STUDY ON THE NATURE AND PERCEPTIONS OF SINGLE-GENDER EDUCATION

by

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GLOSSARY

Boys Division (BD) – pertaining to the various aspects of all-girls education offered at Regis Jesuit High School (RJHS), including the physical building which has historically served students who identify as boys

Boys – students who are enrolled as members of the Boys Division

Co-divisional/mixed-gender/co-educational(co-ed) – includes students from both divisions (boys and girls). Note: "co-divisional" is a specific term to RJHS which refers to the gendered division of the school (see *Boys Division* and *Girls Division*)

Girls Division (GD) – pertaining to various aspects of all-girls education offered at RJHS, including the physical building which has historically served students who identify as girls

Girls – students who are enrolled as members of the Girls Division

Single-gender – includes students of only one division (all-boys, all-girls)

Teacher – any individual who currently or has in the past planned and implemented curriculum in a traditional classroom setting

ABSTRACT

The validity of single-gender education is a debated topic within the field of education. Research on best practices is limited. As part of their "Strategic Vision," Regis Jesuit High School in Aurora, Colorado expressed a goal to become a leader in single-gender education. This study seeks to uncover the nature and perceptions of single-gender education at the school as an initial step towards achieving this goal. Surveys and interview were conducted to expose students' and teachers' attitudes and perceptions towards single-gender education. The results indicated primarily positive perceptions and attitudes towards single-gender education from both students and teachers, although there as much variation in the survey data. Girls seemed to have a more positive perception of single-gender education than boys. This action research study showed there is room for improvement in areas of course offerings, school culture, student peer interactions, and teacher professional development related to single-gender education.

INTRODUCTION AND BACKGROUND

Context of Study

At the time of this research, I was a teacher at Regis Jesuit High School (RJHS), a private, Catholic Jesuit high school in Colorado. Until 2003, RJHS existed as an all-boys school for over 100 years. In 2003, an all-girls counterpart was opened. The two schools operated on the same campus with the same name but were led by entirely different administrative teams. Prior to 2018, all teachers were hired to teach in either the "Boys Division" or "Girls Division." The 2018-2019 school year was the first year operating as a single school under one administration. Leading into that year, departments were combined, and teachers were encouraged to teach "across divisions," meaning they would teach both all-boys and all-girls classes. I had been teaching all-girls science classes for my entire teaching career. The 2020-2021 school year, during which this study took place, was my first time teaching an all-boys class.

During the 2019-2020 school year, the president of the school released an updated vision statement to employees, students, parents, and other stakeholders. The vision statement, titled "Strategic Vision 2025," detailed four bold moves to accomplish by the year 2025. One of these bold moves was to "become a leader in single gender education." Included in this move was ensuring an equitable student experience across genders. This involved identifying key gender equity disparities and developing and implementing a plan in response.

In my personal experience, there existed a severe lack of training and professional development in the area of single-gender education. The lack of appropriate training opportunities could be discovered with a quick Google Search on "single-gender education professional development," which yielded almost exclusively articles and websites debating the viability of single-gender education. While research has been ongoing into the gender disparities in education, there remained a lack of professional development opportunities for teachers in this area (Battey et al., 2007; Sadker et al., 2009). This had implications for the current state of gender in equity in education.

While researching the topic of single-gender education, I realized that despite teaching in single-gender classroom for five years, I had never received formal training on effective teaching of boys and girls and possible inequities or stereotypes present in my teaching strategies based on my ideological perceptions of gender. In addition to a lack of professional development, teachers and students at the school had never been asked to provide feedback on their perceptions or experiences of single-gender education.

Focus Question

With the above issues in mind, my focus question was, What is the current nature and perceptions of single-gender education at Regis Jesuit High School?"

My sub questions include the following:

1. What differences, if any, exist in all-boys vs. all-girls classrooms and to what extent do these differences influence teaching strategies of teachers in single-gender classrooms?
2. What are the perceptions and attitudes towards single gender-education of students and teachers in single-gender classrooms?
3. How can these findings help me improve my own teaching in a single-gender environment?

This action research project did not seek to explore the validity of single-gender education, as it was not the intention of the school to move away from this educational model. Rather, the immediate purpose was to gather the perceptions of students and teachers towards single-gender education with the goal of improving how single-gender education is offered RJHS.

CONCEPTUAL FRAMEWORK

The following conceptual framework provides a theoretical framework in which the purpose and methodology of the research was considered. Various sources are explored which relate to the topic of single-gender education. Literature providing initial methods of data collection and analysis for the action research project are reviewed. Finally, an overview of future research required for this action research project is provided

Theoretical Framework

The purpose and research design of this project was grounded in the social constructivist theory of gender. From a symbolic interactionists perspective, concepts and terms used categorize groups of people – such as race, ethnicity, and gender – are constructed through social processes (Lindsey, 2014). Gender, therefore, is only found in the meaning that people bestow upon them through social interactions. It is not an individual attribute, but rather something that emerges through our interaction with others. While gender constructs are not inherently wrong, sexism and discrimination results when gender constructs and roles are stereotyped.

These learned ideologies of gender and gender roles influence an educator's actions in a single-gender setting. Researchers argue that single-gender education may promote stereotypical attitudes of gender identifies and gender roles. A 2001 report of California's single-gender education pilot program in six public schools confirmed that gender stereotypes were reinforced in single-gender classrooms (Datnow et al., 2001).

The researchers found that “when teachers geared the curriculum to respond to student interests, they perhaps unintentionally reinforced traditional gender roles” (Datnow et al., 2001, p. 40). Furthermore, the teachers rarely challenged student choices by suggesting other options that may challenge their gendered disposition. In fact, their own constructs of gender influenced the way they organized lessons and disciplined students. This is in line with other research studies that have observed how “teachers interact with males more frequently, ask them better questions, give them more precise and helpful feedback, and discipline them more harshly and more publicly” (Sadker et al., 2009, p. 19).

Schools, as places of social interaction, are instrumental in shaping the gender identify of their students. Howley and Howley (2007) contend that “ignoring or avoiding sexuality and gender dynamics won’t make them go away, but ignoring these issues when they become evident in day-to-day experience can lead to physical, emotion, and intellectual damage to the individuals who learn and work together in a school” (Howley & Howley, 2007, p. 206). Therefore, sensitivity and an understanding of educators’ and students’ perceptions and experiences with gender issues is imperative. It is important for educators to recognize how their own gender ideologies influence their teaching strategies and how gendered stereotypes may be present in their own classroom.

For the purposes of this project, it was assumed that there are differences in the physiological, psychological, and cognitive development of students based on their socially constructed gender. Because differences exist, there was a need for teachers like myself to be more aware of these differences and how to account for them in the classroom.

Direction for Action Research

A first step in addressing gender issues in schools is acknowledging the gendered nature of the school environment and existing curriculum. Much of that awareness may come from explicit discussions of gender issues that result from being in a single-gender education setting. For example, in a study that examined three single-gender (girls) programs in western Canada, it was found that the programs increased teachers' awareness of gender issues both inside and outside of their classroom (Blair & Sanford, 1999). When made aware of these issues, teachers felt they were forced to examine their own education practices and pedagogies. However, the researchers noted that most of the discussions on gender issues occurred in relative isolation. They noted that teachers do not always have an opportunity to share their experiences with other teachers (Blair & Sanford, 1999). Creating opportunities for teachers to discuss single-gender education is important for recognizing issues with gender inequities in their classroom. After reading this article, I realized this space for dialogue and discussion is not always available within my school.

With the importance of recognizing and discussing gender ideologies and stereotypes in mind, the training and professional development of single-gender educators is critical. However, in my personal experience, there existed a severe lack of training and professional development in this area. While research has been ongoing into the gender disparities in education, there remained a lack of professional development opportunities for teachers in this area (Battey et al., 2007; Sadker et al., 2009). In an analysis of 170 projects that included professional development in areas of science,

technology, engineering, and mathematics education (STEM), researchers found that there was an overall lack of "essential elements to effectively promote and implement gender equity in the classroom" (Battey et al., 2007 [Abstract]). This has implications for the current state of gender in equity in education, especially in the sciences.

Sources of Methodology

A primary task in completing my action research study was soliciting information on student and teachers' perceptions of single-gender education. I examined sources which studied students' and/or teachers' perceptions towards single-gender education to gain insight on appropriate data collection methods. In a study of the perceptions of 131 elementary-aged students towards single-gender education, students generally reported positive attitudes towards single-gender education. A Likert scale survey was administered by a university researcher to students. The survey asked questions to gain insight into whether the students were satisfied with the single-gender format, what students liked best about single-gender classrooms, and whether they would like to continue the single-gender format (Tichenor et al., 2015). Statistical analyses, such as t tests, were used to analyze the results from the survey. I asked similar questions of students during my action research study. In an action research study by Simm (2010), the researcher aimed to identify the perceived needs of teachers in single-gender classrooms. The researcher studied the knowledge that teachers perceive they need about the physiological, psychological, and cognitive needs of students, teaching strategies, and materials needed to be successful in single-gender educational environments (Simm, 2010).

METHODOLOGY

The purpose of this action research study was to (1) describe the perceived differences in teaching in an all-boys vs. all-girls science class setting, (2) uncover student and teacher perspectives towards single-gender education, and (3) improve on my ability to teach in a single-gender environment.

Demographics

This action research project was implemented at Regis Jesuit High School (RJHS) during the 2020-2021 school year. All core course requirements at the school were only offered in single-gender format. All-girls classes primarily took place in the Girls Division (GD) building; all-boys classes primarily took place in the Boys Division (BD) building. Some higher-level courses and electives were offered as mixed gender courses for practical purposes. During this school year, the student population consisted of 772 girls and 956 boys. Boys enrollment had traditionally been higher due to more available space in the Boys Division building, which was newly built when the Girls Division was opening. According to school administrators, about 65% of students identified as white and 33% identified as various non-white ethnicities. All students passed an entrance exam and applied for admittance to the school. Roughly 80% of students received some sort of financial aid.

Many teachers at RJHS were hired to teach one specific gender. This was especially true of teachers hired prior to the 2018-2019 school year. During the 2020-2021 school year when this study took place, majority of teachers were teaching both all-

boys and all-girls or mixed gender classes (co-divisional teachers). However, while teachers taught co-divisionally, they officed in one building. Teachers were added to an email list based on their teaching assignments. The BD faculty list consisted of about 211 teachers; the GD faculty list consisted of about 190 teachers. Some teachers were placed on both email lists if they taught roughly equal numbers of all-boys and all-girls classes or any co-divisional classes.

Treatment

This action research study did not involve a treatment, meaning I did not attempt to artificially manipulate any conditions or situations within the single-gender classrooms. Rather, I collected data to describe and make interpretations about the current nature and perceptions single-gender education at RJHS, including looking at my own teaching in single-gender classes. This project was approved by the principal of RJHS and approved by the Institutional Review Board (IRB) at Montana State University (Appendix A).

While initial quantitative data was collected through Likert surveys, qualitative data was the primary form of data for development on conclusions. Qualitative data was collected through written survey responses and interviews with students and teachers. In addition, I critiqued my own teaching by self-observing and recording reflections in a journal. All instruments were peer-reviewed by my professor and science colleagues prior to implementation to help ensure usefulness and validity. In addition, triangulation of the quantitative and qualitative data was important to help ensure the quality of the data and results.

When considering gender-based classrooms, it is important to acknowledge that what is said about one class may not be true for another, despite the relative homogeneity of the students. All statements from the participants in this study are based on their own unique experiences within single-gender classes. It is also important to recognize that gender-based classrooms are not always composed of students who identify with the predominant gender identity of the class. For instance, although an all-girls class may consist of predominantly students who identify as girls, it cannot be assumed that all students in the class identify as girls. A colleague of mine appropriately referred to single-gender classes as "*gendered* single-gender classes", which is to say that there are many generalizations and assumptions made about students in these classes based on gender. Some of these generalization, assumptions, and stereotypes will be discussed in the DATA ANALYSIS section of this paper.

Although majority of the classes at RJHS are taught single gender, there were co-ed options available to students at the school because students of both genders were present on campus. During the year when this study was complete, there were over 30 co-educational classes. Majority of the co-ed classes were electives. According to department representatives, other co-ed classes, such as higher-level language classes, were co-ed for purposes of ideal enrollment numbers (there were too few students of one gender to justify two single-gender classes). Students also had the opportunity to interact with students "from the other division" outside of class time, including during clubs and other school activities. Majority of clubs were open to any students, regardless of gender.

These clubs were advertised to students as “co-divisional” clubs, since students from both the Boys Division and Girls Division were invited to join.

Education at RJHS includes a retreat and service programs inspired by the Jesuit ideals of the school mission. Each year, students are required to attend a specified retreat and complete service requirements. All freshman (9th grade), sophomore (10th grade), and junior (11th grade) retreats happen with students from only one division: boys or girls. It is not until senior year (12 the grade) that students have the option of participating in a variety of retreats, some of which include students from both divisions. At the point when this study was done, freshman and sophomore students typically completed required service hours on their own time. Junior and senior students attended arranged “service projects” in the community during 2 weeks of the spring semester each year. Boys and girls would complete “service projects” at a different time. According to administrators and individuals involved in the service program, there has been discussion of adjusting “service projects” so that boys and girls complete this experience with each other during the same 2 weeks.

It is important to note that this action research project took place during the Covid-19 pandemic. During this school year, there were several schedule changes that included both in-person and remote learning options for students. For safety purposes, all data collection occurred via virtual platforms, including interviews. It was my initial intent to incorporate observations. However, due to school policies and logistic challenges related the format of instruction during this school year, observations are not included in this action research project.

Data Collection and Analysis Strategies

The research matrix below (Table 1) provides an overview of data collection instruments and sample populations that were used to address each research question. In the following paragraphs, the specific sampling strategies are described in more detail. "Co-divisional" refers to teachers that teach both all-girls and all-boys classes at the school. It was a term used at RJHS to specifically reference situations with both genders. A teacher who taught "co-divisionally" taught both all-boys and all-girls classes.

Table 1. Research question instruments and sample populations.

Research Question	Sample Population
1) What differences, if any, exist in all-boys vs. all-girls classrooms and to what extent to these differences influence teaching strategies of teachers in single-gender classrooms?	Teacher Survey: ALL teachers who have taught at least one single-gender class Teacher Focus-Group Interviews: volunteer co-divisional teachers Personal Teacher Journal
2) What are the perceptions towards single gender-education of students and teachers in single-gender classrooms?	Student Survey: ALL students Teacher Survey: ALL teachers who have taught at least one single-gender course Student Focus-Group Interviews: volunteer students Teacher Focus-Group Interviews: volunteer co-divisional teachers
3) How can these finding help me improve my own teaching in a single-gender environment?	Unstructured Self-Observations: Of my own single-gender Chemistry courses Personal Teacher Journal

Self-Observation and Teacher Journal. For this aspect of this action research study, I observed and reflected on my experiences teaching my own classes. During the school year when this study took place, I taught two sections of general-level chemistry: one section of all-girls and another section of all-boys. Chemistry is a required course for all sophomore (10^{th} grade) students at RJHS. Students have the option of enrolling in an honors-level chemistry course. According to students, they will typically choose general-level science courses if they are not confident in science or do not like science. Other students prefer the lightened workload of non-honors courses.

The all-girls class consisted of 19 students. Majority students seemed relatively unengaged in most content throughout the year, and I liked to describe the overall "vibe" of this class as a "lights off" class, because they preferred to sit in the classroom with the lights off. In general, there were only a handful of students that participated in classes most days. Typically, no one in this class would participate during online remote classes unless specifically addressed. Students in this class seemed especially divided into specific groups of friends. There was little interaction between these groups unless it was required.

The all-boys classes consisted of 28 students. Overall, engagement was relatively high in this class, especially during online classes. While there were obvious friend groups in this class, they were often difficult to determine as the students interacted with all classmates. There were some "loud" personalities in this class, but there was no one dominant voice.

Personally, this was my first time teaching an all-boys class. Prior to this year, my only experience was with teaching all-girls science classes. Therefore, all that I "know" of teaching all-boys has come from my experience with this all-boys chemistry class. In addition, I was pregnant during the first semester of the school year when this study took place. Because of maternity leave in the spring semester, the self-observations of these classes and reflections in my teacher journal for this study are limited to the first semester (first 18 weeks) of the school year, most of which occurred online.

Surveys on Perceptions of Single-Gender Education. Surveys were developed to address research sub-question 1: What differences, if any, exist in all-boys vs. all-girls classrooms and to what extent to these differences influence teaching strategies of teachers in single-gender classrooms? and sub-question 2: What are the perceptions towards single-gender education of students and teachers in single-gender classrooms? The Student Perceptions of Single-Gender Education Survey was used to uncover students' perceptions of and attitudes towards single-gender education related to their self-confidence, motivation, academic success (ability to learn, grades), and behavior (Appendix B). The Teacher Perceptions of Single-Gender Education Survey was used to gather information on teacher's perception of and attitudes towards single-gender education, including the perceived effect of this type of classroom setting on student achievement (Appendix C).

Likert surveys were used to gather information on students' and teachers' perceptions of single-gender education. Respondents of a Likert survey are asked to respond to a series of statements, in which they indicate the degree to which they agree or disagree

with each statement. Surveys of this nature assume that a person's perceptions will be exposed based on their response to the questions (Lovelace & Brickman, 2013). In a 2015 study of student perceptions towards single gender education at an elementary school in Florida, researchers used a Likert survey as their sole instruments for collecting information about student perspectives (Tichenor et al., 2015). This survey was used with modifications with permission from Dr. Tichenor. In addition to being used to uncover personal perceptions towards a particular topic, students with whom I have spoken are familiar with the nature of Likert surveys, so I assumed that a survey of this type could be administered to the student population with little confusion on how to respond. Although the results of Likert surveys are qualitative, it is possible to analyze the data with quantitative statistical analysis processes.

Because of Covid-19 restrictions and the size of the sample populations for both surveys, surveys were administered virtually using Microsoft Forms. RJHS had been using the Microsoft suite for several years, so students and teachers were familiar with using Microsoft Forms for surveys. Students and teachers were given about 2 weeks to respond to the survey after it was sent via email.

A link to the Teacher Perceptions of Single-Gender Education Survey was sent to the Boys Division and Girls Division teacher email list with information about the action research project. About 250 teachers received this survey. The survey was designed to be completed by only teachers who had taught at least one single-gender class (at least 1 year teaching single-gender). A question at the beginning of the survey forced the respondent to the end of the survey if they selected that they had 0 years teaching a

single-gender class. Only 1 respondent selected the option for 0 years of teaching in a single-gender class. The other 61 respondents had taught at least 1 year of teaching in a single-gender classroom and included teachers with a variety of backgrounds in various subjects. Figure 1 illustrates the relative numbers of respondents by years teaching in a single-gender setting and their primary teaching assignment during those years, as indicated on the survey. “Primarily girls” or “primarily boys” describes teachers who taught primarily all-girls classes or primarily all-boys classes, respectively, during their time as a single-gender teacher. “Only girls” or “only boys” describes teachers who taught only all-girls classes or only all-boys classes, respectively, during their time as a single-gender teacher. “Boys and girls equal amounts” refers to teachers who taught both all-boys classes and all-girls classes in fairly equal amounts during their time as a single-gender teacher. Two teachers who had 26+ years of experience teaching single-gender are not included in Figure 1. One of these teachers taught primarily all-boys classes, the other taught all-boys classes and all-girl classes in fairly equal amounts.

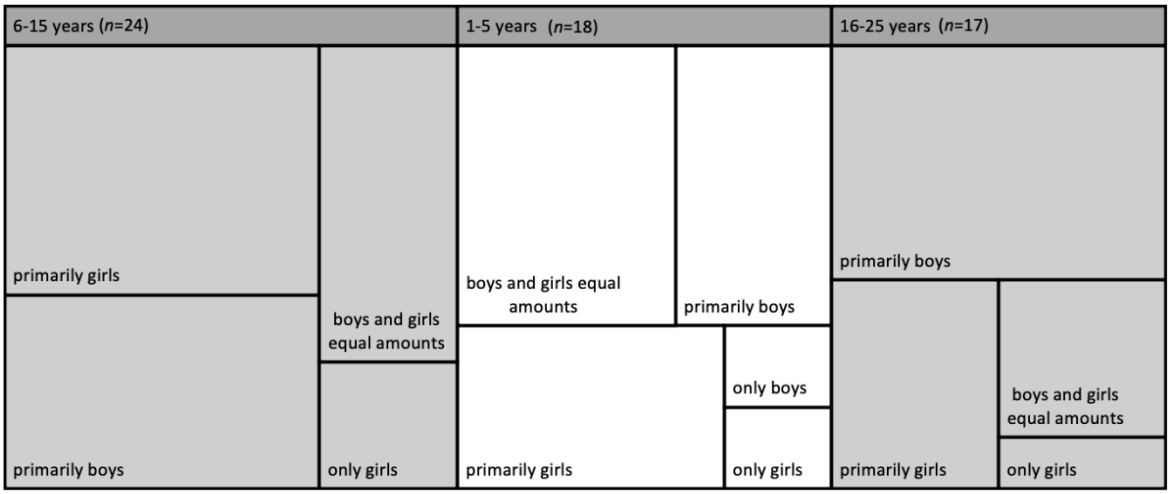


Figure 1. Relative amount of teacher survey respondents by years teaching single-gender and teaching assignments, (*n*=59).

Of all the teachers surveyed, 11 teachers reported having never taught in a co-ed setting. All other teachers reported at least 1 year teaching a co-ed class or classes (*n*=50). The survey did not ask teachers to report how long and which classes they taught at Regis Jesuit High School.

A link the Student Perceptions of Single-Gender Education Survey was sent via email with information about the action research project to all students enrolled at RJHS during the time of the study. A total of 262 students responded to the survey. Of these students, 85 selected they were a member of the Boys Division and 142 selected they were members of the Girls Division (Table 2). The first 35 students to respond to the survey encountered an error that prevented them from selecting their division. These students are not included on the table or in the analysis of data by gender. They are included in any analysis that includes all students, regardless of gender.

Table 2. Number of students to receive and respond to survey by grade level and gender.

Grade level	**Girls received survey**	**Girls responded**	**Boys received survey**	**Boys responded**
Senior (12th)	176	44	220	21
Junior (11th)	192	37	241	23
Sophomore (10th)	184	35	236	21
Freshman (9th)	220	26	259	20
Total	772	142 (18.4%)	956	85 (8.89%)

Upon completion of the surveys, data was exported to Microsoft Excel. Responses were given numerical values for quantitative analysis using the coding presented in Table 3.

Table 3. Likert survey response options and corresponding numerical value.

Likert survey response options	Numerical value
Strongly Agree	5
Agree	4
Neither Agree nor Disagree	3
Disagree	2
Strongly Disagree	1

After applying numerical values to responses on the survey, the mean of the sum of responses was calculated to get a composite score on the survey for each student (Table 4). Further analysis was completed for the 4 Likert survey items which prompted students to provide a written explanation for their response (Table 5). Similarly, further analysis was completed for the 7 Likert survey items which promoted teachers to provide written explanations for their responses. Results from the student survey were separated by the students' selected gendered division, Boys Division students (boys) or Girls Division students (girls) so that the range of composite scores and results for each survey item could be compared.

For both surveys, scores closer to 5 typically indicate a more positive perception of single-gender education, whereas scores closer to 1 typically indicate a more negative perception towards single-gender education. A mean score near 3 is considered neutral in perceptions towards single-gender education. The range in scores combined with the unique written responses indicates that survey respondents likely read the survey questions and responded honestly and thoughtfully, rather than selecting one response for

all survey items. Finally, survey data was compared with responses during the small focus-group interviews.

Focus-Group Interviews. In addition to the surveys, teacher and student interviews were used to gather additional qualitative data to answer research sub-questions 1 and 2. Semi-structured interviews with focus groups with students or teachers provided better insight into perceptions and attitudes, since individuals were able to narrate their thoughts. Focus groups are appropriate to address this sub-question because it was the most efficient means to interview people in a large population.

Aside from two teacher interviews which took place in-person, all other interviews took place virtually via Microsoft Teams. All students and teachers were familiar with how to use Microsoft Teams since it had been used for remote instruction during the pandemic. The ability to record both audio and visuals of the interviews was an additional benefit of conducting the interviews virtually.

At the end of the Teacher Perceptions on Single-Gender Education Survey sent to all teachers, there was a series of questions to solicit volunteers for the focus-group interviews. The first question in this series asked the respondent if they had taught both all-boys and all-girls or any mixed-gender courses. If they responded “yes,” the next question asked them if they would be willing to participate in a focus-group interview on their experiences with and perception of single-gender education. If they also responded “yes” to this question, they were instructed to leave their RJHS email address to be contacted. If they responded “no” to any of these questions, they were forced to the end of the survey. Twenty teachers provided email addresses to be considered for focus-group

interviews. These teachers were invited to sing-up using a Sign Up Genius form (sent via email) to predetermined interview times. Once a teacher signed up for an interview, they were sent an invite to the Microsoft Teams meeting for that interview. In addition, a room number was provided for any in-person participants. A total of three teacher focus-group interviews took place. Interview questions can be found in Appendix E. A total of 11 teachers were interviewed over three interviews. Interview #1 consisted of three teachers. Interview #2 consisted of 5 teachers, and Interview #3 consisted of two teachers. To avoid possible identification of participants in the teacher interviews, limited demographic information was provided. All teachers interviewed had taught both all-boys and all-girls single-gender classes. All teachers also had experience teaching co-ed classes. Of the eleven teachers, nine had taught at a different school prior to employment at RJHS.

Students, like teachers, were solicited to participate in focus-group interviews about their experiences with and perceptions of single-gender education via the Student Perceptions of Single-Gender Education Survey. The last question on this survey asked each student to provide their RJHS email address if they were interested in participating in an interview. Sixty-four students provided email addresses. Following the close of the survey, these students were emailed a link to a Sign-Up Genius form to sign-up for a spot in an interview. The dates and time of the interviews were predetermined. The form allowed for three Boys Division students and three Girls Division students to sign up for each interview on a first come-first served basis. Students were invited to the Microsoft Teams meeting for the interview after completing the form. Although all spots for the

interviews filled, not all students showed up to the interviews. A total of 4 students interview took place with a total of eight students (six girls and two boys). All students interviewed had been attending RJHS for their entire high school career. Interview questions for these interviews can be found in Appendix D.

Student Interview #1 consisted of three students: a junior girl (Student A), a sophomore girl (Student B), and a sophomore boy (Student C). All students had only taken single-gender classes at RJHS. None of the students knew each other prior to the interview.

Student Interview #2 consisted of one sophomore girl (Student D). She had only taken single-gender classes at RJHS.

Student Interview #3 consisted of two students: a junior girl (Student E) and a senior girl (Student F). Both students had participated in two mixed-gender classes during their time at RJHS. However, Student E's mixed-gender classes primarily took place online, so there was limited interaction between the students in these classes. The students in this interview did not know each other prior to the interview.

Student Interview #4 consisted of two students: a junior girl (Student G) and a senior boy (Student H). Student G had only taken single-gender courses during her time at RJHS but had participated in the mixed-gender cross country team at the school. Student H had taken one mixed-gender course during his senior year at RJHS. These students did not know each other prior to the interview.

Following the interviews, an MP4 file of the recording was uploaded into Otter.ai software for initial transcription. These rough transcripts could then be edited and

analyzed. The qualitative data produced from these interviews was compared with data collected from the surveys for each group.

DATA AND ANALYSIS

Data and analysis are organized by group. Student data and analysis for both the survey and interviews is presented in the first section, followed by data and analysis of the teacher survey and interviews. The final section contains entries from my personal Teacher Journal.

Student Results

The results of the student survey indicate that students have varied perceptions of single-gender education. Figure 2 shows the relative responses for each survey item from Strongly Disagree (left) to Strongly Agree (right). Overall, the results are skewed slightly rightward in the positive direction; however, all questions contain variation in responses.

The average composite score for all students who responded to the survey was 3.16 on a 5-point scale, which indicates overall neutrality (*N*=262). Girls had a higher average composite score than boys (GD mean = 3.35, BD mean = 2.80). A two-tailed P value of 0.0043 for the average composite data shows that there is a statistically significant difference in composite scores for boys and girls.

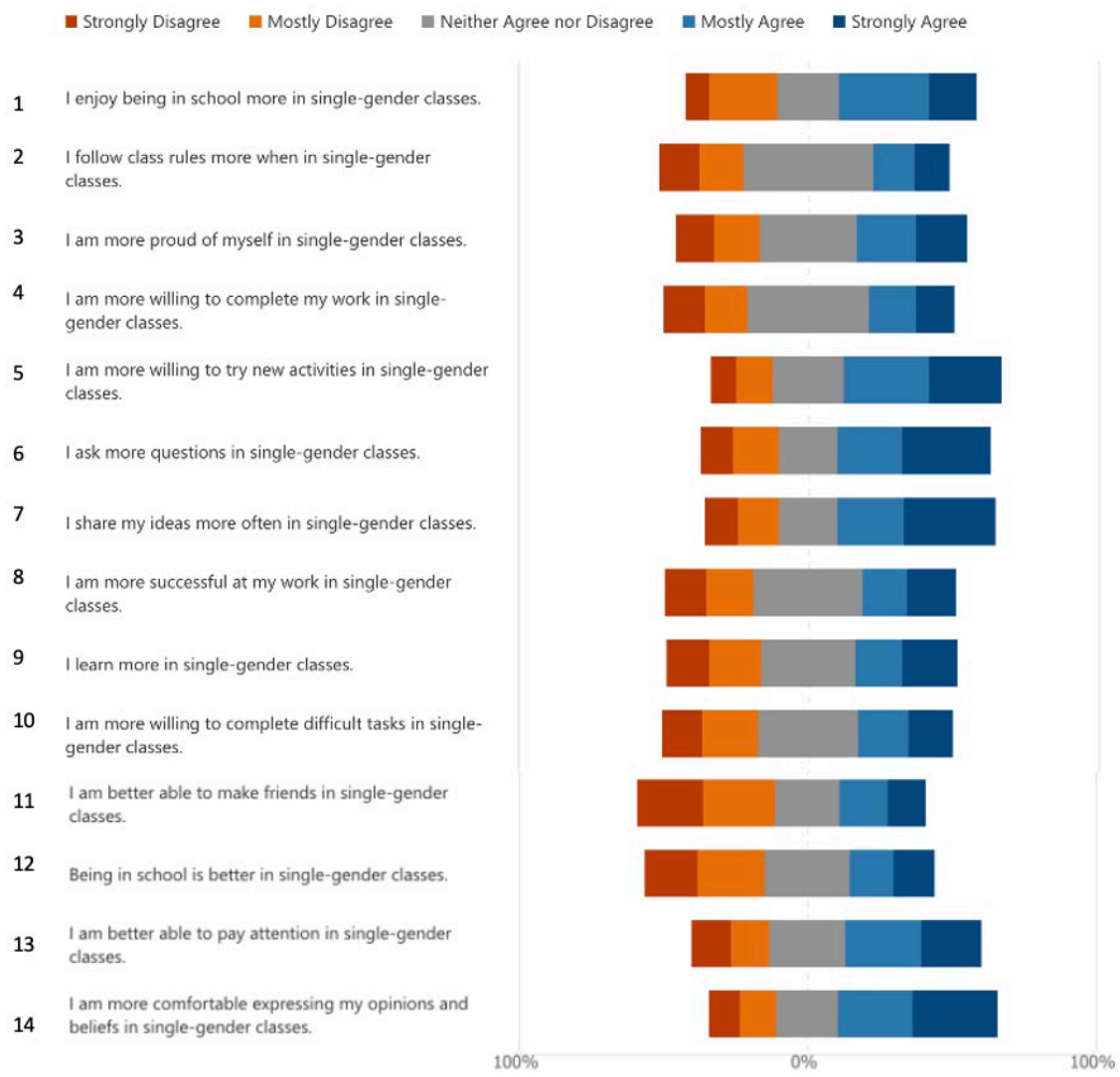


Figure 2. Results by survey item for student survey on perceptions of single-gender education, (*N*=262).

T- tests were used to determine if the differences between means for each group of students were statistically significant. For 12 out of the 14 survey items, the mean difference between boys and girls was statistically significant. Girls consistently selected more positive responses on the survey items. There was no significant difference between the responses of boys and girls on item 3: I am more proud of myself in single-gender classes (girls mean = 3.25, boys mean = 2.96) and item 11: I am better able to make

friend in single-gender classes (girls mean = 2.80, boys mean = 2.47). These results further indicate that girls have a more positive perception of single-gender education than the boys.

Table 4. Student composite score results by gender.

Composite Score Range (mean of survey responses)	**Girls Division (*n*=142)**	**Boys Division (*n*=85)**
4.3 – 5.0	21.8% (*n*=31)	7.0% (*n*=6)
3.5 – 4.2	29.6% (*n*=42)	18.8% (*n*=16)
2.7 – 3.4	28.9% (*n*=41)	30.6% (*n*=26)
1.9 – 2.6	12.0% (*n*=17)	27.1% (*n*=23)
1.0 – 1.8	7.7% (*n*=11)	16.5% (*n*=14)
Average Composite Score*	3.35	2.80
Standard Deviation	1.25	1.20

*P value = 0.0043 for difference between Girls Division and Boys Division students

The results of four survey items, which were followed by prompts for students to explain their responses, were analyzed in more detail. Table 4 presents the mean and standard deviation for these survey items separated by gendered division of students.

Table 5. Survey item results (for items with written explanations) by student gender.

Survey Item	**Girls mean**	**Girls std. dev.**	**Boys mean**	**Boys std. dev.**
1) I enjoy being in school more in single-gender classes.	3.36	1.19	2.96	1.21
3) I am more proud of myself in single-gender classes.	3.25	1.27	2.96	1.13
7) I share my ideas more often in single-gender classes.	3.85	1.31	2.91	1.22
12) Being in school is better in single-gender classes.	2.95	1.28	2.56	1.29

Despite the difference in means in boys' and girls' responses, the survey item that had the lowest mean result was the same for both groups of students. The survey item with the lowest mean score for both the boys and the girls was item 12: being in school is

better in single-gender classes (girls mean = 2.95, boys mean = 2.56). Written responses tended to agree with this more negative view of single-gender education for this statement. According to written responses, the most frequently explained reason for disagreement on this survey item were related to relationships/connections/friendships with students of the opposite gender. Some students explained how single-gender classes had impaired their ability to socialize with students in the other division, making it "socially awkward" when they encountered a student of the different gender. A boy shared, "I strongly disagree with this because [boys] will be socially awkward around girls." Six students shared that single-gender education had improved their relationships and friendships with their classmates, creating a sense of community. Two girls referred to this community as a "sisterhood," a term which has been used frequently in discussing the relationship between students in the Girls Division. Likewise, there was mention of the "brotherhood" in the Boys Division. Another common reason for disagreement with this statement was a feeling of decreased fun (or "more boring" nature) in single-gender classes. One girl who stated, "I do not agree. I haven't made any guy friends and class is a little boring without them." Interestingly, six students opposed this saying they felt that single-gender classes made school more fun.

The biggest reasons for agreeance with this statement included increased attention and focus, increased academic success (related to learning more or learning better), and an ability to be yourself. These were similar reasons to why students agreed with survey item 1: I enjoy being in school more in single-gender classes. The benefit of student success was also mentioned by every student interviewed.

Many students mentioned they would benefit from more opportunity for "socialization" with students in the other division. Students recommended that mixed-gender classes might be offered by course or by grade level. Generally, students that mentioned courses, agreed that electives would benefit from being mixed-gender, while core classes should remain single-gender (for academic purposes). Students that mentioned grade levels, all agreed that single-gender classes are more beneficial for underclass (9th and 10th grade) students. According to respondents, underclass students are developing maturity, self-confidence, and academic skills, which would be better accommodated for in single-gender classes. On the other hand, upperclass (11th and 12th grade) students would benefit from additional opportunities for mixed-gender classes. Students explained how these classes would allow them to hear more diverse perspectives and better prepare them for the "real world" beyond the classroom setting. Some students recommended supplementing single-gender education with more opportunities for interaction with students from the other division. Examples or suggestions of what this might look like were not provided.

These comments and suggestions were repeated frequently in the open response written portion of the survey and in interviews with students. All students interviewed shared an appreciation for the academic benefits of single-gender classes (core classes in particular) but desired more opportunities for co-ed classes and experiences. One student suggested that there be a requirement at Regis Jesuit High School (RJHS) for students to take at least one co-ed class before graduating. He said, "At least your junior year, or at least your senior year, one of the two years or something, you have to take a co-ed class,

cause I think it's just an interesting experience to have." He explained how he enjoyed the two co-ed classes, Philosophy and Multicultural Literature, that he was able to take as a senior, because he was able to hear other points of view on the topics discussed in each class. Students interviewed also discussed their perceived lack of preparation for the "real world." One student said, "I really like single-gender, but our world isn't single-gender oriented. So like, I think it's good to have a mix as well."

Finally, several students addressed that the current gendered division of the school fails to accommodate students who do not identify within the socialized gender binary. Student survey respondents who identified as part of the LQBTQ community felt their needs were not always addressed in this model.

The statements that were the most positive (higher mean score) for each gender were different. The survey items with the highest mean score for boys was Item 14: I am more comfortable expressing my opinions and beliefs in single-gender classes. Interestingly, the survey item with the highest mean score for girls was also one of the survey items with the lowest p value, which indicates that there was a high statistical difference between the mean score for girls and boys (girls mean = 3.85, boys mean = 2.90). This was survey item 7: I share my ideas more often in single-gender classes. Figure 3 shows the distribution for responses on this survey item by gender. Girls' responses are shown on the left and boys' responses are shown on the right. The spread on these histograms shows that girls (n=142) tended to agree with this statement more than boys (n=85), who showed overall neutrality in their responses.

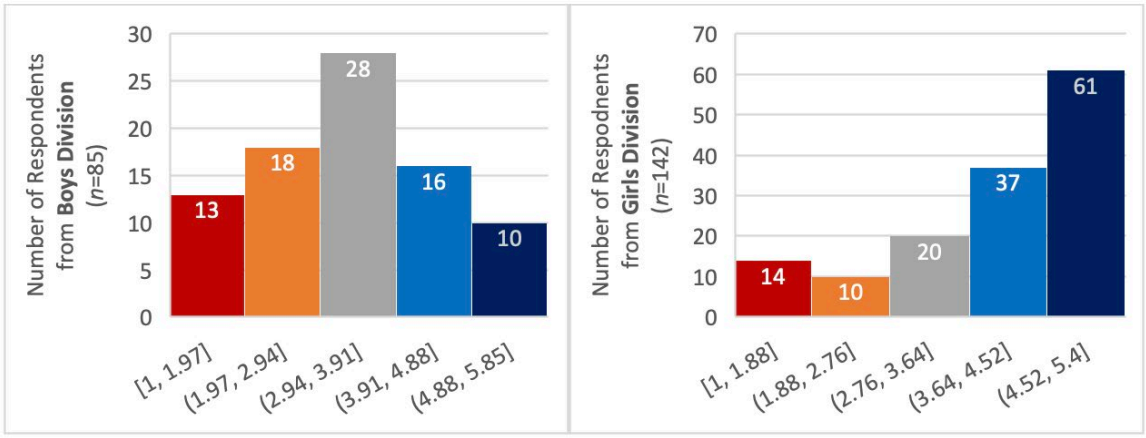


Figure 3. Responses by gender for student survey item 7: I share my ideas more often in single-gender classes, (*N*=262).

Those students that were neutral to this statement expressed that they always share ideas regardless of the other students' gender in the class or that they would not share their ideas during class in either mixed-gender or single-gender classroom settings. Students who agreed with this statement explained how they share their ideas more often in single-gender classes.

According to responses, majority of students either shared their ideas as often as they would in any classroom setting or they shared their ideas more (*N*=262). Single-gender education did not negatively impact students in their ability to share ideas. If anything, it helped many students, especially girls, feel more comfortable and less judged sharing ideas and making mistakes. Overall, it appears single-gender classes improved students' frequency of sharing ideas during class. The most common reasons for the increased sharing of ideas in single-gender classes included less judgement from peers, a decreased worry of embarrassment (for making mistakes), and increased comfort. Students also appreciated that the homogeneity of single-gender classes created better understanding among students, because classmates "think the same way" in these classes.

Because of these reasons, students expressed being more comfortable sharing ideas in their single-gender classes.

There were a few outliers. Four boys who selected *mostly disagree* wrote that they would share their ideas more in a mixed-gender class. Two of these boys explained this by saying mixed-gender classes are more fun. The other boys did not offer a complete explanation as to why they would share ideas more in mixed-gender classes. Five girls who selected *mostly disagree* said they would share ideas more in mixed-gender classes. Reasons included less judgement and a desire to challenge the thinking of their peers. One girl stated, "Personally I have no issues sharing my ideas around boys. I think having boys around would make me want to share my ideas more especially if they contradict me." Several students remarked on how their participation is more affected by the subject matter than by the make-up of the student population in the class.

Girls offered far more unique reasons for agreeing that they share their ideas more often in single-gender classrooms. Three remarkable explanations from girls for why they agreed to this statement were being talked over less, less nervousness, and increased kindness, respect, and listening. One girl who *strongly agreed* to this survey item shared,

> I am more comfortable sharing my thoughts and opinions in a single-gender environment mostly because of societal expectations that male voices should overpower. In some classes, it has been really helpful to have a space where [girls] don't have to worry about gender dynamics and can have conversations without regard to these dynamics.

Another girl added similar thoughts saying, "I feel as though my ideas are more welcome and that I have less likely chance of being talked over, or [my] beliefs being stepped on by the other gender disagreeing." Girls tended to feel strongly

about their increased ability to and increased frequency in sharing ideas in single-gender classes.

Interestingly, when reading through the responses which were marked *strongly disagree* for this survey item, only one student discussed talking less often in single-gender classes. Other students who responded with *strongly disagree* wrote responses that were neutral or explanations in agreeance with this survey item. Because of this, the mean and histogram were likely inaccurately skewed towards the negative/left for this survey item. Written responses indicate a primarily neutral or positive (agreeance) reaction to this survey item.

Overall, majority of students who responded to the survey felt that single-gender classes were academically beneficial, but it inhibited social aspects of schooling. These themes were further enforced in interviews with students. All students interviewed had primarily positive perceptions of single-gender education. When asked to describe their general feelings towards single-gender education, all students first responded with what they liked or appreciated about single-gender education at RJHS. Students shared that they felt more focused because there was no need to impress the other gender. The increased focus, confidence, and participation allowed for better learning. One student from the Girls Division summarized her feelings by saying,

> I really like being able to go to class and like not have to worry about oh is there like a guy that I like or someone I need to impress in class? Like I've felt comfortable just like showing up and not having to worry about anything other than learning. And also I feel like I'm participating a bit more without the fear of judgement from like, my male peers. You know, I just feel like I'm a bit more confident.

However, this student also admitted "I do feel like the model [at RJHS] is a bit restricting in terms of like making male friends…And I feel like socially, when I'm outside of [school], that can make things like awkward." Like survey responses, students interviewed agreed the biggest drawbacks of single-gender education included limited socialization, lack of diversity and different perspectives, and concern over ability to talk with peers of the opposite gender outside of classes, especially after graduation.

Teacher Results

Variation existed in responses for the Teacher Perception of Single-Gender Education Survey (Figure 4). Unlike the Likert survey items on the student survey, the items on Teacher Perceptions of Single-Gender Education survey were not written in a way to determine an overall perception of single-gender education for each faculty member that responded to the survey. Rather, there were groups of like survey items.

One group consisted of survey items 2-14, which related to potential student benefits of single-gender education. These survey items asked teachers to respond to a statement regarding their perceptions of the impacts of single-gender education on various aspects of student learning. Majority of teachers had positive perceptions regarding the impact of single-gender education on students, as indicated by the higher composite mean score of (mean =3.52, s.d. 0.73) for these survey items (N=61). Figure 5 shows the distribution of mean scores for individual respondents for these survey items.

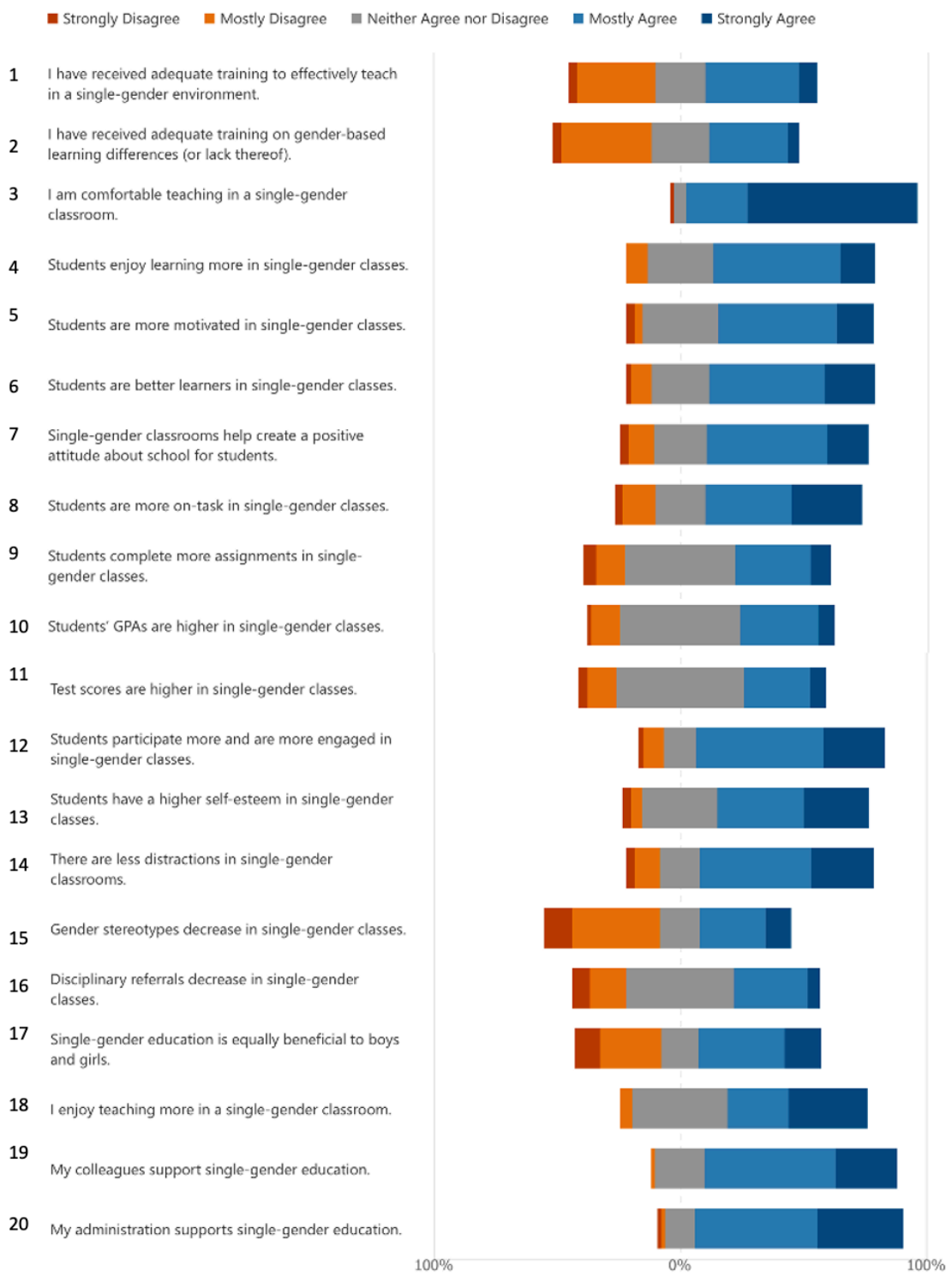


Figure 4. Results by survey item for teacher survey on perceptions of single-gender education, (*N*=61).

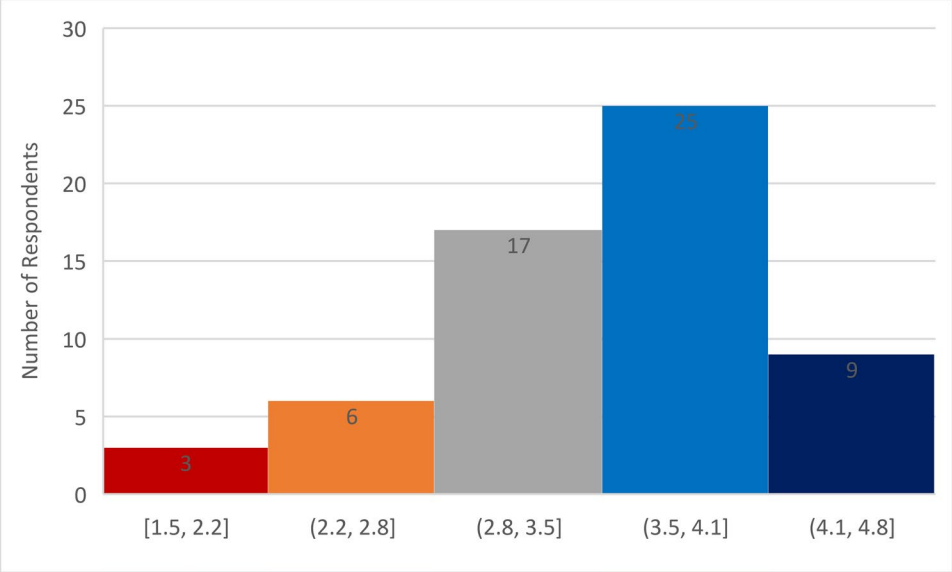


Figure 5. Composite mean scores for teacher survey items 2-14 on students benefits of single-gender education, (*N*=61).

Majority of teachers agreed to some degree that students are better learners in single-gender classes (Figure 6). Through inductively analyzing responses, it appears teachers defined "better learners" as students who are less distracted, more focused, more engaged, and participatory, and more comfortable speaking during class. No teachers referenced academic achievement in terms of test scores or GPA when responding to this item. Of those that responded in agreement to this statement, the most common response indicated a lack of distractions, which led to increased focus. One teacher stated, "Single-gender education decreases distraction and increases focus on academics." Another teacher agreed and added, "I believe that students are better able to focus, are more relaxed and comfortable, more confident and less self-conscious in sharing or discussing topics in class." Others who spoke in favor of single-gender education highlighted the increased comfort, engagement, and participation of students during class.

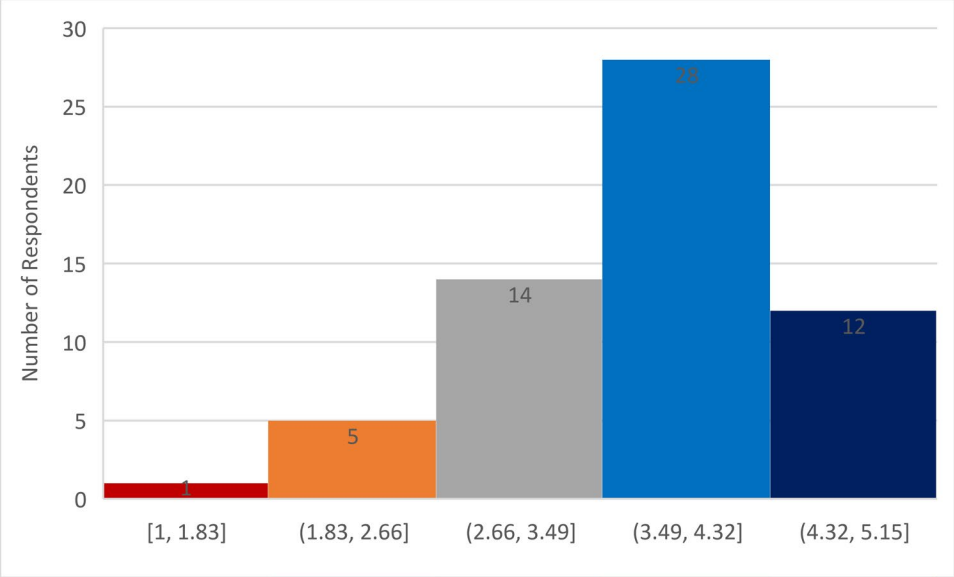


Figure 6. Responses for teacher survey item 6: Students are better learners in single-gender classes, (*N*=61).

Although majority of teachers *mostly agreed* to this statement, the qualitative comments explaining their comments exposed that many teachers feel that this statement only applies to girls. Teachers who commented on this situation felt that boys were either not better learners or they did not notice a difference with boys in single-gender classes. One teacher explained,

> I believe single-gender classrooms benefit girls and are a detriment to boys. I have experienced boys as better students in coed classes and find it helpful for them both socially and to reduce either traces of cultural misogyny or naïve feelings of superiority. Girls in the classroom help boys understand they are not truly as intelligent as they think they are. On the flip side, I find girls benefit from the absence of boys.

Few teachers disagreed with this statement (*n*=6). A teacher who "mostly disagreed" with this statement shared, "Students are equally capable of learning no matter if their classmates are single-gender or mixed." Other teachers who selected a response

with some level of disagreement also wrote written responses that were more neutral in nature.

The results for survey item 13: Students have higher self-esteem in single-gender classes are shown in Figure 7. As evidenced by the mean for this survey item (mean = 3.76, s.d. 1.01) and the left-skewed histogram of responses, majority of teachers to respond to the survey agreed to some extent that students have higher self-esteem in single-gender classes (*N*=61). Interesting, 11 teachers indicated that they feel this is much truer of girls than boys, even by some teachers who selected that they primarily teach all-boys classes. One teacher said students having high self-esteem in single-gender classes is "especially true for girls because they don't have to act or say things in order to secure the attention of boys or get their approval." This sentiment of not having to impress to impress students of the opposite gender was discussed as a reason for high self-esteem in students by many teachers. Other reasons which explained why teachers felt self-esteem was higher for students in single-gender classes included increased confidence and increased willingness to participate during class.

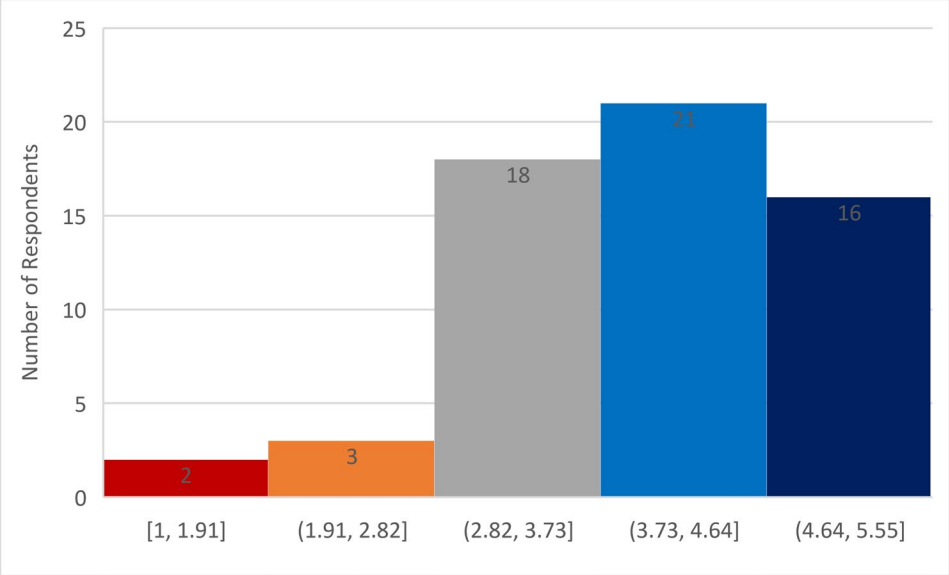


Figure 7. Responses for teacher survey item 13: Students have higher self-esteem in single-gender classes, (*N*=61).

Many teachers were neutral to this statement (*n*=18). These teachers shared that they were not sure if student self-esteem and single-gender education was correlated, or they felt that there was no correlation between self-esteem and the single-gender or co-ed classrooms. Other teachers expressed concern with making a stance either way on this question, because they are unaware or unable to assess student's self-esteem. One teacher stated, "I answered 'Neither Agree nor Disagree' because I don't know what [students'] self-esteem looks like internally."

Some teachers that disagreed with this statement described feelings of inadequate or lower self-esteem due to sexual orientation, gender identify, and competition among peers. One teacher summarized the potential drawbacks of single-gender education in terms of student self-esteem by saying, "[single-gender education] could…increase comparison-anxiety and can be especially uncomfortable for students who don't identify along tradition gender lines." Other teachers echoed these sentiments, including

discussing how students in the LQBTQ community may not be “feel comfortable in single-gender classes and have a lack of self-esteem.

In addition to uncovering perceptions and attitudes of teachers towards the potential benefits of single-gender education on students (survey items 2-14), another group of survey items was designed to uncover teachers’ personal perceptions and attitudes towards single-gender education. This group consisted of survey item 3 (I am more comfortable teaching in a single-gender classroom) and item 18 (I enjoy teaching more in a single-gender classroom). Teachers were asked to provide written explanations for their response to survey item 18.

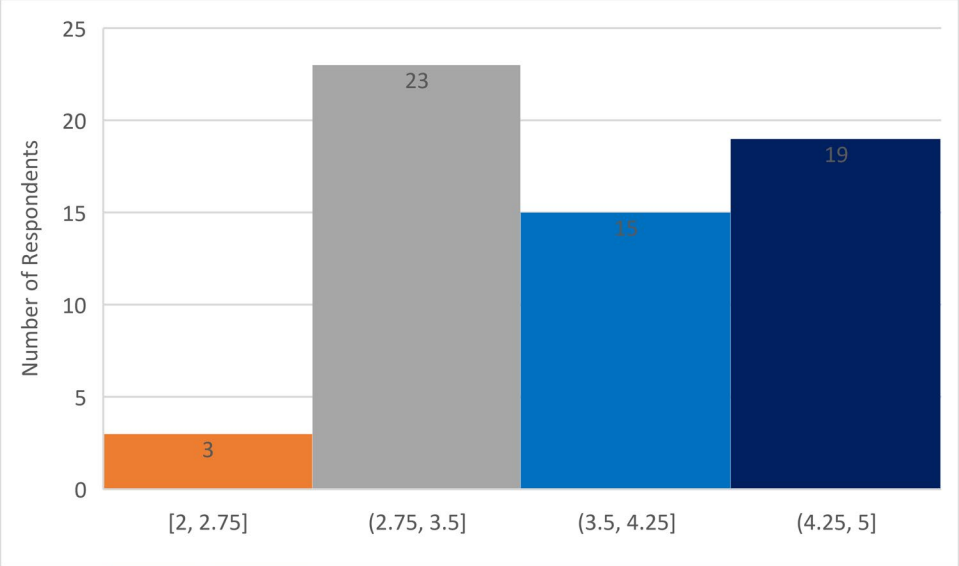


Figure 8. Responses for teacher survey item 18: I enjoy teaching more in a single-gender classroom, (*N*=61).

Aside from the statements regarding colleague and administrator support of single-gender education, this statement had the highest agreement, as can be seen on the right skewed histogram (Figure 8) and high mean score (mean = 3.83, s.d. 0.94). No teachers *strongly disagreed* with this statement (*N*=61). For teachers that were neutral to

this statement, they described either not having a comparative co-ed classroom teaching experience or that they enjoyed teaching both single-gender and co-ed classes the same amount. One teacher described how "each grouping of students creates its own personality in the classroom," and so there was equal enjoyment in teaching all-boys, all-girls, or mixed-gender classes.

Teachers that responded in agreeance to this statement typically expressed how they appreciated students' increased focus and participation in single-gender classes. One teacher wrote, "The atmosphere is more relaxed, the students participate more, and I feel like the main goal is to learn." Interestingly, two teachers expressed that they only feel this statement is true for them in teaching classes of all-girls. A teacher of primarily girls shared, "For me, it is more correct to say that I enjoy teaching more in a girl's classroom. My teaching style and expectations do not seem to be best for the boys." Teaching styles and classroom instruction were also discussed by other teachers who agreed with this statement. One teacher stated, "I like to customize my lesson plan to [a] specific gender." This teacher went on to explain that this is mostly done for their "freshman classes." Another teacher also admitted that they feel they enjoy teaching in a single-gender classroom of underclass students but appreciated teaching in a co-ed classroom for upperclass students because "it's great to have both male and female perspectives."

There were only 4 teachers who *mostly disagreed* with this statement. One of these teachers explained a "need [for students] to communicate with different genders. Male, female, non-binary, and transgender students all should communicate with each other to gain important social skills." Another teacher of primarily all-girls classes shared

a similar sentiment, saying, “I have always had student who identified with a different gender than ‘female’.” Finally, a teacher expressed appreciation for the “balance” found in mixed-gender classes.

Interestingly, although teachers showed mostly positive perceptions of single-gender education based on survey results, interviews with teacher exposed more concerns over the single-gender model at RJHS. A commonly addressed issue was with school culture regarding gender stereotypes, which was also addressed in survey item 15: gender stereotypes decrease in single-gender classes, which received a lower mean score of 2.88 (s.d. 1.22) (Figure 9).

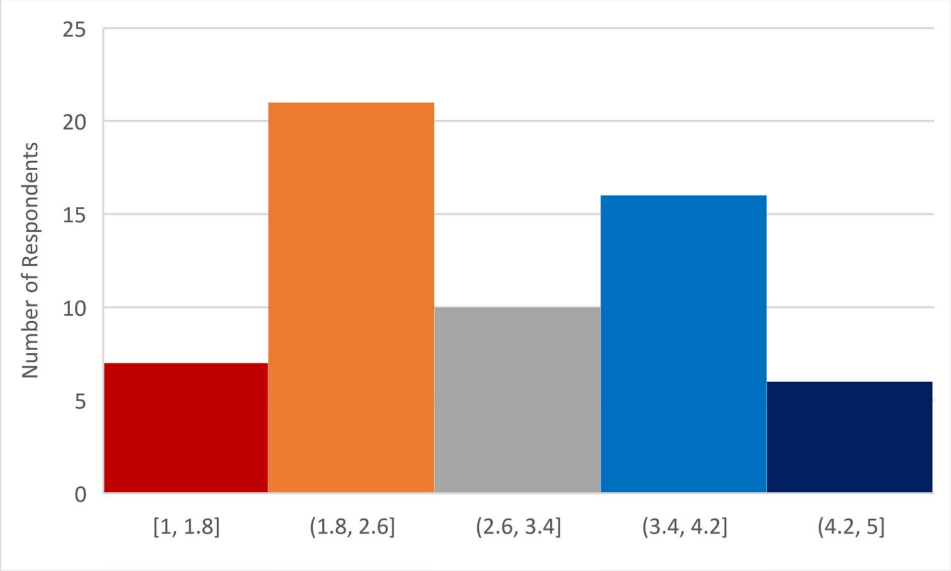


Figure 9. Responses for teacher survey item 15: Gender stereotypes decrease in single-gender classes, (*N*=61).

Despite a relatively neutral mean score on the survey item regarding gender stereotypes decreasing in single-gender classes (mean = 2.88), teachers tended to either agree or disagree to some extent with this statement (*N*=61). Slightly more teachers disagreed with this statement. The written explanations for responses on this survey item

shared this majority disagreement. Many teachers discussed that gender stereotypes are reinforced in single-gender classrooms because the lack of interaction with students of the opposite gender eliminates possibility for challenging gender stereotypes through experience. One teacher described how students in single-gender classes "do not learn about the other gender by being mixed together, [so] they tend to retreat to stereotypes." Another teacher who strongly disagreed with this statement shared that "students regularly make broad generalizations (mostly negative) about the other gender." Some examples included hearing that the boys are "lazy/misogynistic/racist" and the girls are "uptight" and "gossip too much."

At least 6 teachers discussed how they feel differently about this statement depending on the gender of the single-gender classroom. Typically, teachers who mentioned the gender of the students agreed that gender stereotypes are reinforced to some extent in all-boys classrooms. One teacher shared from anecdotal experience that they have "frequently left boys classes super upset and frustrated because of this culture." This teacher explained that there is a "locker room" feel to all-boys classes, especially in senior classes, in which the boys at RJHS have had "years in a male-centric school." On the other hand, teachers who discussed this statement regarding all-girls classes, agreed that all-girls classes can be beneficial in decreasing stereotypes about women. Most frequently mentioned among this group of teachers was the stereotype that "girls are bad at math." Some teachers felt that all-girls math classes decrease this stereotype among female students.

Several teachers discussed how this statement depends on the "classroom" dynamic or "discussions" taking place within the classroom. Several teachers admitted that it is the role of the teacher to decrease gender stereotypes in the classroom; however, from comments made by teachers on the survey, these teachers recognize that "teachers encourage stereotypical behavior among sexes." One teacher explained that "…if the teacher is not trained, gender stereotypes can be worse in a single-gender environment." Another teacher described a way that this may happen is though "teacher expectations of how students should behave based on their gender."

Of teachers that agreed that gender stereotypes are decreased in single-gender classrooms, the most common reason was that students did not feel pressured to meet any societal expectations of typical gender identify. One teacher who *strongly agreed* with this statement, shared how they felt students in single-gender classes "don't have to live up to what you think the other gender is expecting of you." Other teachers described how gender constructs and gender complexities are decreased in single-gender classrooms, which decreases stereotypes. As explained above, many teachers shared agreeance with this statement as they felt that negative stereotypes towards females decreased in single-gender classes, particularly in all-girl classes.

During interviews with teachers, all teachers agreed that gender stereotypes increased in single-gender classes. It appeared that most perceived "difference" in teaching boys and girls stemmed from gender-based stereotypes that presented themselves more frequently in all-boys and all-girls classrooms. For example, it was discussed by both students and teachers how boys' classes are "louder," "more off-task"

and the quality of work produced is inferior to their female counterparts. On the other hand, girls' classes were described as "quieter," "more focused," and the quality of work was higher. A student shared how her teachers "compare how we behave in class and everything." Differences between gendered classes (including gender stereotypes) were perpetuated in interviews with students and teachers, particularly by teachers highlighting the differences between all-boys and all-girls classes to students. A student admitted that boys appeared to "get a bad rap." She also shared that some of the comments her teachers made about the other gender seemed "irrelevant to what we [were] learning."

Several teachers explained how they alter their pedological approaches based on perceived gender differences. Surveyed and interviewed teachers mentioned tailoring lesson plans for the gender of students in the class. Although no specific examples were given on the survey as to what different lesson plans looked like for gender-based classes, I was able to gather from the interview that how/when to tailor lesson plans for a specific gender depends entirely on the teacher and their perceived differences between the classes, including what they have heard from colleagues. One teacher shared that she does not change her lesson plans for all-boys versus all-girls classes. She believes that the students should be taught the same content in the same way. On the other hand, another teacher described her experience transitioning from teaching all-girls to all-boys saying it "did not work at first." She shared that she was unsuccessful at implementing lessons she had used for all-girls classes with all-boys classes. She shared that her lesson plans for girls usually involve more sharing, while she incorporates more competition into her boys' classes. After a discussion on the difference is quality of work between students in

all-girls versus all-boys classes, one teacher shared, “Like many of us [teachers], I know I need to work on not lowering my standards for the boys.” Several teachers commented on the fact that classroom management is more difficult in all-boys classes. One teacher said, “You don’t need classroom management for girls’ classes, like, teaching girls is very easy.” She did not feel the same way about her all-boys classes. In general, it was difficult to determine the exact differences in teaching styles based on gender, as teacher interviewed seemed unable to fully articulate how these differences impacted their teaching. In addition, there was variation in the extent to which teachers felt these perceived differences should impact pedagogy.

Teacher in interviews expressed strong desires for more professional development related to single-gender education. According to survey results for survey item 1: I have received adequate training to teach in a single-gender environment, majority of teachers agreed that they had received some training on how to effectively teach in a single-gender environment (N=61). However, when looking at the histogram of responses for this item, there existed a significant portion of responders that selected that they “mostly disagreed” or “strongly disagreed” with this statement. Since this statement did not include a definition for training, there was variation in responses of agreement. Based on qualitative responses to this survey item, it seemed there were two categories of “training:” formal training and informal training. Formal training opportunities included in-service workshops and professional development courses on single-gender pedagogies. Informal training included personal experience, informal discussions with colleagues, and personal research on single-gender pedagogies.

There are some instances of professional development related to single-gender education. Seven surveyed teachers had attended workshops and classes provided by RJHS or through their own professional development endeavors. Of these teachers, 3 added that the formal training they received happened “a long time ago,” specifically throughout the first decade after the opening of the Girls Division in 2003. One teacher praised the formal training they had received saying, “scenarios and workshops support the understanding that single-gender environments lead to higher achievements when the environment allows for students to flourish.” Alternative formal training opportunities included receiving books on teaching single-gender classes. However, one teacher shared, “we received a book on single-gender education, but we didn't discuss it much.”

Some teachers critiqued the availability and quality of formal training opportunities. One teacher doubted single-gender education training opportunities, saying they “do not believe this training exists,” highlighting a lack of formal training opportunities provided and available to current faculty. Three surveyed teachers expressed concern for the lack of evidence-based research behind the single-gender pedagogy. While one teacher shared how they do not feel additional training is required, two teachers mentioned a need for formal professional development opportunities to learn about single-gender pedagogies.

Most teachers surveyed indicated they had either received no training or informal training on how to effectively teach in a single-gender environment. One teacher shared, “Faculty are encouraged to learn about gender differences, but on their own time.” This was supported by other faculty members who shared that what they had learned about

teaching in a single-gender classroom had come from their own research, experiences in the classroom, or informal conversations with colleagues about single-gender pedagogy. One teacher stated, "[This is my] 21st year in a single-gender environment and have had very little training, aside from research I have done on my own."

Self-Observation and Teacher Journal Results

The following is a reflection on my experiences teaching both an all-girls and all-boys chemistry classes. Because of the Covid-19 pandemic, it was difficult to assess actual differences as many classes took place online and there was limited participation by students in all classes. In addition, most work that was done during this time was done by individual students remotely. I chose to teach these classes with the exact same lesson plans. The following paragraphs contain notable excerpts from my Teacher Journal, which included reflections on my experiences teaching my all-boys (boys) and all-girls (girls) chemistry classes.

Today during our in-person class we did a lab on the Gas Laws. During the lab, students worked in small groups and went around to different stations. I was able to walk around the room and answer questions and listen to conversations among students. In both classes, students appeared to have fun during the lab! A group of girls insisted on taking videos at every station and joked that they would put them on Tik Tok. They laughed as they replayed each video. The boys were more physical throughout the lab. There were a few boys that were "messing around" and pushing each other jokingly while they moved between stations. One group of boys asked if I had seen a video where a man explodes a fly by changing the pressure inside the syringe. I was surprised to find

that most of the boys had seen the video and asked if they could try it. Other than this question, all other question were relevant to the lab and were mostly the same between both classes. Usually, questions involved a clarification of instructions. Overall, I did not notice a significant difference between how this lab went in each class. All students got along well with their assigned group members and were engaged during the lab. When comparing the written observations from the lab, the boys tended to have shorter responses. Many of them wrote just a few words for their observations. The girls' observations were more descript; although, the difference was very slight.

For homework, students were asked to draw a concept map with the center term "Gas Laws." From there, I explained to students in both classes that they were to draw connected between the various gas laws we had learned and their variables. I briefly showed an incomplete example I had made, since many students were not familiar with concept maps. When reviewing their submission, I noticed myself playing a game where I would guess if it was a boy or girl who had made the concept map. I realized my determining measure was the perceived amount of effort that the student had put into the concept map, including the content, connections, and use of creative elements like color and shapes. To my surprise, I was able to identify most of them as belonging to a boy or girl based on this measure. The girls tended to have more elaborate concept maps with more design elements. Almost all of them used color. All the boys submitted concept maps with just one color and the content tended to be minimal.

Although there is likely some merit to the descriptions of single-gendered classes that I heard in interviews, I have found that the opposite was typically true for my classes.

While the boys class was indeed "louder," especially when we played games, I would generally describe them as more "on task" and participatory than my girls class. My girls class was "quieter," but I frequently felt it was because no one was paying attention. These differences between my class made themselves clearer during remote learning sessions via Microsoft Teams. When I asked questions in each class, I typically had several boys raise their virtual hand emoji. Similar question yielded no responses from the girls without further prompting and longer wait times.

When I stepped into my role teaching all-boys for the first time, I heard from several colleagues that I would have to be stricter and discipline the boys. I have found that has not at all been the case for me personally. I have had no problems with disrespect or negative behavior in my boys class, and in fact, find that I welcome their somewhat "loud" disposition, especially during games. One piece of advice that I was given that I have found useful is including more games and coemption during class. To be consistent between both classes, I play the same games in both classes. However, I have found that my boys class tends to have more fun during the games. They are more vocal and competitive. I have had all-girls classes in the past that showed this same level of energy during games, though.

While conducting student interviews, I heard every single student say something along the lines of "my teacher said…" when describing what they know about the differences between all-boys and all-girls classes. To me, personally, that seems like it is unnecessary and can reinforce stereotypes. Today I caught myself doing this. During my all-boys class, I started to mention how my all-girls chemistry class was "quieter." While

that may be true for this class, I decided it was unnecessary to compare the classes, especially by specifically pointing out the gender of the class. This is something I am going to be mindful of going forward.

CLAIMS, EVIDENCE, AND REASONING

Claims From the Study

The relatively small sample sizes, compared to the entire student and teacher population at Regis Jesuit High School, make it difficult to draw any definitive conclusions. However, I was able to make some general conclusions using the data provided by the surveys, interviews, and teacher journal to answer my research questions.

Regarding my research question on the differences, if any, between all-boys and all-girls classrooms and to what extent these differences influence teaching strategies, I found that this largely depends on the individual teachers and the individual students with whom they interact. Teachers and students provided a variety of differences between all-boys and all-girls classes which they had either heard or experienced themselves. Among the most frequently stated were the "loud" nature of all-boys classes versus the more "quiet" and "focused" environment in all-girls classes. Some teachers admitted that this perceived difference impacted their classroom management and discipline strategies. Typically, all-boys classes required more management. Boys' classes also involved more games, while girls' classes contained more discussions. However, because not all teachers shared these teaching strategies, I feel that how teachers adjust their pedagogy for the gender of the students largely depends on their own personal perceptions, which will vary based on the unique students in their classes and what they have heard from colleagues.

Regarding my research question on the perceptions and attitudes of students and teachers towards single-gender education, I found that while overall perceptions are

positive, there is much variation between responses that makes it difficult to draw definite conclusions. The overall positivity was evidenced by the mean scores above 3 for most survey items and discussions with students and teachers during the interviews. Overall, students' positive perceptions of single-gender education were related to academic benefits related to increased focus and participation during class time. Teachers agreed on these academic benefits of single-gender education. Comments on surveys and during interviews highlighted these reasons. In general, negative perceptions of single-gender education from students and teachers stemmed from feelings that single-gender education limited socialization between students and inhibited them from hearing diverse perspectives from students. Additionally, the single-gender format could contribute to "otherization" and reinforce gender stereotypes among both students and teachers. This was evidenced in the survey question regarding stereotypes on the teacher survey, which exposed that majority of teachers disagreed that gender stereotypes decrease in single-gender classes. This was also evidenced by the stories students shared and their responses that referenced students of the opposite gender.

The final research question, regarding the ways in which these teaching can improve my own teaching in a single-gender environment, is discussed in the following sections.

Value of the Study and Considerations for Future Research

This study serves as an initial step in uncovering perceived differences and attitudes towards single-gender education offered at Regis Jesuit High School. However,

the limitations to this study make it difficult to recommend any courses of action without further research.

The most impactful limitation of this study was the relatively small number of survey respondents (compared to the entire student body and faculty). Because of this, only the perspectives of a few were "heard" and it cannot be assumed that these finding would speak for the entire population of students and teachers. Furthermore, students interviewed shared very positive perceptions of single-gender education overall. Based on the survey, there were students that had primarily negative perceptions of single-gender education (as evidenced by low composite mean scores for some students). It is possible that these students were part of the interviews but were influenced by what was said by other individuals in the interviews. For this reason, it may be worthwhile to include randomly selected individual interviews with future research. Random selection will better ensure that results apply to the entire population.

Other limitations originate from the survey instruments themselves. First, surveys of the type used in this study to uncover attitudes and perceptions only show a snapshot in time. These surveys only reveal respondents' attitudes during the time they took the survey. Because of this, it would be useful to repeat a survey of this type multiple times to see if trends persist over time. This would assure more valid data and stronger conclusions.

In addition, when creating the student survey, I wrongly assumed that responses of *strongly disagree* and *mostly disagree* on the Likert items of the survey would indicate disagreement because the students felt the opposite of the statement. For example, for the

statement “I share my ideas more often in single-gender classes,” I assumed the following would be true: a response of *strongly agree* (value = 5) or *mostly agree* (value = 4) would indicate that the students agreed they shared their ideas more often in single-gender classes. A response of *neither agree not disagree* (value = 3) would indicate that the student shared their ideas the same amount regardless of the gender identities of students in the class. Reponses of *mostly disagree* (value - 2) and *strongly disagree* (value = 1), would indicate students share their ideas less often in single-gender classes (or more often in mixed-gender classes).

When comparing Likert responses to written explanations for the 4 selected survey items, I found that this assumption was not correct. Many cases of disagreement (values = 1 or 2) matched with written responded that expressed neutrality (value = 3) or in some cases, agreeance (values = 4 or 5). It is unclear if this inconsistency was due to an error in the directions for the students or if students may have forgotten their response on the Likert portion of the survey when writing their written responses. Since more thought went into the written reflections, I chose to focus on these responses when closely analyzing the data. From there I was able to better infer whether the mean for the Likert survey item accurately reflected the general nature of the written responses. This error did not have a significant impact on means and distributions of responses, but it is something to consider if completing similar research in the future.

It would be extremely valuable to complete this research again with the adjustments to address the issues above. Doing so may allow for a better picture of the true nature and perceptions of single-gender education at RJHS.

Impact of Action Research on the Author

Overall, when reflecting on my experience teaching all-boys and all-girls chemistry courses and through the completion of this action research project, I have come to the personal conclusion that the unique personalities of the students in a class matter more than their gender. Because of the variety in potential "differences" that may exist between a class of all-boys and all-girls, I feel it is better to focus on attending to the learning needs of the students as individuals, rather than making broad generalizations of how best to teach based on the predominant gender identity of students in the class. Furthermore, hearing the students discuss "what their teachers said" during interviews made me more cognizant of the times that I unintentionally share broad generalizations or comparisons between genders with my classes, perpetuating stereotypes that may or may not be true. This action research project brought awareness to this unnecessary and potentially harmful action. It is important that I recognize my biases and continue to "monitor" my teaching to avoid making unnecessary judgments about students based on their gender.

The curiosity and participation from students, teachers, and administrators in this action research confirms that it was worthwhile and important for the community at Regis Jesuit High School. Interviewed teachers, especially, appreciated the space to share their thoughts and feelings. Based on the claims, evidence, and reasoning gathered through this limited action research, I present the following recommendations for Regis Jesuit High School to achieve their goal of becoming a "leader in single-gender education:"

1. Continue to monitor the attitudes and perceptions towards single-gender education of the school community.
2. Consider adding more mixed-gender opportunities for students. Based on data received, co-educational elective classes could be offered to junior and senior students (pp. 28-29).
3. Increase professional development opportunities for teachers to increase their education on effective gender-based pedagogy. Create space and time for structured dialogue between teachers (pp. 44-45).

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APPENDICES

APPENDIX A

IRB EXEMPTION

INSTITUTIONAL REVIEW BOARD
For the Protection of Human Subjects
FWA 00000165

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MEMORANDUM

TO: McKenzie Weed and Walter Woolbaugh

FROM: Mark Quinn Mark Quinn CJ
Chair, Institutional Review Board for the Protection of Human Subjects

DATE: November 10, 2020

RE: *"Study on the Nature and Perception of Single-Gender Education" [MW111020-EX]*

The above research, described in your submission of November 10, 2020, is exempt from the requirement of review by the Institutional Review Board in accordance with the Code of Federal regulations, Part 46, section 101. The specific paragraph which applies to your research is:

X (b) (1) Research conducted in established or commonly accepted educational settings, involving normal educational practices such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

X (b) (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation; and (iii) the information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited IRB review to make the determination required by section 16.111(a)(7).

___ (b) (3) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under paragraph (b)(2) of this section, if: (i) the human subjects are elected or appointed public officials or candidates for public office; or (ii) federal statute(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.

___ (b) (4) Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available, or if the information is recorded by the investigator in such a manner that the subjects cannot be identified, directly or through identifiers linked to the subjects.

___ (b) (5) Research and demonstration projects, which are conducted by or subject to the approval of department or agency heads, and which are designed to study, evaluate, or otherwise examine: (i) public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in or alternatives to those programs or procedures; or (iv) possible changes in methods or levels of payment for benefits or services under those programs.

___ (b) (6) Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives are consumed, or (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the FDA, or approved by the EPA, or the Food Safety and Inspection Service of the USDA.

Although review by the Institutional Review Board is not required for the above research, the Committee will be glad to review it. If you wish a review and committee approval, please submit 3 copies of the usual application form and it will be processed by expedited review.

APPENDIX B

STUDENT PERCEPTION OF SINGLE-GENDER EDUCATION SURVEY

This survey is part of a research study to gather information on the nature and perspectives of single-gender education at Regis Jesuit High School. The research study is a requirement for a masters degree by the research, Ms. Kenzie Weed. Regis Jesuit administration has approved the study but is not in charge of administration. This is not an internal study.

Participation in this research is voluntary and participation or non-participation will not affect your grades, class standing, or enrollment status at Regis Jesuit in any way. If you choose not to participate, please do not complete this survey.

Note: Your submission will not include your name unless you choose to provide your contact information.

I am a student in the:

Girls Division Boys Division

I am a member of the class of:

2021 (senior) 2022 (junior) 2023 (sophomore) 2024 (freshman)

Do you currently or have you in the past taken any co-ed classes, classes with both boys and girls, at Regis Jesuit:

yes no

For each statement, select the value that best indicates your level of agreement with that statement.

1. **I enjoy being in school more in single-gender classes.**

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

2. **I follow class rules more when in single-gender classes.**

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

3. **I am more proud of myself in single-gender classes.**

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

4. **I am more willing to complete my work in single-gender classes.**

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

5. I am more likely to try new activities in single-gender classes.

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

6. I ask more questions in single-gender classes.

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

7. I share my ideas more often in single-gender classes.

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

8. I feel I am more successful at my work in single-gender classes.

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

9. I learn more in single-gender classes.

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

10. I am more willing to complete difficult tasks in single-gender classes.

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

11. I am more able to make friends in single-gender classes.

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

12. Being in school is better in single-gender classes.

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

13. I am better able to pay attention in single-gender classes.

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

14. I feel more comfortable expressing my opinions or beliefs in single-gender classes.

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

Please briefly explain your response to the following survey item: “I enjoy being in school more in single-gender classes.”

Please briefly explain your response to the following survey item: “I am more proud of myself in single-gender classes.”

Please briefly explain your response to the following survey item: “I share my ideas more often in single-gender classes.”

Please briefly explain your response to the following survey item: “Bring in school is better in single-gender classes.”

Feel free to provide any additional written comments about your response(s) to survey items or experience with single-gender education at Regis Jesuit.

If you are interested in participating in a small group interview about your perceptions and experiences with single-gender education, please provide your RJHS email address.

APPENDIX C

TEACHER PERCEPTION OF SINGLE-GENDER EDUCATION SURVEY

This survey is part of a research study to gather information on the nature and perspectives of single-gender education at Regis Jesuit High School.

Participation in this research is voluntary and participation or non-participation will not affect employment at Regis Jesuit High School in any way. If you choose not to participate, please do not complete this survey.

This survey is designed for "teachers" at Regis Jesuit High School (RJHS). For the purpose of this study, "teacher" is defined as any individual who currently or has in the past planned and implemented curriculum in a traditional classroom setting.

Select the statement that best describes your gender identify:

Woman Man Non-Binary Prefer not to say

How many years have you been a teacher?

1-5 6-15 16-25 26+

How many years have you taught in a single-gender setting?
For the purposed of this study, "single-gender" refers to a situation in which all students identify as one gender (as determined by their enrollment in the "Girls Division" or "Boys Division" for RJHS students).

0 1-5 6-15 16-25 26+

*If respondent selected 0, they were sent to the end of the survey

In your time as a single-gender teacher, select the statement which best describes your experience with single-gender education.

Only taught all-girls classes, primarily taught all-girls class, taught all-boys and all-girls classes fairly equal amounts, taught primarily all-boys classes, only taught all-boys classes

How many years have you taught in a co0education (mixed-gender) setting?
For the purposes of this study, "co-educational" or "mixed-gender refers to a situation in which students of both gender identities are present.

0 1-5 6-15 16-25 26+

In which academic subject area(s) are you currently or were you previously a teacher? Please select all that apply.

Classic and Modern Language, English, Fine Arts and Media, Health and Physical Education, Mathematics, Performing Arts, Science, Social Studies, Theology, Other not listed

For each statement, select the value that best indicates your level of agreement with that statement.

1. **I have received adequate training to effectively teach in a single-gender environment.**

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

2. **I have received adequate training on gender-based learning differences (or lack thereof).**

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

3. **I am comfortable teaching in a single-gender classroom.**

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

4. **Students enjoy learning more in single-gender classes.**

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

5. **Students are more motivated in single-gender classes.**

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

6. **Students are better learners in single-gender classes.**

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

7. **Single-gender classrooms help create a positive attitude about school for students.**

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

8. **Students are more on-task in single-gender classes.**

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

9. Students complete more assignments in single-gender classes.

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

10. Students' GPAs are higher in single-gender classes.

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

11. Test scores are higher in single-gender classes.

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

12. Students participate more and are more engaged in single-gender classes.

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

13. Students have higher self-esteem in single-gender classes.

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

14. There are less distractions in single-gender classes.

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

15. Gender stereotypes decrease in single-gender classes.

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

16. Disciplinary referrals decrease in single-gender classes.

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

17. Single-gender education is equally beneficial to boys and girls.

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

18. I enjoy teaching more in a single-gender classroom.

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

19. My colleagues support single-gender education.

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

20. My administration supports single-gender education.

Strongly Disagree Disagree Mostly Disagree Mostly Agree Agree Strongly Agree

Please briefly explain your response to the following survey item: "I have received adequate training to effectively teach in a single-gender environment."

Please briefly explain your response to the following survey item: "Students are better learners in single-gender classes."

Please briefly explain your response to the following survey item: "Students have higher self-esteem in single-gender classes."

Please briefly explain your response to the following survey item: "Gender stereotypes decrease in single-gender classes."

Please briefly explain your response to the following survey item: "Disciplinary referrals decrease in single-gender classes."

Please briefly explain your response to the following survey item: "Single-gender education is equally beneficial to boys and girls."

During the current school year (2020-2021), does the following situation apply to you: Teach at least one all-boys and one all-girls section on the same course.

Yes No

*Respondents who selected "No" were sent to the end of the survey.

Do you have interest in participating in either of the following aspect of this research study?

Focus group interview on experiences with single-gender education (via Microsoft Teams) Classroom observations and individual interview I am not interested in either of these opportunities

*Respondents that selected "I am not interested in either of these opportunities" were sent to the end of the survey.

Thank you! The researcher, Kenzie Weed, will follow-up with you regarding your ongoing participation in this research study. Please provide your RJHS email address.

APPENDIX D

TEACHER INTERVIEW QUESTIONS

Opening Statement and Request for Verbal Consent

Thank you for agreeing to do this interview with me about your experience with and perceptions about single-gender education. This interview will be recorded, and your responses may be used as evidence in my research report. Your name will not be associated with any response in the report. Your participation in this interview is completely voluntary. If at any time you want to end the interview, you are welcome to do that with no consequence.

I will now read you a statement of consent. Following the statement, I will ask you to verbally confirm that you consent to participating in this interview by responding with "yes".

I consent to this interview. I understand the purpose of this interview. I understand that my responses may be used, but my identity will not be revealed. I understand that I can withdraw from this interview at any time without consequence.

Teacher Interview Questions

1. What is your background with teaching single-gender courses?
    - Have you ever taught in a co-ed classroom?
    - When did you begin teaching each gender?
    - What classes do you teach of each gender?
    - If you started teaching just one gender or the other, how did you get into teaching both genders? If opted to teach both genders, what was your reasoning behind that decision?
2. What are your feelings towards the single-gender format at Regis Jesuit?
    - What are you satisfied with or what are the benefits?
    - What are you dissatisfied with or what challenges do you face?
3. What are the biggest differences (if any) that you see teaching in an all-boys versus all-girls classroom? Please explain!
    - How do you manage these differences?
    - Are there any activities or lessons that you have/would do with one gender that you would not do with the other? Can you explain?
    - Given these differences, what do you feel you need as teacher to be successful in this single-gender format?
4. Have you ever had any courses or PD on gender-based education?
    - What do you remember from these courses?
    - Have you applied any knowledge from these experiences to the classrooms?

APPENDIX E

STUDENT INTERVIEW QUESTIONS

Opening Statement and Request for Verbal Consent

Thank you for agreeing to do this interview with me about your experience with and perceptions about single-gender education. This interview will be recorded, and your responses may be used as evidence in my research report. Your name will not be associated with any response in the report. Your participation in this interview is completely voluntary. Participation or non-participation will not affect your standing, grades, or enrollment at Regis Jesuit in any way. If at any time you want to end the interview, you are welcome to do that with no consequence.

I will now read you a statement of consent. Following the statement, I will ask you to verbally confirm that you consent to participating in this interview by responding with "yes".

I consent to this interview. I understand the purpose of this interview. I understand that my responses may be used, but my identity will not be revealed. I understand that I can withdraw from this interview at any time without consequence.

Student Group Interview Questions

1. What is your division, grade level, and background (see questions below)?
    - Did you take any single-gender classes prior to attending Regis Jesuit? What courses?
    - Have you taken any co-ed classes at Regis Jesuit? How many? Which courses?
2. What are your feelings towards the single-gender format at Regis Jesuit?
    - What are you satisfied with or what are the benefits?
    - What are you dissatisfied with or what challenges do you face?
3. What are the biggest differences (if any) that you see between a co-ed class and a single-gender class?
    - Probe further as needed.
4. Do you feel there are differences between all-boys and all-girls classes?
    - Probe further as needed.
5. Do you feel gender-stereotypes decrease, increase, or stay about the same in single-gender classes compared to co-ed classes.
6. Would you choose to continue taking single-gender courses at Regis Jesuit or beyond?
    - Probe further as needed.