

**The Maine School of Science and Mathematics:
Perceptions of
Students, Teachers, Parents and Guidance Counselors**

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Executive Summary

The Administration of the Maine School of Science and Mathematics (MSSM) commissioned this study to determine the degree to which Maine's top performing students, their parents and guidance counselors are aware of the school and what it has to offer. They also sought to better understand how parents, guidance counselors and students perceive MSSM, and how those perceptions influence their attitudes about selecting the school. In response to these needs, CRE designed a study that collected and analyzed interview and survey data from several groups including:

- Students currently attending MSSM (MSSM Attending, n=35)
- Students who applied to MSSM but have not enrolled (MSSM Applied, n=36)
- Students who performed in the top 5% on the Mathematics, Science and Reading subtests of the Maine Educational Assessment (MEA Highly Performing, n=257)
- Parents of MSSM Attending students (n=49)
- Parents of MSSM Applied students (n=37)
- Parents of MEA Highly Performing students (n=239)
- Maine high school Guidance Counselors (n=68)

The study also used district level data available from the Maine Department of Education (MDOE) including free and reduced lunch rates, per pupil expenditures, school size, student teacher ratios, and number of full time teachers to determine if any of these factors were significantly related to the pattern of responses observed among the various groups in this study.

The patterns in the data were relatively complex and do not lend themselves to singular or simple interpretations. Despite this complexity, several broad themes emerged. These themes, summarized below, are only a beginning point for the complete understanding of the data. The accompanying Technical Report includes much more detail about the responses of highly performing students and the perceptions of the adults who support them at school and at home.

- *Visibility.* One of the school's primary concerns—visibility—was well founded, as a significant number of the top performing 9th graders had no knowledge of MSSM. For those who had heard of the school, it is clear that they knew very little about it. Notably, just 3 of Maine's top 1,500 9th graders (for the 2008-2009 school year) had directly inquired about the school. Guidance counselors as a group were not well

informed about the school either, with approximately 75% of responding counselors saying they knew little or nothing about MSSM. This may be particularly important given that the majority of MSSM Attending students had first discussed attending the school with their local guidance counselors and their parents.

- *Location.* A number of participants identified location as a serious concern. Although participants' responses were not unanimous, a significant majority of parents, students, guidance counselors, and MSSM staff believed the school would be a more attractive option if it were located nearer to a population center in Maine. Parents of MEA Highly Performing students were twice as likely (44% versus 22%) to be willing to send their child to a residential school if it were less than an hour from their home. While MSSM Attending students did not dwell on the location of MSSM in their comments, they did speak at length of the depression and cabin fever associated with long winters and few extracurricular activities. Their response to these pressures led them to engage at times in activities and behaviors that were not always healthy choices.
- *Residential School.* The concept of their children living at a residential school also presented itself as a significant barrier for many responding parents. For example, less than 18% of the parents of MEA Highly Performing students thought their child would be happy living at MSSM. Meanwhile, over 92% of the parents of MSSM Attending students said their child was happy there. The MEA Highly Performing students were more positive than their parents about living away from home with nearly 50% of this group indicating they would be at least a *little happy* living at residential school. MSSM Applied students were even more positive. Almost 83% of this group thought they would be happy living away from home. Meanwhile, almost 91% of the MSSM Attending students said they were happy to live at MSSM.
- *Academic rigor and environment for learning.* The majority of respondents in all groups perceived the school to have strong programs in Math, Science, English, and to a lesser degree in Foreign Languages and Performing Arts. In addition, MSSM Attending students reported MSSM to be significantly more challenging academically than their home high schools. They also reported MSSM to be significantly less focused on sports than did either MEA Highly Performing or MSSM Applied students when rating their home high schools. MSSM Attending students were also more likely to report high expectations from their teachers, and more support from their Guidance Counselors than either MEA Highly Performing or MSSM Applied students. The reasons students stated they enrolled in MSSM were varied, and they ranged from dissatisfaction with their local high school's academic programs, to a need to escape pressure to fit into "cliques", to a desire to achieve greater personal independence. Finally, MSSM Attending students perceived the school to be a more supportive environment for students who did not always fit in well in their local high schools.

- *Teacher retention and recruitment.* Teachers echoed many of the same concerns as students. Although teachers enjoyed teaching the kinds of students who attend MSSM, they reported a number of barriers to working at the school. Teachers' primary complaint was the daunting workload coupled with stagnant salaries. Some teachers also expressed serious concerns about the inter-school communication and overall involvement of the faculty in school decision-making. Finally, many of the teachers, especially the younger teachers, identified MSSM's location as a serious deterrent to attracting and retaining qualified faculty members.
- *Adequacy of local high schools' curriculum for highly performing students.* There was not a consistent pattern in the data to support a singular conclusion for this issue. For example, MSSM Attending students and their parents indicated their local high school did not meet their academic or social needs. MEA Highly Performing students and their parents were favorable about the academic and social supports available to them in their local high schools. Guidance Counselor responses were even more paradoxical. While responding counselors favorably rated their local school's advanced educational opportunities, only 11% strongly agreed they had excellent gifted and talented programs.

Respondents familiar with MSSM perceived it to be a strong academic institution with a dedicated faculty for highly talented students. However, the school faces a number of substantial challenges in the future. MSSM is not well known by some of the most important target groups in Maine, including Maine high school guidance counselors and the highest achieving students in the state and their parents. These groups, as well as the teachers at the school, perceive the remoteness to be a substantial deterrent for students to enroll and teachers to stay at MSSM. Many parents and high achieving students are unsure if they would be happy living away from home, but most who decide to attend are very satisfied with both the academics and the experience of living at MSSM.

Finally, students had differing perceptions of the benefits offered by MSSM versus their local high schools. For those who make the decision to attend, MSSM presents academic opportunities and a social environment they perceive to be absent or unsatisfactory in their local high schools. Others, such as the MEA Highly Performing students and their parents perceive the quality of their local high schools to be adequate. Some explanations for these differing perceptions include differences in the quality of educational opportunities in Maine high schools, a lack of knowledge for some

respondents about the actual opportunities that exist or could exist in their local high schools, and a lack of knowledge of the educational opportunities offered by MSSM.

Introduction

The Maine School of Science and Mathematics (MSSM) located in Limestone, Maine was created by an act of the Maine Legislature in 1995 as the state's first chartered school "for the purpose of providing certain high-achieving high school students with a challenging educational experience." (Ch. 312 section 8201). Declining enrollment in recent years, increased costs, and increased curricular opportunities in many Maine high schools prompted MSSM to request a comprehensive review of enrollment patterns and students' and parents' rationale for choosing MSSM. Equally important is achieving a better understanding of why highly performing students choose *not* to attend MSSM. This study was designed to address these issues and to supplement data considered by MDOE and the MSSM Board of Directors as they engage in their planning for the future of MSSM.

This study, conducted by the Center for Research and Evaluation (CRE) at the University of Maine, identified the resources, experiences, opportunities and other factors that make MSSM the school of choice for certain high achieving students but not for others. Through survey and interview methodologies, CRE analyzed perceptions and attitudes about MSSM held by several groups including teachers and staff, and students and their parents associated with MSSM, and high achieving students and their parents who were not associated with MSSM. CRE contacted parents of students who recently applied to (MSSM Applied, n=36), or attended (MSSM Attended, n=49), MSSM through the use of MSSM school records. CRE also contacted students who attended MSSM and left before the end of the school year. Results from this group do not appear in this report, as there were not enough respondents (n=6) to draw valid inferences despite repeated attempts to solicit responses. In addition, CRE, with the cooperation of the Maine Department of Education (MDOE), contacted the parents of students who scored in the top 5% on the March, 2008 administration of the Maine Educational Assessment (MEA Highly Performing, n=239). CRE also contacted a sample of Guidance Counselors (n=68) representing schools who have and have not recently worked with students who have applied to or attended MSSM to determine their knowledge of and attitudes about MSSM.

Method

A series of student, parent, and guidance counselor surveys were developed to measure these groups' perceptions of MSSM, and the kinds of educational opportunities most important to highly performing students in Maine. Surveys included questions about the academic and social characteristics of Maine high schools, as well as the opportunities available at MSSM. All survey forms were reviewed and approved by the Institutional Review Board at the University of Maine to ensure the protection of respondents and strict adherence to ethical requirements of research with human subjects.

The student, parent, and guidance counselor surveys were administered starting in April, 2009, and data collection continued through the end of May, 2009. For the student and parent surveys, paper-based forms were sent to students' households, and respondents were given the choice of responding using the paper form or using an online version of the survey. The guidance counselors were surveyed using an online form only.

MSSM Study of Parent, Student, and Counselor Perceptions: Technical Report

A separate Technical Report provides an in depth review of all of the data collected in this study, and provides a great deal of information not contained in this report. In addition, the Technical Report has much more detail about the specific questions used in the surveys, and includes the comprehensive set of analyses, response rates, disaggregated tables, and figures upon which this report is based. Readers who are interested in knowing more about the patterns of responses found for highly performing students, their parents, and their guidance counselors should refer to the Technical Report.

Research Questions:

Question 1: Why do students choose to attend or not attend MSSM?

The primary evidence for this question comes from interviews and focus groups conducted with students. MSSM Attending students had the most to say about this

issue, and were in the unique position to reflect on MSSM and compare it with their home high schools. The full analysis of these student interviews and focus groups can be found on pages 91–112 of the Technical Report.

MSSM Attending Students. In late April 2009, CRE met with three groups (n=12 total) of MSSM students to discuss what life was like at the school, why they applied, and their overall perceptions of the educational experiences at MSSM versus their home high schools. Students talked about the strength of the academic offerings at MSSM and their perceptions of poor academic quality in their local high schools. Students described their home high schools as much less challenging and less focused on academics than MSSM. Some noted that their home high schools were bigger and had more to offer in the way of sports, extracurricular activities, and variety of classes. Other students described a difficult social environment at their local high schools. One student's comment was typical of this sentiment: "I didn't really fit in a certain clique." MSSM Attending students noted that drug issues were common in their home high schools.

Several students also mentioned the apathy of the other students in their home high schools. One student commented: "I just don't think the kids cared very much." They reported the apathy of other students made some of the gifted students more apathetic. "It just wasn't a good environment." "Not only academically was it stronger here but from my brother's experience people were a lot more accepting." Across all MSSM Attending focus groups and interviews, students consistently focused on difficulties with the social environment of their home high school, and how accepting MSSM is by comparison.

Students described specialized programs for gifted or accelerated students at their home high school as being unstructured and lacking the intellectual challenge offered by MSSM. "I was stuck in an honors class that really didn't do much work." Students also expressed concerns that their home schools' academic programs wouldn't support them throughout their high school career. "I was gonna run out of math my junior year... I realized MSSM could carry me all the way though." Some students reported they were told that the colleges they were considering might not accept them if

they continued on with their home high school. They reported MSSM was seen as a kind of prep school that would help them pave the way towards acceptance at a highly competitive college. Finally, students described how they had challenged officials at their local school to provide them with an accelerated education, but finally gave up and decided to come to MSSM.

When asked what led them to ultimately enroll at MSSM, many students talked about having friends or relatives that previously attended MSSM. Others had attended the MSSM summer camp. Other respondents noted that it was the strength of the academic programs that drew them to MSSM. "I came here for stellar math and science." They noted that MSSM offered more academic challenge and opportunity than their local high school. "I stayed sane in my high school knowing that I was coming here." Other students stated they came for the atmosphere. "That love of learning was what drew me to MSSM." At MSSM, students reported they can connect more, share more and are "all on the same page."

MSSM Applied Students. Not all students who apply to MSSM enroll. MSSM Applied Students were interviewed and asked to comment on what made them interested in MSSM and why they ultimately decided *not* to attend. They were asked about going to a school where they focused a lot more on Math and Science. For this question, MSSM Applied student responses were similar to the MSSM Attending students. Like the MSSM Attending students, several MSSM Applied students criticized their local high school for being too focused on sports. A few others commented about the academics at their schools being "too easy" and that it would be good to have classes that were "more challenging." Unlike the MSSM Attending group, these students did not report social problems or drug issues with the same frequency or intensity (although a few students mentioned social conflicts for highly performing students). Several MSSM Applied students liked the prospect of more challenging classes, but were deterred from attending MSSM because they would miss out on sports and other activities offered in their local high schools

MSSM Applied students were more positive about the prospect of living away from home than were the MEA Highly Performing students. Despite this, a number of

students still talked about missing home and/or family. Unlike the MEA Highly Performing students, most of the MSSM Applied group said they “could handle” being away from home, even though it might be difficult.

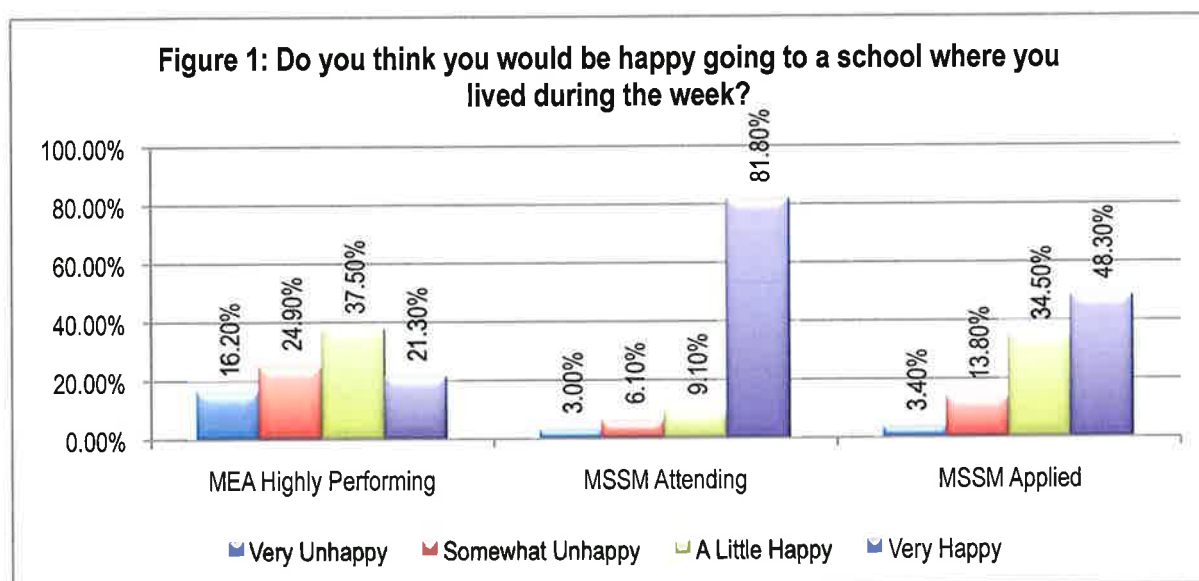
Finally, MSSM Applied students were asked why they decided not to enroll. A few of the students in this group had been accepted and were planning to enroll in the fall of 2009. These students were kept in this group because they had not yet attended MSSM. Students who applied/inquired, but decided not to enroll (they were not asked if they were accepted) gave several reasons for not going to MSSM. Not surprisingly, the most common reason stated was being away from home, friends, and their local community. Two students specifically mentioned the distance from home as a significant factor in their decision not to attend. Other students did not want to leave sports or activities behind. One young woman said if not for missing out on cheering, she would have gone to MSSM.

MEA Highly Performing Students. MEA Highly Performing students were also asked to comment on the worth of attending a school that was more academically focused than their high school. Students’ answers to this question were varied. Several students indicated it would be a positive experience to attend a more academically focused school. Several others were not sure they would like this. Some students thought their schools were already very strong academically, and MSSM wouldn’t offer a more demanding curriculum, while others said they were worried they would not be able to participate as much in school sports. There was no consensus among these students about the value of a more focused academic program, but they were generally satisfied with their school’s academic offerings.

MEA Highly Performing students were asked to think about what it would be like to live at a residential school. The group was almost evenly split in their response. A total of 9 students thought this would be a good idea, while 11 others were unsure they would be happy in such a situation. Students who liked the idea of a residential school mentioned the possibilities for an increased quality of education and greater independence. Students opposed to living at a residential school talked about missing their family and friends, and needing those people for support. Interestingly, the

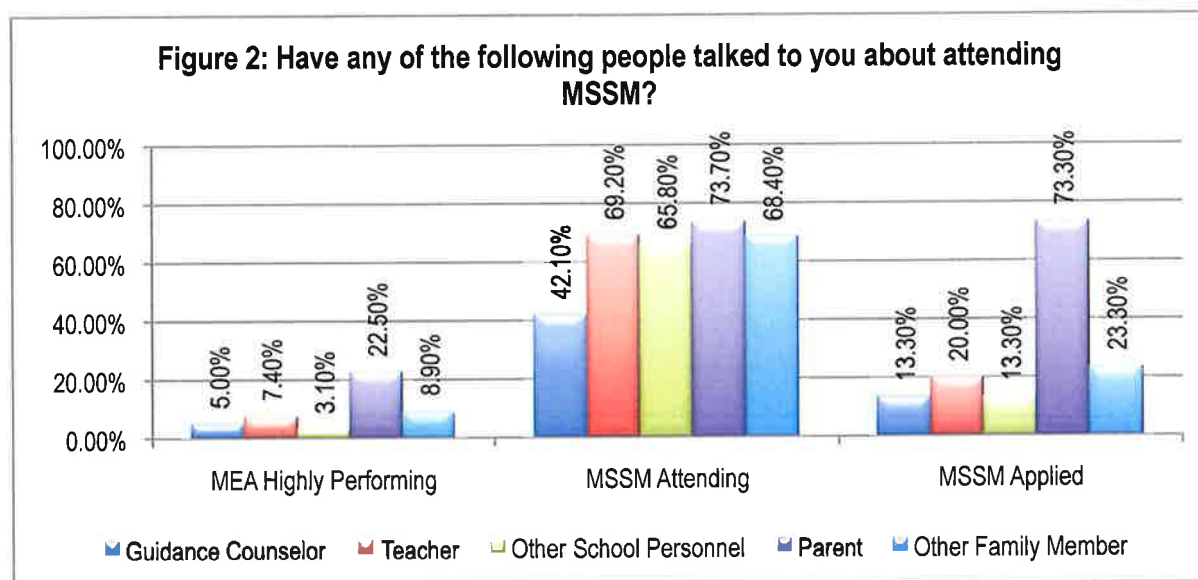
remaining 7 students in this group heard about the school from multiple sources. When asked what they knew about MSSM, some MEA Highly Performing students talked about MSSM's focus on Math and Science, while others said they knew it was quite difficult. To illustrate this point, one student shared a story about a friend of his who went to MSSM, but could not handle the academic expectations.

Given the concerns shared by non-attending students about living away from home, students were asked on the survey if they would be happy going to a school where they lived during the week. There were significant differences in the ratings of MEA Highly Performing, MSSM Applied, and MSSM Attending students (Figure 1). The majority of MSSM Attending students (82%) indicated they were *Very Happy* attending a residential school, while just 21% of MEA Highly Performing, and 48% of MSSM Applied students thought they would be *Very Happy* attending such a school. This question underscores the substantive difference in the perceptions of students who have experienced a residential school, versus those who have not. This is reflected in the sentiment of one MSSM Attending student who said: *"I could not have achieved what I have here, back home. I've grown up here."*



Next, students were asked if different adults had talked to them about attending MSSM. Not surprisingly, a majority of MSSM Attending students had discussed going to MSSM with one or more adults. Conversely, MEA Highly Performing students

reported only a few interactions with adults regarding MSSM (Figure 2). For this group, just 5% had talked to their guidance counselors, 7% had talked to their teachers, 3% had talked to other school personnel, 23% had talked to their parents, and 9% had talked to another family member. The pattern for MSSM Applied students showed they were significantly more likely to have talked to their parents than to any other adult group. This pattern suggests at least two interpretations: 1) Students who apply and continue on to enrollment may do so because they have first talked to more than one adult about attending MSSM. 2) Students decide to enroll first (presumably after discussions with their families) and then talk to adults other than their parents. Although there may be many other reasons for the observed patterns in these data, it is clear that most MEA Highly Performing students have not talked with the adults in their lives about going to MSSM, and probably know very little about the school. Secondly, students who have shown interest in the school but have not enrolled have spoken primarily with their parents.



Finally, CRE examined MSSM's records to determine the degree to which Maine's top performing students had independently shown interest in MSSM as 9th grade students (presumably a time when these students might be considering MSSM as an option.) Of the 1597 students who scored in the top 5% on the Math, Science, and Language Arts portions of the MEA, just 3 (0.1% of the total) were reflected in MSSM's

list of students who had formally inquired about the school. This statistic is undoubtedly made more extreme by the young age of these students (perhaps they were not considering applying until some point in the future). It does, however, highlight a critical issue for MSSM, targeted recruitment of students capable of completing the advanced curriculum the school has to offer. It would seem that the majority of the highest performing students in Maine know relatively little about the school.

Less than half of the MEA Highly Performing students who responded to this survey knew MSSM existed. For students who had heard of MSSM, very few provided more than superficial information about the school's programs and opportunities and their parents were the primary sources of their information. Finally, students were mixed in their attitudes towards attending a residential school. MSSM Attending students were clearly more positive about living away from home than were MEA Highly Performing students, however it is unclear if their attitudes were present before attending MSSM or they may have been the result of their experiences living there.

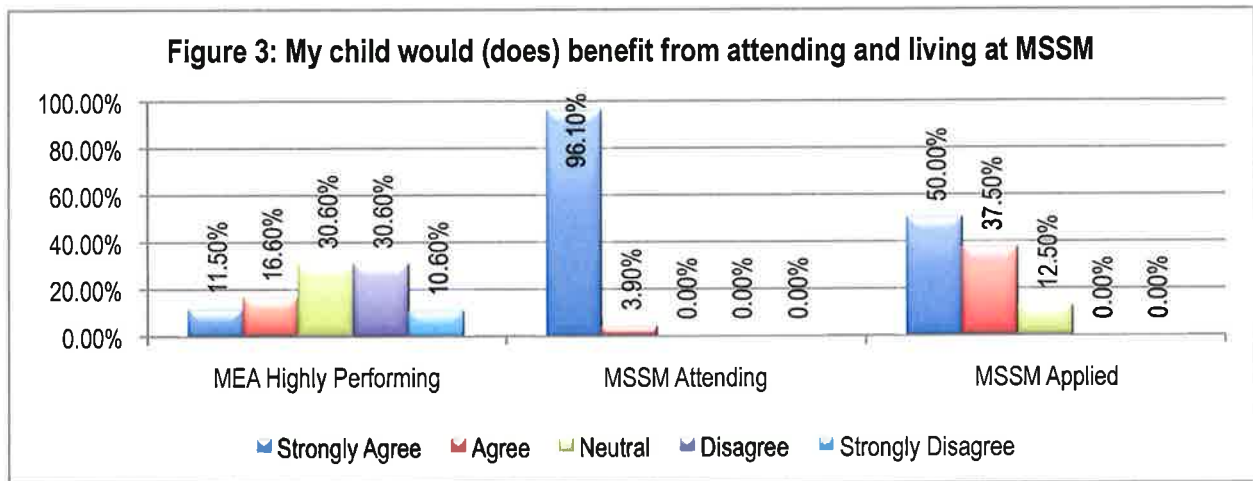
Question 3: To what extent do parents of highly performing students perceive that their children would benefit from a residential magnet school such as MSSM?

Parents of MEA Highly Performing, MSSM Attending, and MSSM Applied students responded to a series of questions about the MSSM program, and the likelihood they might send their child to a residential school that specialized in Math and Science. First, parents were asked to rate how beneficial a residential school specializing in Math and Science would be for their child. The prompt for MEA Highly Performing parents read "My child would benefit from attending and living at a school that specialized in math and science." For MSSM Attending and Applied parents, the prompt read "My child (does¹ would²) benefit from attending and living at MSSM. There were significant differences among responding groups. MSSM parents overwhelmingly (96%) marked *Strongly Agree* to this question. Meanwhile, 50% of the MSSM Applied

¹ MSSM Attending parents only

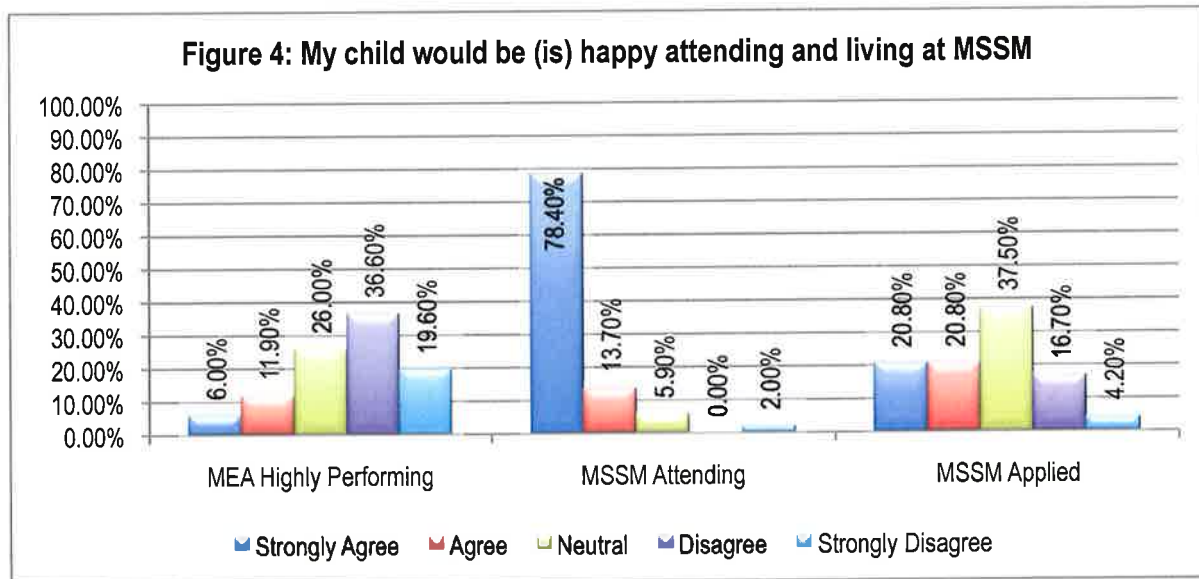
² MSSM Applied parents only

parents, and just 11.5% of the MEA Highly Performing parents, *Strongly Agree* with this statement (Figure 3).



A similar pattern emerged to the prompt “My child would be happy attending and living at MSSM.” While 78% of the MSSM Attending parents *Strongly Agreed* with this statement, only 21% of the MSSM Applied parents, and 6% of MEA Highly Performing parents did so (Figure 4). Even when these categories are expanded to include *Strongly Agree* and *Agree*, we see that 91% of MSSM Attending parents think their children are happy at the school, but just 42% of the MSSM Applied parents think their child would be happy there. More significantly, just 18% of MEA Highly Performing parents thought their child would be happy living at a residential school that specialized in math and science³.

³ The prompt for MEA highly performing parents was phrased: “My child would be happy living at a specialized school for advanced math and science students.”



Next, MEA Highly Performing parents were asked to comment on the degree to which distance and cost might be important factors in their decision to send their child to a specialized school for math and science. Figures 5, 6, & 7 below show the pattern of MEA Highly Performing parent responses to these questions. Responding parents indicated they were significantly ($p < .0001$) more likely to send their child to a residential school for math and science if it were closer to home and free of charge. This statistical significance also translates into observable and substantial differences in the numbers of MEA Highly Performing parents who would be likely to send their child to a residential magnet school. For example, just 22% of parents indicated they would be likely to allow their child to attend a residential magnet school if it were 3 or more hours away. However, 43% would allow their child to attend if the school were an hour or less away. Similarly, just 20% of responding parents would send their child to such a school if they had to pay part of the tuition, while more than 47% would be likely to do so if it were free

of charge.

Figure 5: I would be likely to allow my child to attend and live at a specialized school if it were

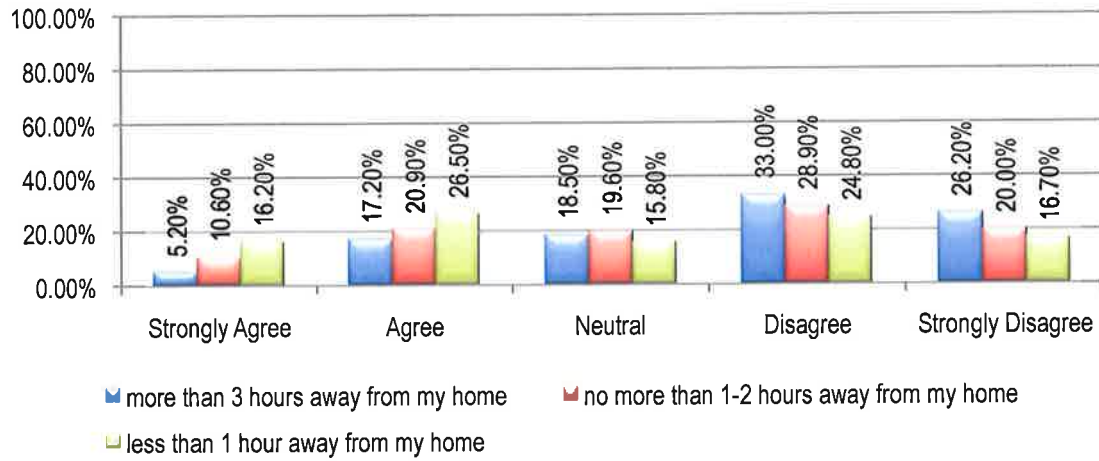


Figure 6: I would be likely to send my child to a specialized school for Math and Science if...

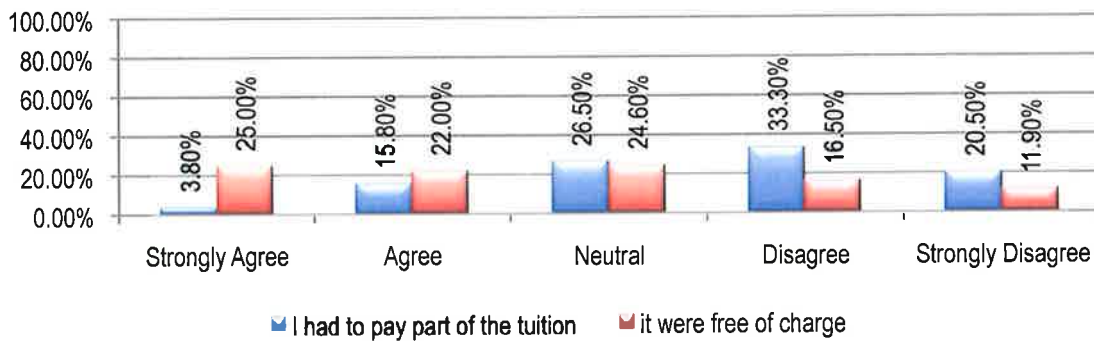
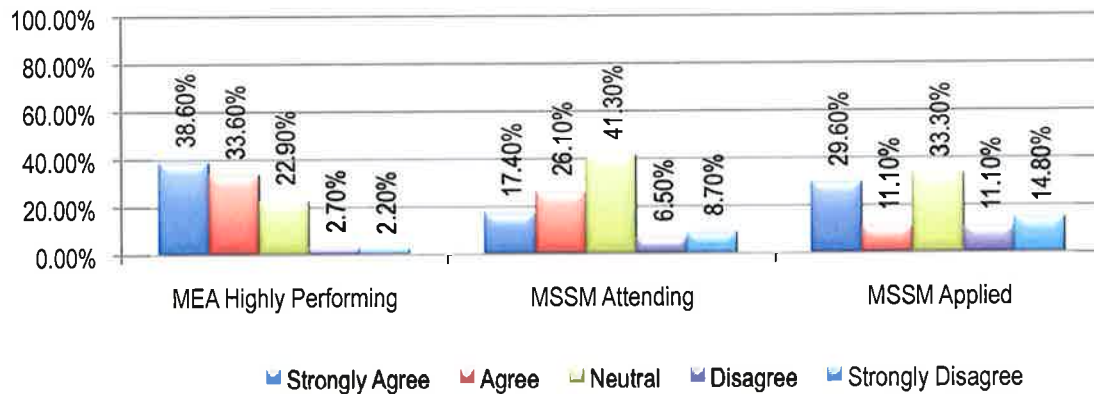
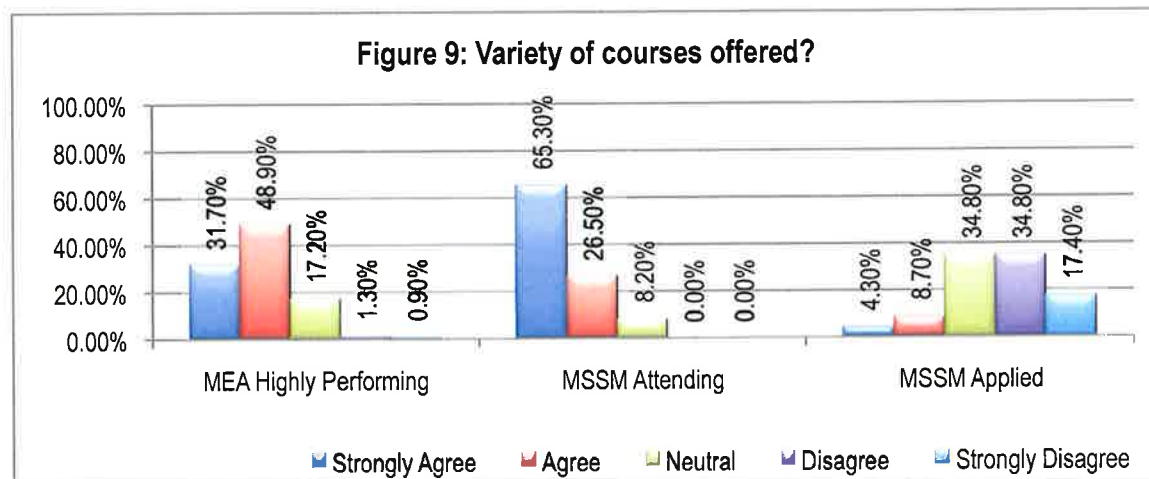
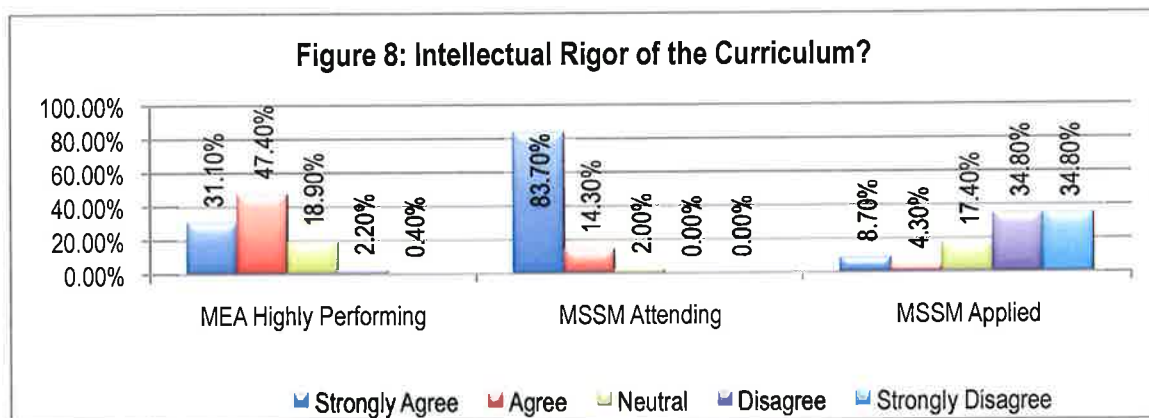


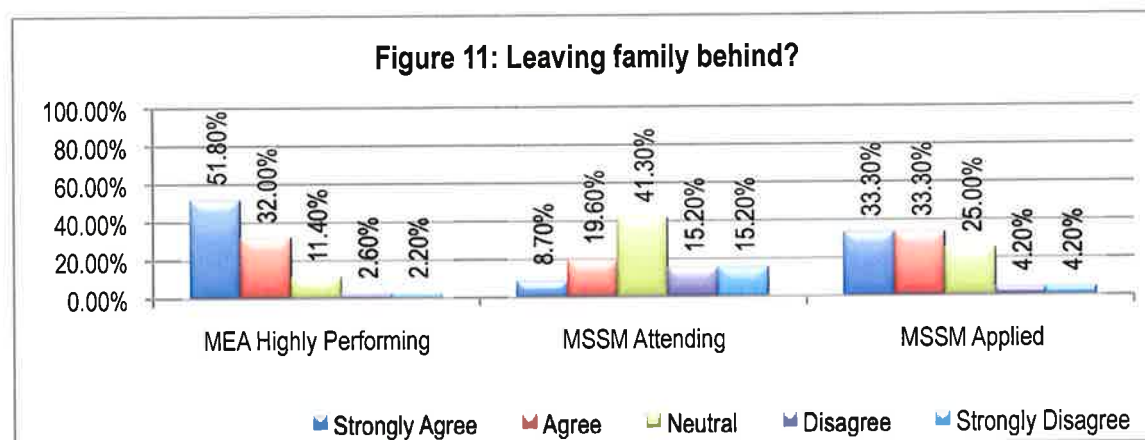
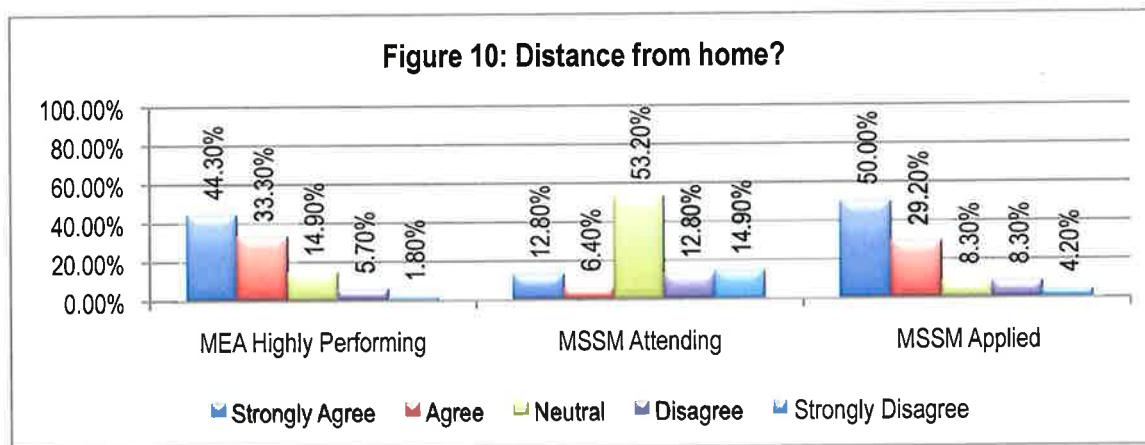
Figure 7: Cost of MSSM?

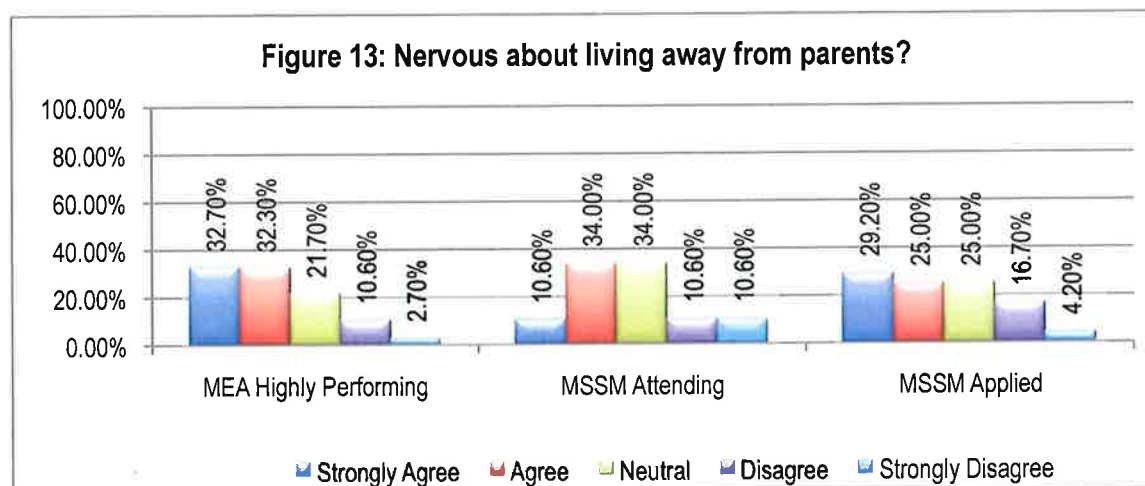
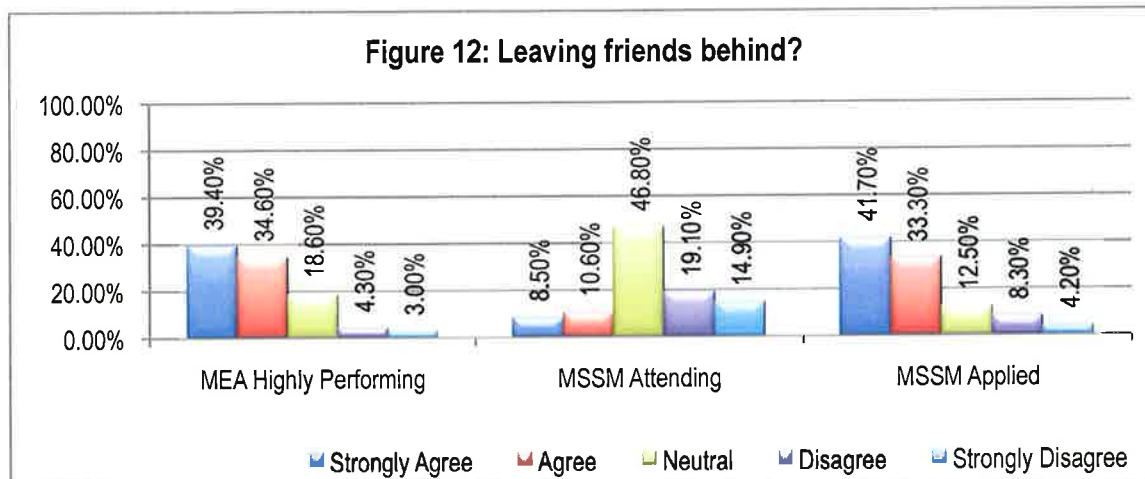


Parents also rated the impact of school characteristics on their child's decision to enroll at MSSM. MEA Highly Performing parents responded similarly, although less extremely than MSSM Attending parents. MSSM Applied parents had a significantly different pattern of responses to these questions. Notably, *78% of MEA Highly Performing parents, and 98% of MSSM Attending parents agreed that the rigorous curriculum was a motivating factor, while 70% of MSSM Applied parents disagreed, or strongly disagreed with this statement* (Figure 8). When asked to what extent the variety of courses offered at MSSM was a motivating factor for their child, a large majority (92%) of the MSSM Attending parents, and 80% of the MEA Highly Performing Agree or Strongly Agree with this statement. Again, the pattern for MSSM Applied parents was markedly different, as only 13% Agree or Strongly Agree with this statement, and 51% Disagree or Strongly Disagree (Figure 9).



Finally, MEA Highly Performing and MSSM Applied parents were asked to evaluate the extent to which several factors might influence *their child's* decision to enroll in MSSM (given the hypothetical situation that their child had been accepted to the school). The first several questions in this section of the survey focused on issues related to leaving home. By combining the categories of *Agree* and *Strongly Agree* the data indicate that parents of MEA Highly Performing students perceived distance from home (77%), leaving family behind (84%), leaving friends behind (74%), and being nervous about living away from parents (64%) to be potential issues impacting their child's decision to enroll in MSSM. MSSM Applied parents rated these questions very similarly. Meanwhile, parents of MSSM Attending students tended to be *Neutral* for many of these issues. For example, while 84% of MEA Highly Performing parents and 79% of MSSM Applied parents agreed that leaving family behind would be an issue for their children, just 28% of responding MSSM Attending Parents indicated their children felt this way. Figures 10 through 13 show parents' perceptions of these issues.





All parent groups perceived MSSM to offer rigorous academic programs; however, parents of MEA Highly Performing students and MSSM Applied students had differing perceptions of MSSM than did parents of MSSM Attending students. Most significant is the discrepancy between parent perceptions of the value of MSSM to their child. All responding parents of MSSM Attending students indicated their child had benefitted from attending MSSM, while less than half of the parents of MEA Highly Performing students thought their child would benefit. It seems likely that this difference stems from parent (and child) concerns over living away from home. The family's distance from a residential school also appeared to be an important consideration for many respondents. Finally, many parents worried that their child would have a hard time leaving their friends and family behind.

Question 4: How do students who applied (or might be eligible) to enroll in MSSM, but chose not to enroll, differ from students who did enroll?

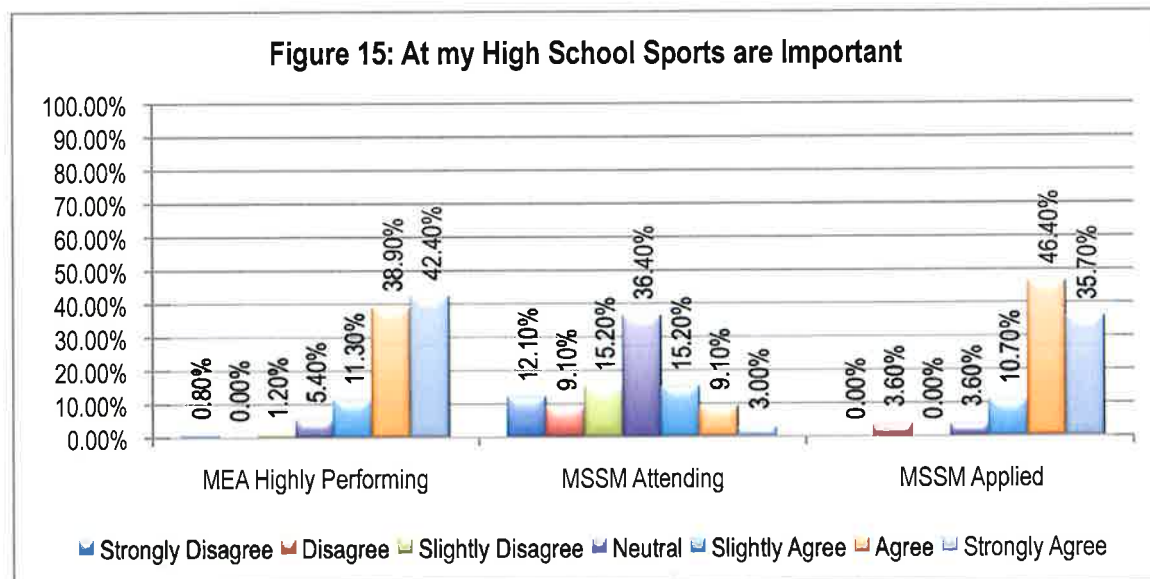
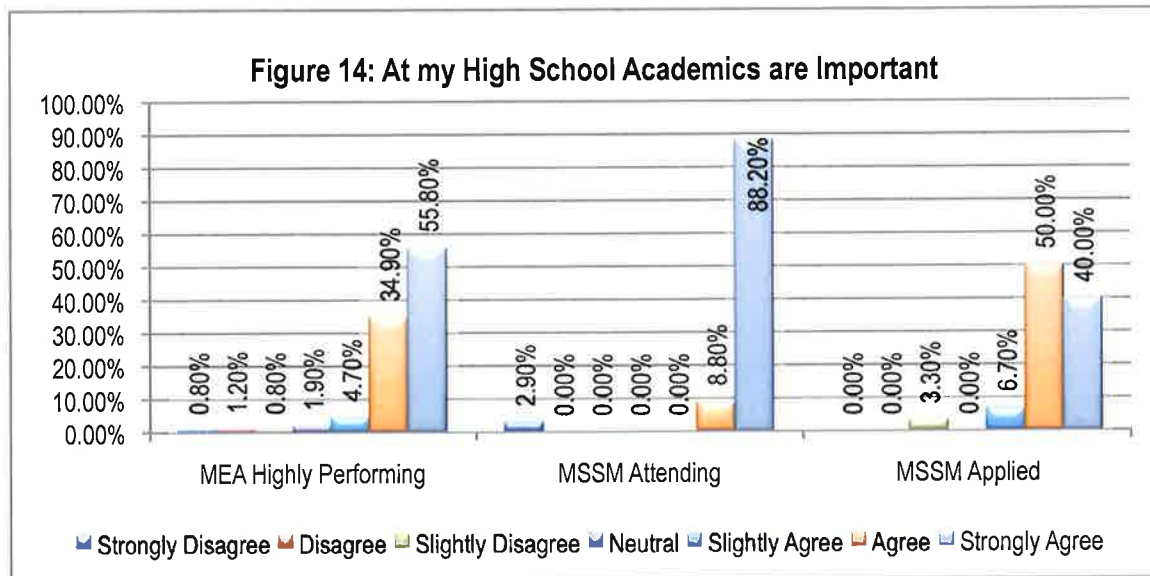
In order to examine the characteristics that might differentiate the student groups in this study, data were gathered from several different sources and included demographic, student survey responses, and student focus group and interview data. Parent demographic data (which was linked to child data) suggest there are no significant differences among these groups in family income, racial background, or parent levels of education. However, as a collective group, these families are wealthier, better educated, and hold more advanced degrees compared to the median Maine household⁴. The complete description of the analyses performed for parents' demographic data can be found on pages 64-69 of the Technical Report.

Students completed the Student Speaks II (SSII) survey of student aspirations (Tu, Mitchell, Mason, & Wilson-Barker, in press). This survey was designed to assess several theoretical constructs measuring student aspirations and has been used extensively with students in Maine high schools. Students' scores for these constructs were analyzed and revealed no significant differences between the MSSM Attending and MSSM Applied students. MSSM Attending and Applied students reported higher levels of social supports from adults than did MEA Highly Performing students. Additionally, MSSM Attending students indicated higher levels of intrinsic motivation than did MEA Highly Performing students. The overall pattern showed that while the highly performing groups surveyed in this study had significantly higher aspirations than the state as a whole (for the entire SSII measure) their aspirations were not significantly (nor substantially) different than each other. A more complete analysis of these questions can be found in the Technical Report.

Students also responded to a series of questions about the academic and social aspects of their high schools. *Compared to MSSM Applied students' ratings of their local high schools, MSSM Attending students rated MSSM significantly higher for its focus on academics, having teachers encourage them to "try hard", and recognizing students for their efforts.* The only area rated significantly lower by MSSM Attending

⁴ Source: US Census, 2008 American Community Survey

students (versus MSSM Applied students) was the importance of sports in their school. Figures 14 & 15 (below) show the pattern of responses for the academics and sports questions. The complete analysis and list of figures appear in the Technical Report on pages 16-21.



There were other statistically significant differences in the respondents' perceptions of the worth and rigor of high school classes for MSSM Attending, MEA Highly Performing and MSSM Applied students. When judging the worth of their academic classes, MSSM Attending students consistently rated their classes higher

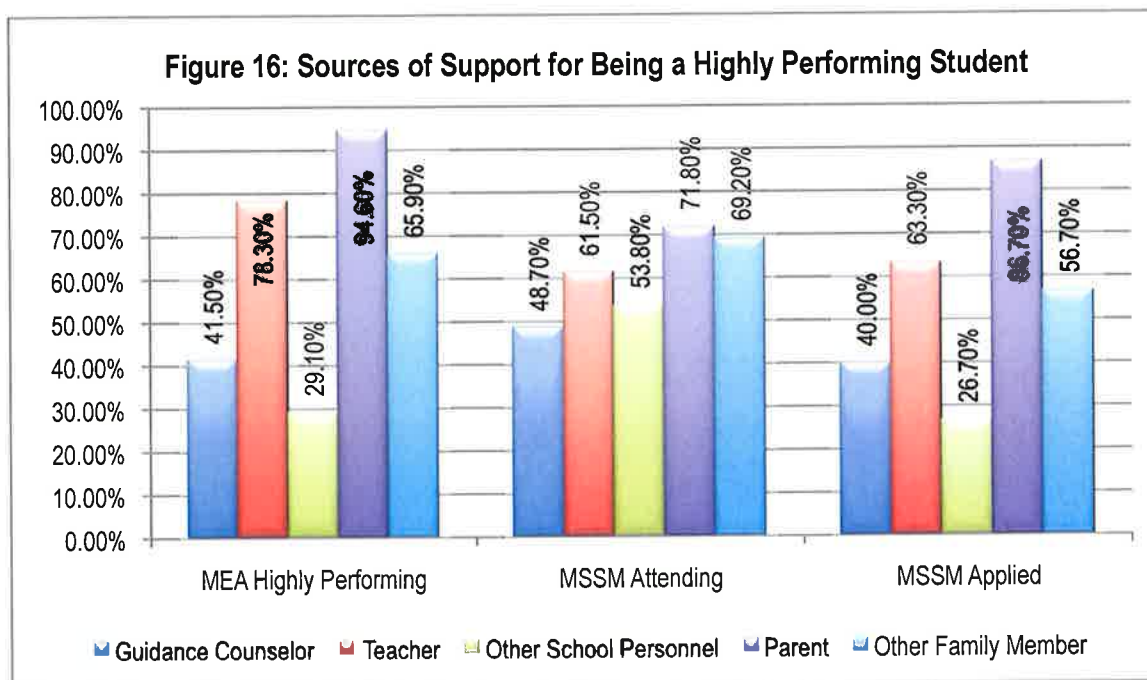
than did either MEA High Performing or MSSM Applied students. For example, a total of 63% of the MSSM Attending students, 47% of the MEA Highly Performing, and 43% of the MSSM Applied students rated their math classes *Extremely Worthwhile*. This is particularly interesting given that there were no significant differences among these groups in their ratings of the importance of these classes. The overwhelming majority of students rated all subject areas (English, Math, Science) as *Important* or *Extremely Important* (83% to 95% of respondents across all groups).

When asked to judge the challenge of their math classes, nearly 60% of MSSM Attending Students indicated their math classes were *Very Challenging* while just 12.5% of MEA Highly Performing Students and 30% of the MSSM Applied group marked this option. Students' responses about their science classes showed a similar pattern. Over 50% of MSSM Attending Students rated their Science courses to be *Extremely Challenging* while just 11% of the MEA Highly Performing and 13% of the MSSM Applied groups did so. Finally, students were asked to rate the challenge of their English courses. Overall, while students did not rank their English classes to be as difficult as Math and Science, 23% of MSSM Attending students indicated their English classes were *Extremely Challenging*, while just 8% of MEA Highly Performing, and 7% of MSSM Applied students marked this option. The complete analysis and list of Figures for students' judgments of the worth and value of their core academic classes can be found on pages 21-26 of the Technical Report.

Students also indicated the level of support they received as a highly performing student in general, as well as support that was specific to career counseling and advanced coursework. While students' reported sources of support were similar, MSSM Attending students rated their levels of support from their parents significantly lower than did MSSM Applied or MEA Highly Performing students. They also rated the level of support from their teachers and their guidance counselors to be higher for both career counseling and encouragement to take advanced and alternative coursework.

The reasons for these observed differences are matters for conjecture. Did MSSM Attending students always have lower reliance on their parents for this kind of support, or did they develop less reliance on their parents as a result of living away from

home? Although it is impossible to say which came first, the magnitude of the difference is substantial. While 87% of the MSSM Applied students (and 95% of the MEA highly performing students) listed their parents as general sources of support, only 72% of the MSSM Attending students did so. The issue is similar for their reported levels of support from teachers, guidance counselors, and other school personnel. Would they have rated these individuals this way if they had never attended a residential school? Figure 16 (below) serves as an example, and shows the pattern of student responses for this question. The complete analysis and list of figures for the remaining questions appear on pages 26–42 of the technical report.



The next section of the student survey asked students to indicate whether they expected to go to college, if they had failed a class or been on the honor roll recently, or if they were taking any College Board or AP courses. MSSM Attending students rated themselves as significantly less likely to go to college, or be on the honor roll as did either MEA Highly Performing or MSSM Applied students. *It should be noted that this item had almost no variance overall, and while only 6 of the MSSM attending students indicated they did not expect to go to college, only one of the students in the MEA Highly Performing group and none of the students in the MSSM Applied group responded similarly.* Conversely, MSSM Attending Students were substantially more

likely to be enrolled in a College Board AP course and to have failed at least one class on their last report card. These patterns are consistent with MSSM Attending students' rankings of MSSM as more difficult than their local high schools and MSSM's lack of a traditional GPA based grading system.

Student interviews provided additional details about the similarities and differences among the MSSM Attending, MEA Highly Performing, and MSSM Applied groups. Interviews were conducted by telephone and included several questions about students' high schools and their future plans. Additionally, three focus groups were conducted with MSSM Attending students to further explore their perceptions and attitudes. Summaries of students' answers appear on pages 91–112 of the Technical Report.

MSSM Attending Students. Students were asked to describe MSSM and what was most important to them about the school. Consistently, these students talked about making friends with other students and with teachers. The positive experiences reported by these students stand in contrast to the experiences they described at their local high schools. These students were pleased that MSSM did not have “cliques” like their local high schools, and that it was easier to make meaningful relationships with teachers and other students.

Students indicated there was “no comparison” between the rigor of the classes at MSSM, and the rigor of the classes in their local high schools. Similarly, these students praised the teachers at MSSM as being more invested in students' learning and in the quality of instruction than the teachers back in their local high schools.

Students were asked to comment on the extent to which they had talked with their guidance counselor at their home high school, their guidance counselor at MSSM and their parents about their future career plans. Students indicated they had received very little counseling at their home high school, and that most of their career counseling had come from MSSM, or from their families.

When asked what they intended to do after high school, all of the students indicated they would attend some kind of college. Several of the students had quite specific plans

for medical school, or economics, or other fields of study so specific, they are not mentioned here to protect the identities of the respondents.

MSSM Applied Students. Similar to the MSSM Attending interview, students were asked to describe their high school. This group tended to focus more upon the aspects of their high school that were important to them, and unlike the MSSM Attending students made relatively few general statements about the quality of their high school. Similar to the MEA Highly Performing group, MSSM Applied students listed available classes, sports, clubs, and friends as being the most important aspects of school. Several students also talked specifically about the math and science classes, and a few others mentioned their relationships with their teachers as being quite important.

Students were also asked to describe the conversations they have had with their guidance counselor. The majority of students said they had little to no contact with their guidance counselor. Only a few students described more meaningful relationships or conversations with the school counselor. This pattern of results is consistent with those of the MEA Highly Performing, and MSSM Attending students' comments about the support they received from guidance counselors in their home high schools.

MSSM Applied students also described the kinds of conversations they have had with their parents about post-secondary educational opportunities and future career plans. Similar to the MEA Highly Performing students, MSSM Applied students had discussed these issues primarily with their parents. These students described the aspirations their parents held for them, as well as some of the specific topics of discussion. For example, one student talked about a specific program between Maine Medical and Tufts for medical school.

Next, students were asked to describe their aspirations following high school. The majority of responding students (13 of the 16 interviewed) talked about entering a STEM⁵ or medical related field. Only three of the students who responded to this question expressed an interest in the social sciences or education as a field of study. All of the responding students talked about some kind of post secondary education.

⁵ Science, Technology, Engineering, or Math

MEA Highly Performing Students. When students were asked to describe their high school they were generally very positive. They specifically praised the variety of courses, participation in sports and relationships with teachers as positive characteristics of their local schools. Some students mentioned social and drug related problems at their high schools. Criticisms and concerns like these, however, were the minority of responses.

Students described the role their guidance counselor had played in their post-secondary career planning. In general, they had not had any significant contact with their guidance counselors. Several of the students had more serious conversations, but two of these interactions were self-initiated. This experience is in contrast to that of MSSM students, however, MEA highly performing students were in 10th grade, and may not yet have experienced the full range of counseling offered in their high schools.

Next, students discussed the degree to which they had talked about future careers with their parents. All of the students had talked about these issues with their parents, and many of them had discussed them at length. Students reported talking with their parents about specific career and post-secondary educational aspirations, as well as the courses they will need to take in high school to achieve those goals. This is in direct contrast to the infrequent discussions they reported having with their guidance counselors. It is unclear if these students desire or would benefit from increased involvement of their guidance counselor.

The next question asked students what they planned to do after high school. All but one specifically mentioned college, and most of the students discussed a math or science related field. Several students talked about taking extra math and science courses now, or were planning to take extra ones in the coming years to prepare themselves to go to college and major in STEM disciplines. Of the 20 students interviewed, only 3 students talked about going into non-technical fields of study. Almost all of the students talked about taking a rigorous course of study in high school, and most of them discussed very ambitious plans for the future.

The students represented in this study came from families with higher than average levels of parental education and household income. These students also have similar interests and aspirations. They differ in several important respects. MSSM Attending students perceive MSSM to be more supportive, academically challenging and personally rewarding than their local high schools. These groups of students did not differ substantially in their backgrounds, interests, or aspirations, but did indicate substantially different views of their local high schools and of MSSM.

Question 5: How do the learning opportunities, social environments, and academic supports provided by MSSM differ from those provided by local high schools?

Originally, this question was posed to determine the extent to which there may be specialized offerings at MSSM that were not available in students' local schools. However, the data suggest a more complex answer that includes the variety of courses offered, the characteristics of the social environment, the academic supports for highly performing students, and respondents' perceptions of the quality of these offerings and characteristics. The data presented below first addresses the variety of educational opportunities available to students at MSSM and their local high school. Next, it describes the perceptions of MSSM Attending students about the quality of MSSM compared to their home high schools.

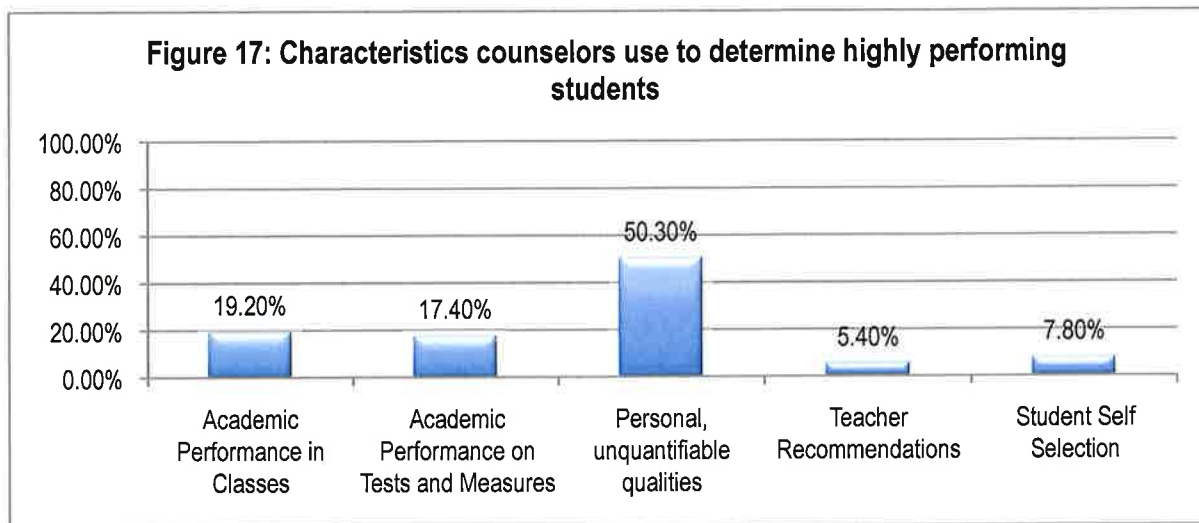
Guidance Counselors perceptions of the quality and availability of academic opportunities for highly performing students and the social environments at their high schools. Guidance Counselors listed several academic offerings including AP courses, early college courses, Academ-e, and similar accelerated options for students. A series of independent samples t-tests show the availability of these academic offerings is statistically similar in schools whose guidance counselors have and have not worked with a MSSM Attending student. Most responding Guidance Counselors agreed these advanced opportunities were beneficial to students. They indicated that AP courses taught in their school and attendance at local college courses provided the highest levels of benefit for highly performing students, and lower levels of benefit were provided by online courses, Academ-e, and local college courses offered in their school.

The majority (65%) of responding guidance counselors indicated it would be beneficial if their school offered additional specialized courses taught at a local college or university. Less than half (48%) of respondents indicated it would positively benefit their students to offer more college courses via the computer. There were no significant differences in the ratings of guidance counselors who have and have not worked with MSSM students. Respondents' complete response patterns for these questions can be found in tables G5 & G7 in Appendix C of the Technical Report.

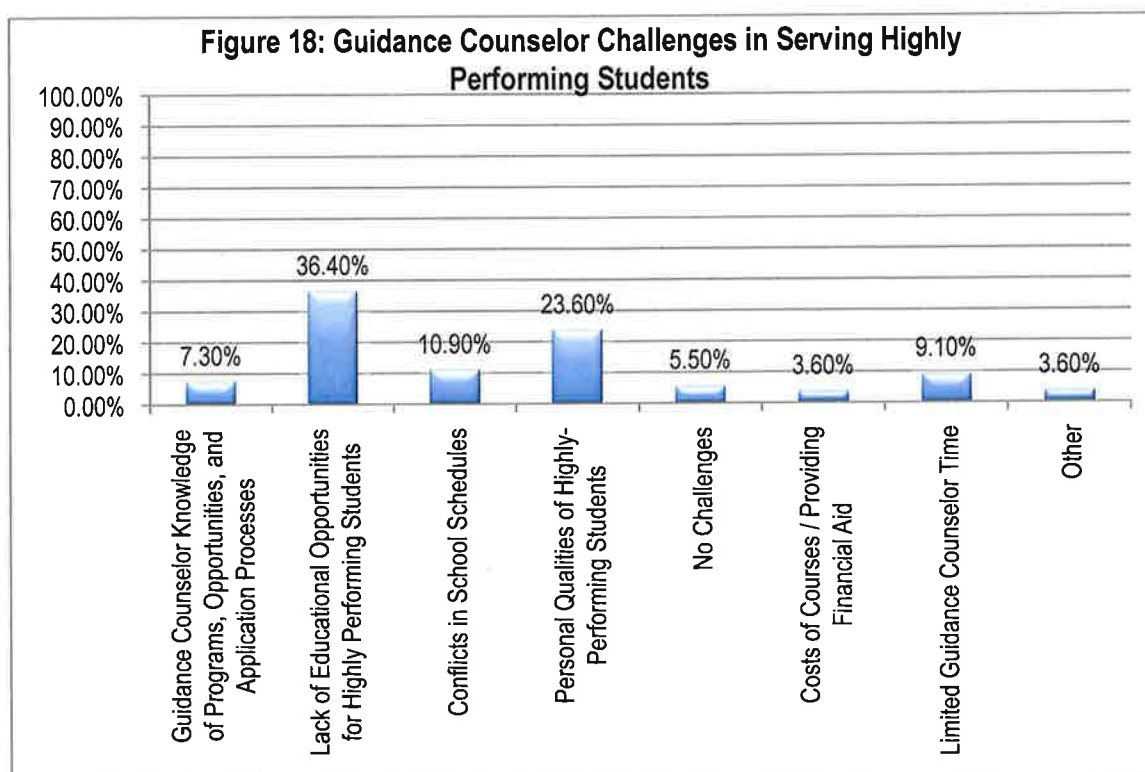
Guidance Counselors were generally positive when they rated the quality of the social environment and academic programs in their school. If their responses are collapsed such that *strongly agree* and *agree* are combined, *neutral* remains a category, and *disagree* and *strongly disagree* are combined, 82% of respondents positively rated the social environment, 89% indicated their school offered a strong program in English, 88% indicated a strong local program for math, 86% indicated a strong local program for science, 70% indicated there was a strong local program for foreign languages, and 74% reported there was a strong program for music and performing arts. Just 36% of respondents indicated their local school had a strong program for gifted and talented program.

Guidance Counselors also responded to several open-ended questions about the needs and characteristics of highly performing students. Responding counselors described the characteristics and qualities they use to identify highly achieving students. Their 167 responses were divided into five broad categories: academic performance in courses, academic performance on standardized tests and measures, personal unquantifiable qualities (e.g. work ethic, curiosity, motivation, creativity), teacher recommendations, and student self-selection. Figure 17 (below) shows the distribution of the 167 responses across these categories for the 68 counselors who answered this question. Half of all characteristics used by counselors to determine which students were "highly performing" included personal qualities that are difficult, if not impossible,

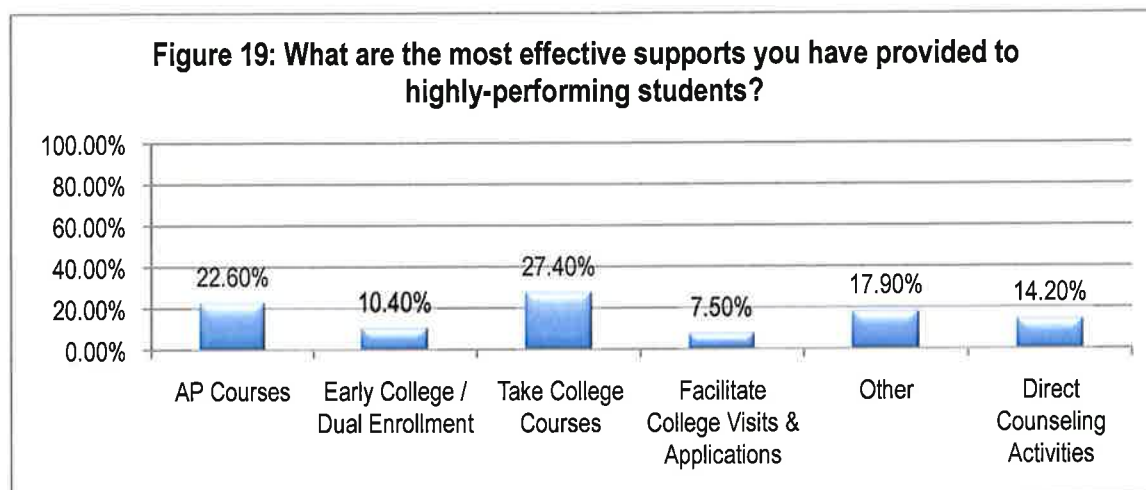
to compare in any consistent manner.



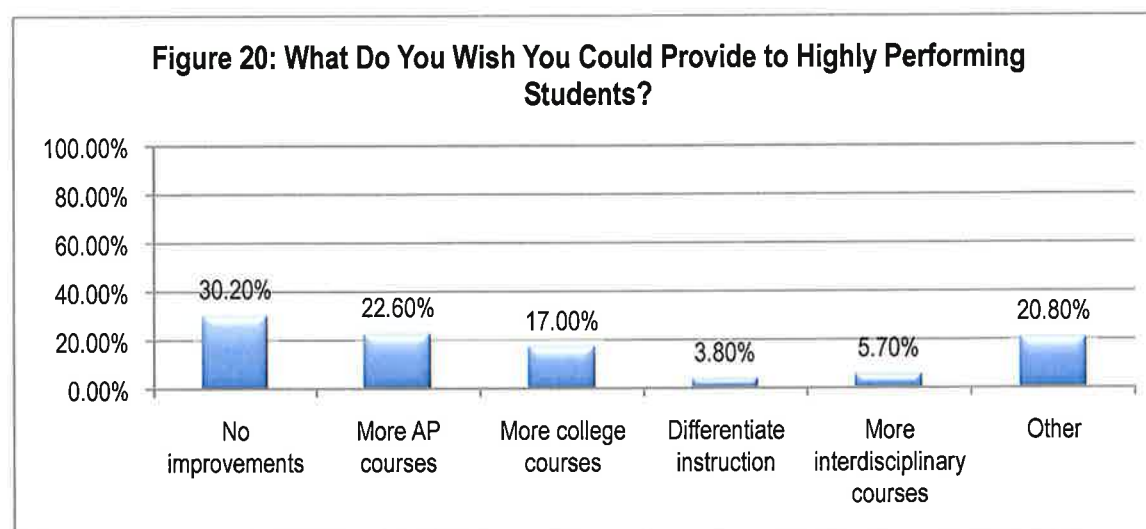
Counselors were asked to describe the challenges they faced in supporting highly performing students in their schools. The 68 responding counselors submitted a total of 53 responses to this question. These responses were divided into several categories of challenges shown in Figure 18 (below). The first category included 20 responses (36% of the total) related to the lack of local opportunities appropriate for highly performing students. Several of these responses focused on the limited number of upper-level classes available. The second category included 13 comments (24% of the total) focused on the more challenging personal characteristics of highly-performing students. Comments for this category included concerns about students being “stressed out,” “lazy,” “lacking motivation,” and other similar characteristics. These responses were grouped because they represent qualities and characteristics that are unquantifiable. The third most common category of comments included 6 comments (11% of the total) related to problems with school schedules allowing students to access the courses they needed (or wanted) to take. Respondents submitted a total of 5 comments related to the limited time they had to work with these students. Other categories of responses included 4 comments related to counselors’ personal knowledge of appropriate opportunities, 3 counselors who indicated they had “no challenges,” 2 comments about the costs of providing accelerated learning opportunities, and 2 comments related to other issues.



The next question asked counselors to describe the most effective supports they provided to highly-performing students. Responding counselors offered a total of 167 responses to this question. The most common categories of supports (in descending order of frequency) were: a) enrollment in college courses, b) enrollment in AP courses, c) *other* (which included unclassifiable responses that did not neatly align with any of the identified categories) d) direct counseling activities (which included approaches such as “encourage them,” “introduce them to career exploration,” and “listen”) f) dual enrollment in a college or university, and g) supporting students during the visitation and application process to highly competitive schools. Figure 19 (below) shows the distribution of Guidance Counselor responses to this question.



Counselors were then asked to list things they wished they could offer highly performing students, but were currently unable to offer. Responding counselors offered a total of 53 responses to this question. The most common responses were (in descending order): a) no improvements, b) more AP courses, c) more college courses, d) more interdisciplinary courses, and e) a greater emphasis on differentiation. Figure 20 (below) shows the distribution of Guidance Counselors' responses to this question.



Student perceptions of the quality and availability of academic opportunities at MSSM and their local high school. Students were asked how MSSM differs from their home high school and responded with descriptions of major differences. Many described vast social differences and noted that they seemed to fit in better at MSSM,

have more in common intellectually and socially with MSSM students and that there were not as many cliques. "It's a lot different than a normal high school." Students reported more tolerance for others, fewer rumors and that the small student body meant a closer student community.

Other students noted that the dorm life was another important difference and most spoke positively about it. The only negative seemed to be the remote location of the school and the feeling of isolation. They reported they have to be more self-sufficient and handle social situations on their own. "We live with our friends." Students also discussed how they were unique: "You don't go to a public high school and see kids at the lunch table arguing about trig functions." Students reported they do a lot of gaming. Some were concerned that they cannot leave the school and that they are left with hanging out or on the internet. They described games they made up (some of which were not age appropriate or reflected potentially unhealthy choices) to escape some of the pressure. They noted: "We have to find our own fun."

Most students reported they experienced high levels of stress at MSSM. They reported that many students had moments when they questioned if they wanted to be there or not. Some students described grades dropping from high school because of going to a more challenging school. Many described MSSM as more stressful, but that most of the stresses were academic and not social. The students noted that at MSSM there was a good academic support system. "At my old school, if I needed help on my math, I was screwed." Students reported they had access to tutor and teacher help and relied very much on each other to succeed academically. Many indicated that these supports did not exist in their home high schools. Students provided some examples of the stress levels when they described the long days and their packed schedules. Others students noted that they took things like foreign language and astronomy that took a lot of time outside the regular school day. One student commented: "I don't consider my day done until at least 9:30 (pm)."

Several students noted that because MSSM does not have GPA, valedictorians, or class ranking, there is not as much adversarial academic competition as in their local high school. Many other students noted that class interaction was much better at

MSSM. One student commented: "The academics are spectacular." These students reiterated the concern that at their local high school they didn't have anyone to help them with problems because few were at their intellectual level. "All of our classes, except for French, are college level."

Given the concerns of MEA Highly Performing and MSSM Applied students about living away from home, the MSSM Attending students were asked to describe how they communicated with their families. While one student said they emailed every day, many students email back and forth less frequently and some forget to call on a regular basis. It was more common for the girls in these groups to contact parents than boys. Interestingly, no one (in this group) noted that they had been overwhelmed with homesickness. Most of the students noted that email was the most predominant mode of communication. Some noted regular phone calls. Many of the students only went home periodically. "We're very independent here." Some noted that they talked to their parents about parental issues and not so much about college plans, etc. "I call them when I need to... but once you've been here for a while they realize you're busy...sometimes I don't call her at all." Some students noted that the distance from their families has actually helped both academically and personally. A few noted that they fought less with their families now. "Whenever I go home my parents are really happy to see me." Most noted that homesickness was not a major issue but a few students talked about missing family.

Students were asked to talk about the classes available to them at MSSM. Many students felt that there is a good selection of core classes that are geared to prepping students in business, science or math past high school and there were also plenty of humanities classes. One student commented: "Even though we are a specialized high school, we are still a high school." The students were preparing for various fields in business, computers and education. "If you have a focus there is more of an opportunity to follow it." Some students noted that their home high schools had a larger variety of courses available to them than what was available at MSSM.

Finally, students were asked to comment on the differences in career counseling at MSSM and their home high schools. In this area, MSSM Attending students noted:

"We didn't really get any help from our counselor." "She (the guidance counselor) probably had no idea who I was." Several of the students reported having completed surveys at their sending schools that helped to narrow their career choices. Most noted however, that those surveys yielded irrelevant results where academically gifted students were directed towards construction, fire fighter, and interior design, but not to highly specialized or technical fields such as engineering, law, research, or medicine. The students found these entertaining and comical but not very helpful in shaping their choices.

MSSM Attending students all reported they knew the MSSM guidance counselor very well. "We have this huge support system." "The college counseling is really spectacular." They describe the guidance counselor on campus as an involved and active person. MSSM offers junior and senior seminars that prep students with help on the college application process, etc. "It definitely set me on the right path." "It's making you apply to college in a timely fashion." Many note several meetings with the guidance counselor at MSSM "Constantly, like every day." "He's a friend more than a counselor." They noted that the support was particularly helpful in writing essays for college applications.

Both students and Guidance Counselors perceived a broad variety of academic opportunities available in their local high schools. However, there were substantial differences in these groups' perceptions of the quality and rigor of academic offerings. Guidance Counselors also reported mixed, and at times confounding information about their schools and the supports they provide to highly performing students. For example, they reported having strong academic programs in their schools (e.g. 88% reported their math program was strong) while, only 36% of responding Guidance Counselors indicated they had a strong Gifted and Talented program in their schools. Although a number of counselors indicated they would like to offer more college and AP courses for highly performing students, a significant number (30%) said they would make "no improvements" to their school's offerings.

Question 6: What differences in knowledge and perceptions exist between guidance counselors who refer students to MSSM and guidance counselors in comparable high schools who do not refer students to MSSM?

To determine if there were differences in the perceptions of Guidance Counselors, an electronic survey was sent to all Guidance Counselors listed on the Maine Department of Education guidance counselor contacts webpage. Of the 160 Maine Public School Guidance Counselors who completed the online survey, 68 were from high schools. These 68 respondents represented 50 High Schools with an average class size of 164 students. The 50 schools represented in these results represent 41.6% of all high schools in the state with grade 9-12 students. The remaining 70 non-responding schools with grade 9-12 students had an average class size of just 89 students. It is probable that due to their smaller size, non-responding schools may not have full time Guidance Counselors to respond to this survey. To determine other differences between represented and non-represented high schools, summary statistics were computed for a series of other school level variables. There were statistically significant differences in the characteristics of schools associated with responding guidance counselors compared to non-responding schools. These differences indicate that the attitudes and perceptions of guidance counselors in the represented schools may not accurately reflect all guidance counselors in Maine.

In addition, these variables were examined for 43 respondents who had worked closely with a MSSM student, and the 18 of those who had not worked closely (7 respondents did not answer this question). *Analyses showed only district size and number of full time teachers were significantly related to whether guidance counselors had worked with MSSM students.* The data indicate that Guidance Counselors who have worked with one or more MSSM Attending students come from larger school districts with a larger number of full-time teachers. Except for school district size (and number of teachers), responding groups of Guidance Counselors come from schools with similar characteristics.

Respondents were asked to comment on their level of knowledge about programs offered by MSSM. Not surprisingly, a greater proportion of responding counselors who previously worked with MSSM applied/attended students indicated they

knew “a lot” about MSSM’s programs compared to counselors who *had not* previously worked with MSSM applied/attended students.

When counselors were asked to indicate how they first heard about MSSM, the majority of respondents indicated direct mailings and word of mouth (both professional and personal) as the most common sources of information. A few respondents also learned about MSSM from the internet or another source of information (such as the kiosk at the airport). A series of 2X2 chi-square tests revealed no statistically significant differences between the sources of information for these two groups of guidance counselors.

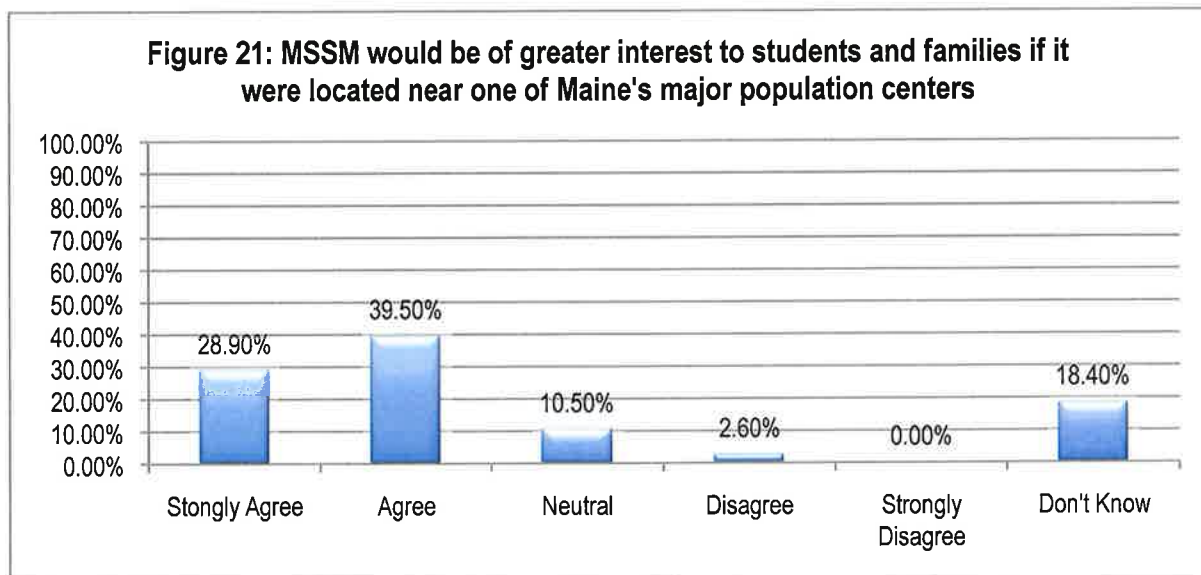
Next, counselors were asked to judge the benefit of a residential magnet school for highly performing students. The majority of responding counselors were neutral in their judgment of this question, with approximately one-third of respondents judging the magnet school to be a positive experience. Less than 20% of the respondents *disagreed* that a residential magnet school was a positive experience. Finally, there were no statistically significant differences between the response patterns of counselors who have, and who have not worked with applied/attended students.

The next portion of the survey was completed only by the 45 counselors who indicated they had previously worked with a MSSM applied/attended student. When asked if they had ever encouraged students to apply to MSSM, 31 respondents (71%) indicated they had encouraged more than one student, while another 3 (7%) had encouraged just one student. A total of 10 respondents (23%) had never encouraged a student to apply to MSSM. One counselor did not answer this question. When asked if any of their students had attended MSSM, 42 respondents (93%) indicated yes, while just 3 counselors had never had a student attend MSSM.

Next, respondents rated the same social and academic characteristics they had judged for their local school, but this time for MSSM. A total of 38 high school level respondents completed this portion of the survey. The majority of respondents (60%) indicated they were *Neutral* or *Don’t Know* about the supportiveness of the social environment of MSSM. Approximately one-third of respondents judged the social environment of MSSM to be supportive. When asked to judge the quality of the English

program at MSSM, 13 (34%) respondents were *Neutral* or indicated *Don't Know* on their survey. The remaining 25 (66%) of the respondents *Agreed* or *Strongly Agreed* that MSSM offered a rigorous education in English. A greater proportion judged the Math (97%) and Science (97%) to be rigorous. Respondents also judged MSSM's rigor in foreign languages, music, and performing arts, as well as the performance of the guidance counselors at MSSM.

The final rating scale on the Guidance Counselor survey asked respondents to judge whether relocating MSSM nearer to a population center in Maine would make it of greater interest to students and families. A majority of respondents (68%) *Agreed* or *Strongly Agreed* with this statement, while only 1 respondent *Disagreed* (Figure 21).



Guidance Counselors were also asked to list the qualities needed for a student to be successful at MSSM. This question was only administered to those counselors who had previously indicated their involvement with an MSSM Attending student. As a result, just 12 comments were provided in response to this question. In general, Guidance Counselors indicated that students need to be independent, motivated, focused and intelligent to do well at MSSM.

The majority of counselors agreed that MSSM would be more attractive to students and parents if it were closer to a population center. In addition, a significant number of responding Guidance Counselors had limited knowledge of MSSM's programs. For counselors who had not worked closely with a MSSM student, 84% knew little or

nothing about the school. More concerning still were the 60% of the counselors who *had worked* with a MSSM student, but still reported they knew little or nothing about the school. Notably, there is a significant discrepancy between Guidance Counselors' and students' perceptions of the quality of counseling services and academic opportunities for highly performing students.

Question 7: What perceptions do current MSSM teachers and staff members hold about the school, and what opportunities and barriers do these individuals identify for MSSM in its quest to fulfill its mission?

Teachers and staff members were invited to participate in on-site focus groups held in April, 2009. A total of 13 full time staff members participated in one of two sessions. In addition, all teachers were invited to participate in an online survey that reiterated the questions posed in the focus group sessions. In this manner, all teachers were given the opportunity to participate, even if they were not able to attend the focus group sessions. In addition, for those teachers who did not wish to speak in front of their peers it afforded an opportunity to express their thoughts in a confidential manner. A total of 4 additional teachers completed the survey online. Focus group and survey data were combined in the following analyses.

In order to address the broad research question, teachers were asked to comment on what it was like to work at MSSM, what the students were like, why teachers chose to work there, why teachers chose to leave, and what aspects of the school and the community made it a rewarding and challenging place to work. Participants were also asked to comment on why it was difficult to hire and retain teaching staff at MSSM. Finally, teachers were asked to comment on MSSM's physical location, and the implications that its location had for the students and the teaching staff.

Responding staff members noted many positive characteristics of working at MSSM. Primary among these was an appreciation for the students they worked with. Teachers talked at length about the talent, creativity, and passion of their students. It was consistently the first thing teachers said when asked why they liked to teach at MSSM. Representative comments include: "Teachers teach because of the kids." "Most kids want to be there." "[There are] no worries about classroom management."

Teachers reported that students at MSSM seem to “self policing.” Teachers noted: “Seldom do you have to speak to them.” “Often, they will speak to each other before it even gets to you.” “I wish I could have had about 32 years teaching at MSSM.” “When students don’t do well we assign them to [work extra time in] our classrooms.” “No one leaves because of our students”. Teachers described it as a better place to teach since all of the kids seem to be more focused. They noted the students want to learn and be challenged, and that teachers have high levels of freedom to teach the way they want to.

When asked what some of the challenges of teaching at MSSM were, several participants brought up intra-school communication. One teacher commented, “Communication is an issue.” Some staff noted a lack of collaboration between the faculty and administration. “We tend to get surprised by things. Things get dumped on us.” Other participants reported that in some cases the staff had no warning before changes are made, (e.g. the staff found out information at the same time as the students). Some teachers described a school rumor mill and the prevalence of hearsay information because of a lack of information from administration. “We get more information out of the kids than we get through official channels.” “A community as small as we are, you can’t have people keeping secrets.” Other participants noted that there were so many administrative staff and levels of staff, there seemed to be very little consistent information between these groups and the staff. One staff member described being told one thing in a meeting and hearing something different in an assembly. They noted that information from the administration is not consistent or disseminated appropriately (or sometimes at all). “If teachers don’t feel as though they have an issue resolved, they [have to] go to administration.” Conversely, teachers reported that communication with parents was “good and easy.” “They come directly to the teachers.”

Another barrier discussed by staff was the lack of free time for teachers. Teachers noted that their role was not limited to the daytime. Several of the teachers described having students in their classrooms, and in their homes at night, and on the weekends. One teacher described always having students around, “It puts a great deal of stress on [personal] relationships.” Teachers described the experience of single teachers

differently from married in that married faculty tend to take on more of a parental role to the students. Teachers that lived on campus spoke of students coming to their homes because they were looking for parental guidance. "They'll come to us with some things they don't want their residential staff knowing." "There is no free time." "You never get anything done because when you are here that is when the kids come and talk to you." Some teachers noted the only way some can get free time is to go into your room and turn out the lights. Some instructors use breaks to catch up or school vacations doing school work. At the same time, other staff members noted, "It can also be invigorating... One of the reasons I stay here is that the kids are wonderful." "You're not lonely here." Those that don't live on campus reported fewer issues with students constantly in their personal lives.

Teacher job expectations and teacher satisfaction was noted as both an opportunity and a barrier by teachers. Some noted that one benefit of teaching at a charter school is the "freedom to design what you want to teach." Another positive aspect of MSSM that teachers described was a good support system for related to questions and concerns expressed by parents. Parents will be referred back to faculty when they have a concern. Negative aspects included longer days and stringent expectations of teachers. "MSSM is famous for expectations of their teachers... Here the days are much longer. The expectations and commitments take a lot out of teachers." Teachers described the lack of social activities and how this affected overall satisfaction. "The MSSM lifestyle is so demanding that traveling out of the area can be hard due to lengthy travel times. If I need to get away from the campus, I need to go an hour to get a cup of coffee." Several wanted the campus located in Presque Isle.

In addition, teachers talked about the multiplicity of duties they are expected to complete at MSSM. "There's nobody here that does one job." They talked about how all teachers must wear multiple hats which takes a lot of time and energy away from their main job and personal life. "If all faculty members were not willing to do more than one job, we could not provide a student life program." They went on to comment that staff in the health center also teach, administrators also teach and teachers have numerous

extracurricular activities. These are considered part of their duty and they do not receive additional pay for these additional responsibilities.

Teachers discussed teacher retention and salaries as additional barriers for teachers at MSSM. One participant noted, "We've gone through like 10 physicists" It was noted that it was harder to retain younger faculty at MSSM but generally the turnover rate was described as relatively low (higher with the resident interns). Teachers noted the attrition also varies from department to department and that some people stayed because, "We all have ties to the area." [Note: other teachers clearly disagree with this statement.] The resident interns were said to have a higher "burnout rate" and that the extra time with students can mean longer hours and days (up to 60 hours per week and more.) Teachers also talked about the pay scale at MSSM. Unlike regular schools, there is no salary advancement system in place. One teacher noted, "We've had 3 years without a pay increase." The teachers are not MEA members so they don't have contracts, but rather a verbal agreement on salaries, etc. "After the first two years you have slightly more ability to stay." They describe salary negotiation as not consistent but that things like housing and meals may be used to supplement the salaries.

Another barrier/opportunity discussed by staff members is the school's location. "The location is why I came...I like the rural part [but] I think it is important not to live in Limestone." Although some of the staff liked the remote setting, others did not. Nor did they like the long winters. One longer-term teacher noted, "If we move south, I probably wouldn't move with it." This teacher described a cultural difference with the students that attend the school and note that the remote location may help to promote more academics and time on studies. However, other teachers would welcome the opportunity to move the school because they feel it is too remote. They described students having to leave family and if the school were more centrally located, there may be fewer drop outs and enrollment issues. "I distinctly feel our location is a detriment." "I think a lot of our students give up a lot to be here." Several also suggested that if they were located near a university, their research and programming might be improved. "We

don't have those opportunities [for research] here in Limestone. They noted that several qualified teacher applicants turned down jobs there because of the school's location.

Some staff noted that when they were hired, they were recruited as couples and that was a motivating factor in their decision to come. One person noted that the MSSM staff tried to speak with recruits' spouses and point out the positives of the area. "We recruit nationally", "I would say that location is a big factor why people leave." Lack of cultural opportunities was also noted as a factor in some teachers' decision to leave. Some teachers said certain faculty members leave because they don't have the opportunity to advance their degrees and would have to commute to someplace like Orono. They also noted that other teachers have "been turned off by the residential experience." These people found it too much to be immersed in students and community. "Location is a major issue." "They haven't found a way to be integrated into the community and fail". They haven't felt at ease to link up with the culture of the area or they haven't found ways to get involved in their community.

Participants noted that some younger faculty wanted to start at the school but when they saw the location they decided not to stay. For life reasons, many move on. This group was thought to have been responsible for a large part of the turnover. "There's a high turnover in that part of the faculty." Some thought young faculty left because they were young and wanted to get married. The remoteness of area and the lack of social opportunities influenced their decision to leave.

Teachers also talked about the effect of the remote location for students and their families, "I think it is more of an obstacle in the mind of the parent." Some parents may have a feeling of safety because of the remote area, but others are concerned that MSSM is far from health services and medical facilities. "We just have one mental health case after another from November to March." That wears on staff and puts a strain on the limited mental health providers in the area. Several teachers commented that "many students" left because of location. Some teachers have suggested making improvements in the dorms to let in more natural light and improving the dining facilities. "That's where they spend all their time (in the dorm)"

Participants identified budget cuts and shrinking resources as another barrier for the school. One teacher commented, "I think the biggest challenge is money." Another teacher noted that the room and board fee does not cover expenses associated with housing students on site. Several teachers noted the school is having difficulty getting funding from private businesses and foundations since they are technically a public school. Because of the rural nature of the state, and MSSM's unique position as the only publicly funded magnet school, there are relatively few families who can afford to pay the entire boarding expense. One teacher noted, "80% of students receive financial aid," however, the financial aid only pays a portion of the expenses, and the school is expected to kick in matching funds. They described that while the state does not want to give money, they give financial aid. They noted they would like to be private so they could "go for the funding."

In addition to teachers' overall comments about reductions in funding, several participants discussed specific program cuts. "I don't think that is something anyone is happy about." They feel they are at a point where they need to expand not cut, and said that the school's technology has to be improved due to the nature of their programs. Teachers expressed the sentiment that there are simply not many other cuts left to make before the school is fundamentally compromised.

Finally one respondent said that when their director asks for money from MDOE, the state looks at the enrollment in the school. They went on to explain that paradoxically, when MSSM increases the number of in-state students attending the school, the school has to provide additional matching funds to cover the difference between the financial aid provided to students and the actual housing costs. "These are not students that end up generating money for us. They end up costing us money. Our funding source [the State] doesn't appear to be able to provide us with what's adequate. We currently are not charging what it costs to maintain those students. We're not getting those dollars from the state." The school absorbs many losses through financial aid. They want to raise tuition but the school board thought it would do damage to the enrollment goals. Teachers identified a real need for the school to serve highly

talented Maine students who could not afford the many private schools in the state, but stressed the need to reconsider how MSSM was funded.

Teachers talked very positively about teaching, and working with some of Maine's most talented and creative youth. They also praised the opportunity to work in an environment that valued academic rigor. Despite this praise, participants in the focus groups and respondents to the survey raised a series of substantive challenges facing the school. One of the primary challenges for teachers is the intensity and difficulty of the workload at MSSM. Another serious issue for many teachers is the remoteness of the school, and the resultant lack of opportunity to engage in cultural events, advanced coursework and research, or social contacts. These deficits were particularly problematic for younger faculty who were interested in completing their degrees, and establishing a meaningful social network with people their own age. These challenges, coupled with recently dwindling resources appear to have accelerated the attrition rate of teachers at MSSM.

Summary

MSSM is highly regarded for its academics, but is not particularly well known by many of the most important target groups in Maine – including the highest achieving students in the state, their parents, and Maine high school guidance counselors. The majority of all responding guidance counselors had little to no knowledge of MSSM's programs. In addition, most MSSM Applied and MEA Highly Performing interview participants had little to no specific knowledge of the school.

MSSM Attending students report very high levels of satisfaction with the quality of the academic programs, residential experience, and career counseling. Although MEA Highly Performing students and their parents positively regard MSSM, they are unsure if they would be happy living away from home. MSSM Applied Students and their parents were less concerned about the prospect of living away from home, but they did not perceive the quality of academic programs to be a significant motivator to enroll at MSSM. Finally, both MSSM Applied and MEA Highly Performing groups were

reluctant to give up the extra-curricular activities and sports offered by their local high schools.

Many MSSM Attending students and teachers find the school's remote location and extreme winters socially and emotionally challenging. Responding MSSM Applied and MEA Highly Performing parents indicated they would be more likely to enroll their child at MSSM if the school were located closer to their homes. Responding Maine guidance counselors indicated the school might be a more attractive option to students if it were more centrally located. MSSM teachers also noted that the remoteness of the school made it more difficult to attract and retain the kinds of qualified faculty MSSM needs.

The results of this study reflect just some of the complex needs and interests of Maine's top performing youth. They also reflect the perceptions of highly performing students, their parents, and their guidance counselors about MSSM as one component of the State's effort to accommodate these needs. The results indicate MSSM offers a unique opportunity for certain students and parents who perceive their local high school to lack the academic rigor and social environment they need to excel. Other groups of highly achieving students and their parents do not perceive MSSM to offer sufficient additional academic benefits beyond that offered by their local high schools. Still other groups of students and parents report they are reluctant to give up activities and sports in order to attend MSSM. Finally, most respondents agree the school would be more appealing to both students and teachers if it were located in proximity to more cultural and research opportunities.