school ¹	3.2 (.37)
Sense of purpose in school ¹	3.6 (.37)
Perceived competence in school ¹	3.1 (.45)
School self-esteem ¹	3.3 (.43)
Behavioural outcomes ¹	3.3 (.32)
Level of effort in school ¹	3.4 (.35)
Problem behaviours (teacher rating) ²	3.4 (.51)
Academic performance ³	2.1 (.67)

¹4 point agree-disagree scale, where a score of 4 is most positive.

²4 point frequency scale, where 4 is least frequent.

³ 3-point scale, where 3 is in the top third of students, 2 is in the middle third, and 1 is on the bottom third.

4.3.2 Outcomes by student gender

As can be seen in Table 4.14, outcomes are generally more positive for girls than for boys. Although the differences are not large in absolute terms, they do reach statistical significance for all the variables examined. Girls have more positive psychological outcomes than boys ($F(1, 5004) = 154.9, p < .001$; recall that this scale includes liking for school, sense of purpose, sense of competence and self-esteem). They also rate their level of effort and involvement in school more highly than do boys ($F(1, 5004) = 190.3, p < .001$). Teachers rated girls as having significantly fewer behavioural problems ($F(1, 5004) = 181.0, p < .001$). Teachers also rate girls' academic performance as significantly higher than they rate boys' ($F(1, 5004) = 61.3, p < .001$).

Table 4.14
Average scores (standard deviation) for types of student outcomes by student gender

Type of student outcome	Boys n = 2,203	Girls n = 2,803
Psychological outcomes ¹	3.2 (.30)	3.3 (.27)*
Behavioural outcomes ¹	3.2 (.33)	3.3 (.30)*
Problem behaviours (teacher rating) ²	3.2 (.55)	3.4 (.46)*
Academic performance ³ (teacher rating)	2.0 (.68)	2.2 (.66)*

¹4 point agree-disagree scale, where a score of 4 is most positive.

²4 point frequency scale, where 4 is least frequent.

³ 3-point scale, where 3 is in the top third of students, 2 is in the middle third, and 1 is on the bottom third.

* The difference between boys and girls is statistically significant, $p < .001$

4.3.3 Outcomes by students' age

Age is associated with many of the student outcomes studied. As Table 4.15 shows, there is a tendency for psychological and behavioural outcomes to suffer with increasing age. Teacher-rated behavioural problems become more frequent with increasing age. According to teacher ratings, academic performance also declines with increasing age, so that by the time students are 17 years old, their average performance is rated as below the typical performance of other students at the same level.

Table 4.15
Average scores (standard deviation) for types of student outcomes by student age

Type of student outcome	11 years	12 years	13 years	14 years	15 years	16 years	17 years
Psychological outcomes ^{1*}	3.39 (.25)	3.31 (.30)	3.31 (.29)	3.27 (.30)	3.29 (.26)	3.27 (.29)	3.27 (.29)
Behavioural outcomes ^{1*}	3.35 (.29)	3.27 (.31)	3.26 (.32)	3.23 (.32)	3.24 (.31)	3.24 (.32)	3.19 (.32)
Problem behaviours (teacher rating) ^{2*}	3.60 (.44)	3.50 (.45)	3.37 (.48)	3.31 (.54)	3.33 (.50)	3.29 (.52)	3.21 (.56)
Academic performance ³ (teacher rating)*	2.15 (.58)	2.16 (.62)	2.10 (.66)	2.11 (.70)	2.08 (.69)	2.04 (.69)	1.89 (.65)

¹4 point agree-disagree scale, where a score of 4 is most positive. ²4 point frequency scale, where 4 is least frequent.

³ 3-point scale, where 3 is in the top third of students, 2 is in the middle third, and 1 is in the bottom third.

* The overall effect of age is significant, and many of the differences between age categories are also significant in planned comparisons.

4.3.4 Outcomes by family type

When the student outcomes are examined by family types, few large differences emerge. For psychological outcomes, the overall test that differences among family types exist was significant ($F(7, 4994) = 2.49, p < .02$). However, planned multiple comparisons of all possible pairs of family types showed no significant differences.

For student-rated behavioural outcomes (level of effort), there was no significant difference among family types. However, for teacher-rated behavioural problems, the overall test for differences among family types was significant ($F(7, 4994) = 5.85, p < .001$). Planned multiple comparisons showed that mother-headed families and parent and step parent-headed families were associated with a greater frequency of behavioural problems than two-parent families.

Table 4.16
Average scores (standard deviation) for types of student outcomes by family type

Type of student outcome	Mother only n= 1287	Father and mother n= 2064	Parent and step parent n= 592	Grand-parents n=404	Other n= 655
Psychological outcomes ¹	3.3 (.30)	3.3 (.29)	3.3 (.27)	3.3 (.28)	3.3 (.30)*
Behavioural outcomes ¹	3.2 (.32)	3.3 (.31)	3.3 (.32)	3.2 (.33)	3.4 (.33)
Problem behaviours (teacher rating) ²	3.3 (.52)	3.4 (.49)	3.3 (.52)	3.3 (.49)	3.3 (.55)
Academic performance ³ (teacher rating)	2.0 (.68)	2.1 (.67)	2.0 (.67)	2.2 (.68)	2.1 (.68)*

¹4 point agree-disagree scale, where a score of 4 is most positive.

²4 point frequency scale, where 4 is least frequent.

³ 3-point scale, where 3 is in the top third of students, 2 is in the middle third, and 1 is on the bottom third.

* There is a statistically significant difference among the family types: see text.

4.3.5 Outcomes by mother's education

Although the differences in students' outcomes according to their mothers' education level are not large, they are statistically significant for all the variables studied: for psychological outcomes, $F(4, 4986) = 5.7, p < .001$; for behavioural outcomes, $F(4, 4986) = 8.1, p < .001$; for problem behaviours: $F(4, 4986) = (4, 4986)$; for academic performance, $F(4, 4986) = 5.9, p < .01$. Planned comparisons among the different outcomes by levels of mother's education showed that students who did not know their mother's education level had somewhat more negative outcomes. No other differences were consistently found.

Table 4.17
Average scores (standard deviation) for types of student outcomes by mother's education

Type of student outcome	Primary not complete n=245	Primary complete n= 1439	Secondary complete n= 1389	University /college complete n=560	Don't know n= 1358
Psychological outcomes ¹	3.3 (.29)	3.3 (.28)	3.3 (.29)	3.3 (.30)	3.3 (.29)*
Behavioural outcomes ¹	3.3 (.33)	3.3 (.30)	3.3 (.31)	3.2 (.32)	3.2 (.33)*
Problem behaviours (teacher rating) ²	3.3 (.54)	3.3 (.50)	3.4 (.50)	3.3 (.49)	3.3 (.52)*
Academic performance ³ (teacher rating)	2.0 (.68)	2.1 (.68)	2.1 (.65)	2.2 (.68)	2.0 (.67)*

¹4 point agree-disagree scale, where a score of 4 is most positive.

²4 point frequency scale, where 4 is least frequent.

³ 3-point scale, where 3 is in the top third of students, 2 is in the middle third, and 1 is on the bottom third.

* There is a statistically significant difference among the education levels: see text.

4.3.6 Outcomes by school location

Student outcomes differ by school location (see Table 4.18). In general, rural students have more positive psychological ($F(1, 5026) = 8.7, p < .05$) and behavioural outcomes ($f(1, 5026) = 43.3, p < .001$), and significantly fewer behavioural problems as rated by teachers ($F(1, 5026) = 61.5, p < .001$). However, there is no difference in teachers' rating of students' academic performance by school location ($F(1, 5026) = 1.48, p = .22$).

Table 4.18
Average scores (standard deviation) for types of student outcomes by school location

Type of student outcome	Urban schools n = 2,980	Rural schools n = 2,048
Psychological outcomes ¹	3.3 (.28)	3.3 (.29)*
Behavioural outcomes ¹	3.2 (.31)	3.3 (.32)*
Problem behaviours (teacher rating) ²	3.4 (.50)	3.3 (.52)*
Academic performance ³ (teacher rating)	2.1 (.65)	2.1 (.70)

¹4 point agree-disagree scale, where a score of 4 is most positive.

²4 point frequency scale, where 4 is least frequent.

³ 3-point scale, where 3 is in the top third of students, 2 is in the middle third, and 1 is on the bottom third.

* The difference between urban and rural schools is statistically significant, $p \leq .005$

4.3.7 Outcomes by OECS country

Examination of these outcomes by OECS country reveals few differences among countries (Table 4.19). Note that in some cases the sample sizes are quite small, and that the results should be interpreted with caution.

Table 4.19
Average scores (standard deviation) for types of outcomes by OECS country

Type of determinant	Anguilla n= 266	Antigua n =462	BVI n=199	Dominica n=510	Grenada n=670	Montserrat n=65	St Kitts, Nevis n=557	St. Lucia n=1312	St.Vincent, Grenadines n= 987
Psychological outcomes ¹	3.28 (.29)	3.30 (.28)	3.25 (.28)	3.31 (.28)	3.34 (.27)	3.29 (.29)	3.29 (.28)	3.29 (.28)	3.26 (.31)
Behavioural outcomes ¹	3.20 (.31)	3.19 (.31)	3.14 (.30)	3.26 (.32)	3.32 (.29)	3.15 (.30)	3.22 (.29)	3.26 (.31)	3.26 (.35)
Problem behaviours (teacher rating) ²	3.36 (.49)	3.35 (.49)	3.33 (.51)	3.44 (.46)	3.33 (.51)	3.40 (.49)	3.43 (.46)	3.37 (.53)	3.24 (.53)
Academic performance ³ (teacher rating)	2.07 (.51)	2.04 (.64)	2.08 (.41)	2.12 (.67)	2.04 (.72)	2.26 (.66)	2.24 (.63)	2.08 (.70)	2.08 (.67)

¹4 point agree-disagree scale, where a score of 4 is most positive.

²4 point frequency scale, where 4 is least frequent.

³ 3-point scale, where 3 is in the top third of students, 2 is in the middle third, and 1 is in the bottom third.

4.4 Bivariate Analyses: Determinants by Student Characteristics

4.4.1 Overall Determinant Levels

Table 4.20 shows the average scores of the predictor variables identified in the conceptual framework. Note that these scores are generally less positive than those of the outcomes variables, ranging from a low of 2.4 on the four-point scale, for peer influence, to a high of 3.1 on the four point scale, for both parental support and classroom competitiveness.

Table 4.20
Average scores for determinants of student outcomes

Type of determinant	Average (standard deviation) n = 5,028
Quality of School Experience ¹	
Recognition	3.0 (.53)
Affiliation	2.7 (.54)
Teacher Support and Interest ¹	2.8 (.40)
Parental Support and Interest ¹	3.1 (.48)
Peer Influence ¹	2.4 (.45)
Quality of Classroom Environment	
Cohesion ²	2.6 (.57)
Competitiveness ³	3.1 (.63)
Disorganization/Friction ⁴	2.6 (.55)

¹4 point agree-disagree scale, where a score of 4 is most positive.

²4 point frequency scale, where 4 is most cohesive.

³4 point frequency scale, where 4 is least competitive.

⁴4 point frequency scale, where 4 is least disorganised.

4.4.2 Determinants by Student Gender

As the data in the following table show, the determinants of student outcomes are generally more positive for girls than they are for boys: with the exception of parental involvement, where there is no difference between genders. Girls rate the quality of their school experience ($F(1, 5004) = 11.4, p < .001$), their teachers' involvement ($F(1, 5004) = 14.2, p < .001$), and their classroom environment ($F(1, 5004) = 15.9, p < .001$) more positively than do boys. Boys rate peer influence and support as stronger than do girls ($F(1, 5004) = 41.1, p < .001$).

Table 4.21
Average scores (standard deviation) for determinants of student outcomes by gender

Type of determinant	Boys N= 2203	Girls n= 2803
Quality of School Experience ¹	2.91 (.44)	2.95 (.41)
Teacher Support and Interest ¹	2.77 (.39)	2.81 (.40)
Parental Support and Interest ¹	3.05 (.45)	3.07 (.51)
Peer Influence ¹	2.47 (.45)	2.39 (.45)
Quality of Classroom Environment ²	2.69 (.37)	2.74 (.39)

¹4 point agree-disagree scale, where a score of 4 is most positive.

²4 point frequency scale, where 4 is most positive.

4.4.3 Determinants by student's age

Age is associated with some but not all of these determinants of student outcomes. There is no significant association between age and quality of school experience, nor between age and peer influence. However, older students find their teachers to be less involved and interested ($F(8, 5004) = 14.6, p < .01$). A similar pattern is seen for parental support and involvement: older children rate their parents as less supportive and involved with their schooling than do younger parents ($F(8, 5004) = 35.7, p < .05$). The relationship between classroom environment and age, although significant, is not clear: there seems to be a drop in the perceived quality of the classroom environment in the middle years of secondary school ($F(8, 5004) = 15.9, p < .05$).

Table 4.22
Average scores (standard deviation) for determinants of student outcomes by age

Determinant	11 years	12 years	13 years	14 years	15 years	16 years	17 years
Quality of School Experience ¹	2.99 (.46)	2.95 (.42)	2.94 (.43)	2.92 (.43)	2.95 (.40)	2.92 (.44)	2.88 (.46)
Teacher Support and Interest ¹	3.04 (.36)	2.88 (.36)	2.83 (.39)	2.75 (.40)	2.77 (.40)	2.74 (.41)	2.75 (.40)
Parental Support and Interest ¹	3.33 (.40)	3.22 (.46)	3.15 (.45)	3.06 (.46)	2.98 (.49)	2.95 (.50)	2.90 (.49)
Peer Influence ¹	2.41 (.49)	2.43 (.45)	2.44 (.44)	2.42 (.46)	2.42 (.44)	2.42 (.45)	2.36 (.47)
Quality of Classroom Environment ²	2.70 (.40)	2.67 (.36)	2.65 (.37)	2.69 (.38)	2.74 (.39)	2.81 (.38)	2.82 (.38)

¹4 point agree-disagree scale, where a score of 4 is most positive.

²4 point frequency scale, where 4 is most positive.

* The overall effect of age is significant, and many of the differences between age categories are also significant in planned comparisons.

4.4.4 Determinants by family type

Family type is generally not strongly related to the determinants of student attitudes. Quality of the school experiences is only marginally related to family type ($F(7, 4994) = 1.78, p = .08$). Neither peer influence ($F(7, 4996) < 1, n.s.$) nor teacher support ($F(7, 4996) < 1, n.s.$) are significantly related to family type. While the overall analysis of variance showed that classroom environment is significantly associated with family types ($F(7, 4996) = 3.81, p < .001$), planned comparisons for this variable failed to identify any significant differences between groups.

Of interest, however, is that family type is significantly related to parental support and involvement ($F(7, 4996) = 10.53, p < .001$). Planned comparisons showed that compared to all other types of family situation, students who live with their mother and father (as shown previously, about one-half of students in the Eastern Caribbean) rate their parents' level of interest and support in their education most positively.

Table 4.23
Average scores (standard deviation) for determinants of student outcomes by family type

Type of determinant	Mother only n=1287	Father and mother n= 2064	Parent and step parent = 592	Grand- parents n=404	Other n= 655
Quality of School Experience ¹	2.93 (.42)	2.93 (.43)	2.90 (.42)	2.99 (.39)	2.95 (.41)
Teacher Support and Interest ¹	2.79 (.40)	2.80 (.39)	2.78 (.40)	2.83 (.39)	2.81 (.40)
Parental Support and Interest ¹	3.05 (.48)	3.13 (.46)	3.03 (.51)	3.00 (.51)	3.07 (.51)
Peer Influence ¹	2.42 (.47)	2.42 (.45)	2.41 (.43)	2.47 (.43)	2.39 (.45)
Quality of Classroom Environment ²	2.69 (.38)	2.74 (.38)	2.70 (.38)	2.74 (.38)	2.74 (.39)

¹4 point agree-disagree scale, where a score of 4 is most positive.

²4 point frequency scale, where 4 is most positive.

4.4.5 Determinants by mother's education

Mother's level of education is significantly related to all of the determinants of student attitudes examined in this study. However, given the large proportion of students who did not know their mother's education level, these results must be interpreted cautiously.

Mother's education level is related to quality of school experience ($F(4, 4986) = 3.38, p < .001$). However, planned comparisons for this variable show a significant difference only between the group who does not know their mother's education level and those whose mother had completed primary school.

Parental support and involvement is also related to mother's education level ($F(4, 4986) = 16.87, p < .001$). For this variable, planned comparisons showed that the differences across the varying education levels are significant for all of the levels except "primary not complete" and "don't know", "primary complete" and "secondary complete", and "secondary complete" and "university/college complete". Given the observed pattern of means in Table 4.19, it seems reasonable to conclude that in general higher levels of mother's education are associated with increasing levels of parental support and involvement in the child's education.

Although peer influence is related to mother's education ($F(4, 4986) = 10.64, p < .001$), planned comparisons showed no consistent patterns of differences among the groups, with the exception that students whose mothers had completed university or college education showed significantly higher levels of peer influence and support.

Finally, classroom environment is significantly related to mother's level of education ($F(4, 4986) = 12.18, p < .001$). According to planned comparisons, this difference is significant only for students whose mothers had completed or had not completed primary school.

Table 4.24
Average scores (standard deviation) for determinants of student outcomes by mother's education level

Type of determinant	Primary not complete n=245	Primary complete n= 1439	Secondary complete n= 1389	University/ college complete n=560	Don't know n= 1358
Quality of School Experience ¹	2.95 (.39)	2.97 (.41)	2.93 (.43)	2.91 (.45)	2.92 (.42)
Teacher Support and Interest ¹	2.86 (.39)	2.85 (.39)	2.29 (.41)	2.72 (.43)	2.77 (. 38)
Parental Support and Interest ¹	2.98 (.54)	3.08 (.48)	3.10 (.47)	3.15 (.47)	2.99 (.49)
Peer Influence ¹	2.35 (.46)	2.43 (.45)	2.43 (.46)	2.52 (.46)	2.39 (.44)
Quality of Classroom Environment ²	2.67 (.37)	2.76 (.38)	2.73 (.38)	2.74 (.41)	2.67 (.36)

¹4 point agree-disagree scale, where a score of 4 is most positive.

²4 point frequency scale, where 4 is most positive.

4.4.5 Determinants by school location

Several, but not all, of the determinants of student attitudes are related to whether the school is situated in an urban or rural areas (Table 4.25). Quality of school experiences is most positive on rural schools ($F(1, 5026) = 30.81, p < .001$). Quality of the classroom environment is also seen more positively by students in rural schools ($F(1, 5026) = 14.60, p < .001$). In addition, teacher support and interest are greater in rural settings ($F(1, 5026) = 80.26, p < .001$).

However, neither parental support ($F(1, 5026) < 1, n.s.$) nor peer influence ($F(1, 5026) = 1.76, n.s.$) differ significantly according to school location.

Table 4.25
Average scores (standard deviation) for determinants of student outcomes by school

location		
Type of determinant	Urban schools N= 2980	Rural schools n= 2048
Quality of School Experience ¹	2.91 (.43)	2.97 (.41)
Teacher Support and Interest ¹	2.75 (.41)	2.86 (.37)
Parental Support and Interest ¹	3.06 (.49)	3.07 (.48)
Peer Influence ¹	2.43 (.45)	2.42 (.46)
Quality of Classroom Environment ²	2.70 (.39)	2.74 (.37)

¹4 point agree-disagree scale, where a score of 4 is most positive.

²4 point frequency scale, where 4 is most positive.

4.4.7 Determinants by country

Examination of these determinants by OECS country reveals few large differences (Table 4.26). Note that in some cases the sample sizes are quite small, so the results should be interpreted with caution.

Table 4.26
Average scores (standard deviation) for determinants of student outcomes by OECS country

Determinant	Anguilla n= 266	Antigua n =462	BVI n=199	Dominica n=510	Grenada n=670	Montserrat n=65	St Kitts/ Nevis n=557	St. Lucia n=1312	StVincent /Grenad. n= 987
Quality of School Experience ¹	2.94 (.40)	2.86 (.43)	2.88 (.38)	2.99 (.44)	2.98 (.40)	2.78 (.45)	2.89 (.44)	2.92 (.42)	2.97 (.43)
Teacher Support and Interest ¹	2.74 (.37)	2.66 (.40)	2.71 (.37)	2.99 (.40)	2.91 (.36)	2.78 (.8)	2.76 (.35)	2.72 (.42)	2.89 (.8)
Peer Influence ¹	2.41 (.46)	2.39 (.47)	2.52 (.44)	2.42 (.46)	2.42 (.43)	2.47 (.44)	2.43 (.46)	2.39 (.46)	2.47 (.46)
Parental Support and Interest ²	3.08 (.41)	3.01 (.51)	3.04 (.47)	3.07 (.50)	3.12 (.49)	2.90 (.55)	3.09 (.46)	3.03 (.49)	3.08 (.47)
Quality of Classroom Environment ²	2.68 (.37)	2.67 (.38)	2.59 (.37)	2.83 (.40)	2.73 (.37)	2.68 (.43)	2.67 (.34)	2.72 (.38)	2.72 (.38)

¹4 point agree-disagree scale, where a score of 4 is most positive.

²4 point frequency scale, where 4 is least frequent.

4.5 Multivariate Analyses: Determinants of Student Outcomes

The analyses in this section examine the relationships between each of the outcome variables and the entire set of predictor variables. The objective of these analyses is to identify the factors that are most important in determining student attitudes toward school and their associated behaviours. These most important factors would then become the most likely targets for interventions aimed at improving student attitudes.

In the multiple regression analyses reported below, all possible predictors were entered simultaneously using stepwise procedures. The possible predictors include not only the determinant presented previously but also students' socio-demographic and school characteristics.

4.5.1 Predictors of Psychological Outcomes

The first set of regression analyses examined the predictors of the psychological component of student attitudes toward school, including liking for school, school self-esteem perceived competence, and sense of purpose in school. These analyses, presented in Table 4.27, showed that most of the expected factors were indeed significant determinants of psychological outcomes. Moreover, the relatively large proportion of the variance in psychological outcomes, about 31 %, is explained by this set of predictors.

Of the significant predictors of students' overall attitudes toward school, parental support and interest is the most important. The more support and encouragement the student receives from his or her parents, the more positive are his or her attitudes toward school.

The second strongest predictor of psychological outcomes is teacher support and interest. Here as well, students have more positive attitudes towards school when they perceive that their teachers are interested in them and their education, and enjoy the work of teaching.

The quality of the experience that students have in school also determines their attitudes.

Specifically, the more the student desires and receives praise and recognition for his or her accomplishments, the more positive his or her attitudes toward school.

Gender is also a significant predictor of attitudes toward school, although not the most important. As expected from the bivariate analyses, girls have more positive psychological outcomes in school.

To the extent that the student sees his or her classroom as characterised by social cohesion, lack of competitiveness, and lack of friction and disorganisation, his or her attitudes toward school will be more positive.

Over and above these factors, the more students are oriented toward their peers at school -- in working with others, as well as in being influenced by them -- the less positive their attitudes are toward school.

Finally, age is also a significant predictor of the psychological aspect of school attitudes. As students get older, their attitudes become more positive.

Table 4.27
Multiple Regression¹: Predictors of Psychological Outcomes

Predictor	t (β) df = 4903	Significance level	Summary of effect
Parental support and influence	21.8	p < .001	More positive attitudes when parental support is stronger
Teacher support and interest	16.0	p < .001	More positive attitudes when teachers are more supportive and interested
School experience: Recognition	16.8	p < .001	More positive attitudes with more praise and recognition
Gender	10.8	p < .001	Girls have more positive attitudes
Quality of classroom environment	6.1	p < .001	More positive attitudes in more positive classroom climates
Peer influence	-5.7	p < .001	Less positive attitudes with greater peer influence
Age	2.2	p < .05	More positive attitudes as age increases

¹Overall equation: $F(7,4903) = 298.7, p < .0001. R^2 = .31.$

Predictors of Feelings and Liking for School

In a subsequent series of analyses, the various components of psychological outcomes were examined separately. For the first of these, feelings and liking for school, a very similar pattern emerged as for the overall psychological outcomes variables. These results are summarised in Table 4.28. An addition to the significant predictors, however, is mother's education. This variable shows a surprising negative effect, in that attitudes become less positive as mothers' education increases. However, supplementary analyses suggested that this result is an artefact of the large number of students who do not know their mothers' education level, as the relationships are positive within each education category. The relative importance of the variables shifts as well, with quality of teacher support and interest being the most important determinant of how much the student enjoys

and looks forward to school. Finally, age is not a predictor of feelings and liking for school.

Table 4.28
Multiple Regression¹: Predictors of Feeling and Liking for School

Predictor	t (β) df = 4903	Significance level	Summary of effect
Teacher support and interest	18.1	p < .001	More liking for school when teacher support is stronger
Parental support and involvement	11.30	p < .001	More liking for school, when parents are more supportive and involved
Peer influence	-11.8	p < .001	Less liking for school with greater peer influence
School experience	6.8	p < .001	More liking for school with more praise and recognition
Quality of classroom environment	6.1	p < .001	More liking for school in more positive classroom climates
Gender	5.0	p < .001	Girls like school more than boys
Mother's education	-3.5 ²	p < .01	Less liking for school as mother's education increases ³

¹Overall equation: F (7,4903) = 182.98, p < .0001. R² = .21.

²The negative coefficient is due to the large number of children who do not know their mother's level of education.

³This results seems to be an artefact of the proportion of students who do not know their mothers' education level.

Predictors of Sense of Purpose in Attending School

The second component of psychological outcomes is sense of purpose in attending school. As Table 4.29 shows, the most important predictor of sense of purpose is quality of school experience, which includes both recognition and affiliation. This is followed by parental support and involvement: students have a stronger sense of purpose in attending school when their parents are more involved and supportive of their education. Gender is the third most important

determinant of sense of purpose, with girls have a stronger conviction that school will have value in their futures. Teacher interest and support also increases sense of purpose in school. Sense of purpose is stronger among older students, and weaker among those who are more strongly influenced by their peers.

Table 4.29
Multiple Regression¹: Predictors of Sense of Purpose in attending school

Predictor	t (β) df = 4903	Significance level	Summary of effect
Quality of school experience	18.1	p < .001	Stronger sense of purpose in school quality of school experience is more positive
Parental support and involvement	11.30	p < .001	Stronger sense of purpose when parents are more supportive and involved
Gender	5.0	p < .001	Girls have a stronger sense of purpose than boys
Teacher interest and support	7.1	p < .001	Stronger sense of purpose when teachers are more interested and supportive
Age	7.1	p < .001	Stronger sense of purpose as age increases
Peer influence	-3.2	p < .001	Weaker sense of purpose with stronger peer influence

¹Overall equation: F (6,4904) = 221.8, p < .0001. R² = .21.

Predictors of Perceived Competence in School

Perceived competence in school, an indirect measure of self-efficacy was a third component of psychological outcomes. Results of the regression analyses, shown in Table 4.30 find that the most important predictor was parental support and involvement, so that students who receive more support and encouragement from their parents feel more confident in their abilities in school. Teacher support and interest is also a predictor of higher levels of perceived competence. As in many of the other findings, girls have a stronger sense of school-related competence than do boys. Finally, quality of the school experience is also an important determinant of perceived competence.

Table 4.30
Multiple Regression¹: Predictors of Perceived competence

Predictor	t (β) df = 4906	Significance level	Summary of effect
Parental support and involvement	15.9	p < .001	Greater sense of competence when parents are more supportive and involved
Teacher interest and support	8.3	p < .001	Greater sense of competence when teachers are more interested and supportive
Gender	6.3	p < .001	Girls have a greater sense of competence
Quality of school experience	4.4	p < .001	Greater sense of competence with more positive school experience influence

¹Overall equation: F (4,4906) = 157.1, p < .0001. R² = .11.

Predictors of School Self-Esteem

Analyses with a final component of psychological outcomes, school-related self-esteem, showed that parental support and involvement, quality of school experience and teacher interest and support are all important predictors (see Table 4.31). Gender is again important, with girls faring better than boys. Interestingly, quality of the classroom environment -- its level of cohesion, competitiveness and organisation, is a significant determinant of students' self-esteem. Finally, mother's education shows a positive relationship to self-esteem: the more educated the student's mother, the higher the student's self-esteem.

Table 4.31
Multiple Regression¹: Predictors of School self-esteem

Predictor	t (β) df = 4903	Significance level	Summary of effect
Parental support and involvement	18.1	p < .001	Higher self-esteem when parents are more supportive and involved
Quality of school experience	9.5	p < .001	Higher self-esteem when quality of school experience is more positive
Teacher interest and support	7.1	p < .001	Higher self-esteem when teachers are more interested and supportive
Gender	5.0	p < .001	Girls have higher self-esteem than boys
Quality of classroom environment	6.0	p < .001	Higher self-esteem in classrooms with more positive climates
Age	7.1	p < .001	Higher self-esteem as age increases
Mother's education	2.2	p < .05	Higher self-esteem with increasing education level of mother

¹Overall equation: F (6,4904)= 171.5, p<.0001. R² = .17.

4.5.2. Predictors of Behavioural Outcomes: Level of Effort

The level of effort that students make in their studies is predicted by many of the same variables as the psychological outcomes (see Table 4.32). Teacher support and interest is foremost among the predictors, such that the more teachers support and encourage their students, the more effort their students make. Parental support is similarly important for increasing effort in school. Positive experiences in school are also associated with increased levels of effort. Gender is a significant predictor of school effort, with girls on the average making more effort than boys. More positive classroom environments predict greater levels of effort in school. Finally, students' age predict his or level of effort in school: effort increases with increasing age.

Table 4.32
Multiple Regression¹: Predictors of Behavioural Outcomes: Level of effort

Predictor	t (β) df = 4903	Significance level	Summary of effect
Teacher support and interest	18.5	p < .001	Students make more effort when teachers are more supportive and interested
Parental support and influence	17.9	p < .001	Students make more effort when parental support is stronger
School experience	16.6	p < .001	Students make more effort when their school experience is positive
Gender	12.6	p < .001	Girls make more effort in school
Peer influence	-7.8	p < .001	The stronger the peer influence, the less effort students make
Quality of classroom environment	3.3	p < .001	More effort is made by students in more positive classroom climates
Age	3.2	p < .001	More effort is made by older students

¹Overall equation: F (7,4903)= 283.6, p<.0001. R² = .29.

4.5.3 Predictors of Problem Behaviours (teacher rating)

Teacher ratings of the frequency of problems such as lateness, absenteeism, disruptiveness, inattention, failure to complete schoolwork and lack of effort, are predicted by several variables, as Table 4.33 illustrates. However, only about seven percent of the variation in the ratings is explained by these factors.

The most important predictor of problem behaviour is gender, with boys exhibiting more frequent problems. Behavioural problems in the classroom are seen more frequently in older students. However, these problems are less frequent under certain conditions: when students perceive their teachers to be more supportive of and interested in their education, the latter are less often faced with behavioural problems. Similarly, in classrooms where students perceive greater cohesion, less competitiveness and less disorganisation and friction, there are less frequent behaviour problems according to their teachers. As well, when students have less affiliation and receive less praise and recognition at school, there are more behaviour problems in the classroom.

Table 4.33
Multiple Regression¹: Predictors of Classroom Behaviour Problem Frequency (teacher rating)

Predictor	t (β) df = 4909	Significance level	Summary of effect
Gender	12.5	p < .001	More frequent problems for boys
Age	-10.5	p < .001	More frequent problems with increasing age
Teacher support and interest	6.6	p < .001	Less frequent problems when teacher support and interest is greater
Quality of classroom environment	4.2	p < .001	Less frequent problems when classrooms have greater cohesion, less competitiveness and disorganisation
Quality of school experience	-3.5	p < .001	More frequent problems when students have less affiliation and recognition at school

¹Overall equation: F (6, 4904) = 63.8, p < .001. R² = .072.

4.5.4 Predictors of Academic Performance

The most important predictor of academic performance, as rated by teachers, is gender: girls' performance is rated higher. Over and above this relationship, performance of younger students is also rated higher than performance of older students. These results are shown in Table 4.34.

Of all the remaining predictor variables tested, the only one to significantly predict academic performance, as independently rated by teachers in relation to other students at the same level, is the amount of support and interest that the student receives from his or her teachers. The more interest teachers have in their work and in their students, the better students perform.

Table 4.34

Multiple Regression¹: Predictors of Academic Performance (teacher rating)

Predictor	t (β) df = 4909	Significance level	Summary of effect
Gender	7.1	p < .001	Girls' performance is higher
Age	-5.5	p < .001	Lower performance with increasing age
Teacher support and interest	5.1	p < .001	Students' performance is higher when support and interest from teachers is stronger

¹Overall equation: F (3, 4907) = 40.2, p < .001. R² = .024.

5. RESULTS DISSEMINATION AND ACTION IMPLICATIONS

The survey findings were presented to stakeholders in each participating country in a series of workshops held in September and October 1999. Present at these meetings were representatives of each Ministry of Education, teachers, principals, parents and employers. After a presentation of the main findings for the overall OECS and for the specific country, stakeholders discussed the implications of the findings for the future of education and education reform in their respective countries. The results of these discussions have been synthesised below.

5.1 Overall Levels of Student Attitudes

It is clear from the survey data that students throughout the OECS generally have positive attitudes and positive experiences in school, and see education as a means to achieve future life goals. According to these data, collected systematically from a large representative sample, Caribbean youth are not generally disaffected or disengaged from school and indeed have strong motivation for both academic performance and school completion. While this result was not surprising to many of those stakeholders who interact regularly with many young people, especially teachers and parents, it was agreed that these positive attitudes are major strength in the region, and **should be recognised and applauded as a veritable foundation for the future.**

The survey data also disconfirmed the perceived erosion of the link students see between schooling and life success. Eastern Caribbean students have a strong sense of purpose in attending school, definitely seeing a connection between education and later opportunities. Moreover, even out-of-school youth recognise the importance of education. In the focus group discussions with these youth, most stated that school was important and that they might want at some point to further their schooling, despite their repeated experiences of failure.

In the dissemination workshops, many stakeholders expressed concerns about finding ways to maintain a sense of purpose when local economies were weak or unstable, and where highly

remunerated employment was quickly available without strong academic requirements. These kinds of employment opportunities seem most available and attractive to boys, and may help explain boys' lower level of interest in school, discussed below.

To reinforce the links between schooling and life success, it was recommended **that private industry should be encouraged to play a more vibrant role in the school system, through apprenticeship schemes and other partnership ventures.** It was felt that wide dissemination of the survey results will assist in making employers aware of the need to co-operate with the school system. In this regard, it was **recommended that media houses, both public and private, take on an essential role.**

It was also recommended **that educational opportunities become more accessible throughout the Eastern Caribbean.** Schools system should pay careful attention to the secondary school curriculum, the teaching methods used as the linkage to the world of work. The issue of the large number of students in the post-primary section of the school system and the curriculum used in these schools needs addressing.

5.2 Roles of parents and families

The critical role of significant adults, both parents and teachers, in promoting positive attitudes and behavioural orientations toward school is among the most important findings of the survey.

The survey data show clearly that students who have strong support and encouragement from their parents regarding school like school more, feel better about themselves in relation to school, have a stronger belief that schooling will be valuable to them in their future lives, have fewer behavioural problems and perform better academically. The role of parents in determining their children's orientation to school and their academic achievement is therefore critical.

In the dissemination workshops in every OECS country, the issue of parent-school linkages was addressed. It was **recommended that interventions promoting parental involvement in schools and supporting the development of parental skills** in helping their children with schoolwork and reinforcing their progress be developed. As parents in the focus group discussions pointed out, parents -- especially those with low levels of education or negative experiences with school --- may need support or training to create home environments which are conducive to learning and can support school programmes. (e.g., with supervised and structured homework sessions, away from television or other distractions).

It was also **recommended that schools adopt a more modern and flexible view of parents and parenting**. First, links to parents should **go beyond the traditional PTA**, adapting to social and economic reality by reaching out in proactive ways that are compatible with parents' resources and schedules. The survey data on the nature of parents' work schedules strongly support this point: only about two thirds of working parents usually work days only, meaning that many are unavailable to help their children with school work or to become involved in school activities during the regular school days. Others noted that it is important to recognise that while many parents are unable to help with the actual school work because of their own low education levels, they can be encouraged to support their children's efforts. The problem of "disappearing parents" or parents who manifest interest in their children's education only at the time of critical examination was mentioned numerous times.

Intervention targeting parents should take into consideration the realities of Eastern Caribbean families, finding ways to empower them and increase their sense of involvement and responsibility for their children's school progress. A recommendation emerged from one country **to implement a parents' charter, specifying the roles and responsibilities of parents as partners in the schooling of their children**.

Third, it was recommended **that the crucial role of extended family and neighbourhood networks in raising children be recognised**, and that school include these in their definition of the child's family and try to involve them more directly in schooling.

Fourth, it was **recommended that schools or Family Life Education units encourage employers to take responsibility for developing family-friendly work policies**, by allowing parents time off to attend school meetings or to meet with their children's teachers.

As the bivariate analyses showed, parental support is significantly greater for student who live with both their mother and father. This suggests that families headed by a single parent or with other forms of living arrangements find it less easy to communicate with, and to support and encourage their children. The dissemination workshop participants in several countries **recommended that schools find ways to actively involve fathers who do not live with their children**, for example by inviting them separately to activities, or by sending them the same information they send mothers. In the focus groups, it was also mentioned that younger parents have more difficulty promoting the development of positive attitudes and self-discipline in their children. To counter this, some workshop participants recommended **more emphasis on primary of prevention teen pregnancy**.

Discussion in the dissemination workshops also focussed on other community resources that could be used to strengthen the support networks of children and families. It was **recommended that churches, which often have programs or services for families in difficulties expand their role** to include more general forms of family support in relation to schooling. It was also pointed out that government agencies other than the Education Ministry are responsible for many of the social issues that lead to school-related problems, and that **a more concerted approach should be developed**. Finally, it was recommended that **resources within the school system be increased to provide more social work services** to families at risk.

It was also recommended that **posters and radio and television spots emphasising the contribution of parents to the educational success of students be developed**.

5.3 Teachers' roles

The role of teachers is equally important. The survey results show that when teachers are supportive of their students' education and take an interest in their progress, students have more positive feelings about school and their own competencies, and are less likely to exhibit disruptive or problem behaviour. These findings were confirmed in the focus group research, for example: *"teachers agreed that ultimately, the overriding determinant of children's attitudes to school reside in the relationship which exist between staff and students"* (Cyril, 1998, p. 2). Parents in the focus groups noted that while *"some children adore their teachers and look forward to being with teachers who demonstrate love"* (Cyril, p. 10), others are unhappy and cannot respect teachers whom they perceive to be weak, poorly qualified, or disinterested in teaching.

Sense of purpose in attending school is one of the most important determinants of school completion and therefore a key factor in human resource development for the region. Like the other attitudinal variables, sense of purpose is very high in Eastern Caribbean students. However, the analyses of the determinants of sense of purpose suggest that regardless of the long-term outlook of this variable, it is critical to ensure that students have positive and rewarding experiences in school. The data show that the quality of school experience is the most important determinant of sense of purpose. The amount of recognition and praise that students receive from their teachers is a valued source of motivation for continuing in school.

The focus groups and interviews with out of school youth added some poignant confirmation to these findings. According to youth in one group, children want their teachers to be *"caring, respectful, fair and flexible,"* but instead find them *"rough, strict, uncaring, demanding, disrespectful and even abusive"*. In another group, the youth mentioned that in order to have children want to stay in school teachers must not only try to sustain their interest but also try to understand what motivates children, and to encourage open, supportive discussion. As one young person put it: *"teacher interest and caring can bring around a student"*. For many of these youth, poor performance causes low self-esteem, and they begin to *"see themselves as failures and worthless"*; *"there is always the feeling that you are not good enough"*. Lack of interest or encouragement from family or teachers gives them little reason to stay in school, even though many admit they regret dropping out.

It is therefore very clear that teachers wield great potential to shape student attitudes and outcomes and to maintain them throughout the secondary school years. The extent to which teachers demonstrate interest in their students' lives and value and encourage their personal, social and academic development, in addition to being knowledgeable about, prepared for and inspired by the material they teach, are evident and influential for students. More specifically, in the survey data, teacher interest and support is the most important predictor of liking for school and of the level of effort that students make in the classroom. Among the variables measured, it is also the only significant predictor other than age and gender -- in other words, the only modifiable determinant -- of academic performance. Interventions designed to enhance teachers' capacities to support their students' education progress are direct implications of these findings. These interventions could involve both systemic changes, in the areas of selection, training/ development and performance management practices, as well as professional development in the area of helping relations and counselling. These interventions could be expected to reap benefits for their students' attitudes, performance, and behaviour.

In the focus groups, teachers and parents made numerous suggestions about how teachers can influence students' attitudes, such as: being a role model; developing better and more creative teaching methods; keeping abreast of innovations in technology and using it; showing interest in students' welfare and well-being; and helping children build self-esteem.

In the dissemination workshops, many specific recommendations addressing teachers' crucial role were made. Three of these dealt with teacher preparedness: it was felt that teachers' negative influence was greatest where teachers were unprepared for teaching or lacking in commitment or interest in teaching as a professional role. First, it was recommended **that resources be increased to permit greater access to teacher training**. Second, the circuitous route to complete teacher training was questioned, and calls were made for **a shorter training period**. This would make teaching training more attractive to prospective teachers. Third, many stakeholders (including teachers) are aware that some teachers see the job as a stop gap or step into more interesting work, and have very little commitment to teaching or their students. To limit this

problem, it was recommended that **a better job of selecting people for teaching positions be done.**

Within the school, it was also felt that teachers may not receive enough recognition and reinforcement from the superiors or their peers, and that this may contribute to poor commitment. It was recommended in several dissemination workshops that there be **a teacher recognition day or other form of reward for teachers** who are exemplary roles models in the various possible facets of school life. To help motivate teachers, a recommendation was also made **to create a level of “Master Teacher”.**

A major issue under discussion at the dissemination workshops was teachers’ working conditions. Since teacher support and interest are critical to students’ attitudes and achievement, it is **necessary to address teachers’ conditions of service if teachers are to maintain the high level of motivation required.**

5.4 The role of peers

It is interesting and perhaps not surprising that according to the survey data, students whose main orientation toward school is peer-related --as a place to socialise, as sources of discussion about schoolwork, have less positive attitudinal and behavioural outcomes in the survey data. In the focus groups with out-of school youth, several young people stated that they often came to school to be in the company of their friends, or that seeing friends was the things they had liked most about school.

In other focus groups, both parents and teachers indicated that peers had more negative influences than positive. In the dissemination workshops, it was **recommended that ways be found to minimise the negative impacts of peers.**

5.5 Classroom and school environment

The quality of the classroom climate was found to be a strong predictor of many of the psychological and behavioural outcomes examined in the survey. These findings are of particular

interest because to the extent that teaching practices and classroom management skills can make classrooms more cohesive and less competitive (for example, through the use of group-based or co-operative learning strategies), students' motivation and level of effort can be improved.

Overall, children in rural schools seem to have somewhat more positive attitudes and experiences, although their academic performance does not differ as measured by teacher reports. In the dissemination workshops, stakeholders stated that the advantages of rural school lie in their smaller size and in their close integration into community life: factors which could be encouraged in urban settings.

Although the quantitative survey did not assess quality of the physical plant, problems with degraded conditions, lack of equipment and conditions not conducive to learning were mentioned in focus groups in every country. In many classrooms, teaching and learning were said to be impeded by high noise levels due to lack of sound insulation between classrooms, corridors and outside recreation or traffic areas. These noisy conditions disrupt students' concentration and make classroom control more difficult for teachers. Many classrooms were also said to be too hot or to have poor air circulation, with the results that students report being uncomfortable and sometimes sleepy in class, especially in the afternoons. These problems are compounded by classrooms which are too small for the number of students, which means that the arrangements of desks and tables often does not allow the teacher to circulate and provide individualised support to students; but rather forces them to adopt a "chalk and talk" teaching method. Also mentioned were conditions of disrepair, such as leaking roofs and broken furniture and screens, as well as defective plumbing and attendant problems of sanitation in school toilet facilities.

This same issue was addressed as well from the point of view of teacher motivation. Even the most motivated and talented teachers will find it difficult to reach their pedagogical goals in a hot, noisy, insecure and poorly-equipped classrooms.

5.6 Gender Issues

The survey results confirm unequivocally that boys are disadvantaged in terms of their educational experiences in secondary school. In fact, boys fared worse on every psychological and behavioural outcome examined in this survey: boys like school less, have lower self-esteem, perceived competence, and sense of purpose in attending school, exert less effort in school, and have more frequent behaviour problems and poorer academic performance. In the focus group discussions, the differences between boys and girls were readily acknowledged

It was clear from the attention devoted to this aspect of the results in the dissemination workshops that the issue of gender disparity in student attitudes and motivation is of great and worrisome significance. Stakeholders were deeply concerned about the long-term implications of these findings for human resource development and for the stability of family life in the region. It was clear to all that specific efforts must be made to target boys and improve their psychological and behavioural outcomes.

It was felt that schools are currently not meeting boys' needs for praise and recognition, and that their search for development of personal identity lies outside the school system. To counter this, it was recommended **that special enrichment programs for boys emphasise the importance of academic achievement**, and that this be reinforced by employers. It was also recommended that **teaching methods be modified to provide more "hands on" experiences to cater to boys' need for activity-oriented learning**. Also, there is a need **to introduce and sustain a more varied curriculum**, so that students are provided with a choice of skills and knowledge to apply to the world of work. Finally, within the classroom, **appropriate means of providing recognition to boys and of building their self-esteem** should be developed.

Boys' relatively poorer outcomes could also be addressed by providing stronger male role models both inside and outside the home. First, it was recommended that more attention be paid **to ensuring that boys have at least some exposure to male teachers in both primary and secondary school**. Second, it recommended that **male mentoring programs be developed to provide boys with positive adult male role models**. Finally, it was recommended **that the role of fathers in supporting their sons' academic progress be reinforced**, especially in situations

where the father is not present in the home.

5.7 Conclusion

The ECERP Student Attitudes Survey has provided invaluable information about not only the levels and determinants of student attitudes in the Eastern Caribbean, but also a wealth of information on family structures and living and parenting conditions. While in general the results are very positive, they also show clearly that the road to improvement of students' attitudes and behaviour in regard to school lies clear ahead. We hope that the survey results will be put to use by participating countries in the design and implementation of programs and services which can produce even more positive results for all Eastern Caribbean youth, can help improve the futures of the minority of students with negative attitudes and behaviours in school, and can address the looming implications of gender disparities in educational outcomes.

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APPENDIX 1: Survey Questionnaires

APPENDIX 2: Focus Group Interview Guides