COURSE SELECTION OF DUAL CREDIT IN THE HIGH SCHOOL: FACTORS INFLUENCING STUDENT PARTICIPATION

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AUTHORIZATION TO SUBMIT

DISSERTATION

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ABSTRACT

This mixed methods study examined the factors influencing students' decisions to choose traditional high school courses over the College in the High School (CiHS) option. The study involved a school personnel survey and interviews with students from diverse high school settings in the state of Washington to provide a comprehensive understanding of the decision-making process. Results indicated that course workload and student interest are the primary factors influencing students to choose traditional high school courses over CiHS options. Students expressed concerns about the perceived heavier workload associated with CiHS courses and the desire to pursue subjects aligned with their interests and career aspirations. Interestingly, there was a notable discrepancy between school personnel and students regarding the influence of peers on course selection. While school personnel believed peer influence to be significant, students reported little influence from their peers in their course decisions. This finding underscores the importance of considering student perspectives. Furthermore, the study highlights the critical role of school advising and counselors in supporting students' course choices. In the research, school personnel, particularly counselors, are identified as key figures in providing guidance and information to students about course options. Their expertise and support were instrumental in helping students navigate the decision-making process and make informed choices aligned with their academic goals and interests. Overall, this study shed light on the complex interplay of factors that influence students' course selection decisions and underscores the need for comprehensive support systems in high schools to facilitate informed decision-making and academic success.

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Chapter One: Introduction

Access to post-secondary education is still a great equalizer in the United States, however, the cost of that education is on the rise (Carnevale et al., 2021; Fiel, 2020; Winkle-Wagner & Nelson, 2009). This increases the importance of dual credit opportunities in public high schools. Dual credit is a frequent educational topic in public instruction (Garcia & Martinez, 2019; Southern Education Regional Board [SREB], 2020; Villarreal, 2017; Washington Student Achievement Council [WSAC], 2020). The issues surrounding dual credit can be found on the legislative floors of state government, the work groups of K-12 educational leaders, and the classrooms of today's high schools (Conley, 2003; Edmunds et al., 2020; WSAC, 2016, 2020). It can be found in all 50 states, the District of Columbia, and in over 70% of high schools in America (Robson & O'Neal-Scheiss, 2020). Dual credit is certainly not a new concept across the educational landscape and it refers to college credit earned by students while still enrolled in high school (Arrambide et al., 2021; Young et al., 2013). However, with the federal government's passage of the Every Student Succeeds Act (ESSA) in 2015, there is accountability within states' educational systems to measure dual credit participation (Birkeland, 2019; Hochstrat, 2019; Phelps & Chan, 2017). In the state of Washington, there is policy and legislation that targets increasing dual credit participation and the state has established a goal for its residents aged 22-44, that 70% will possess a postsecondary credential by the end of 2023. Investment in dual credit has been identified as a targeted pathway in reaching this goal (WSAC, 2016, 2020, 2021). In the 2023 legislative session, Washington State passed a bill requiring colleges and universities to provide enrollment and registration for College in the High School courses with no cost to students in public high schools (Office of Superintendent of Public Instruction [OSPI], n.d.).

Participation and completion of dual credit coursework is identified as a predictor of postsecondary success (An, 2015; Grubb et al., 2017; Moreno et al., 2021; Villarreal, 2017). As a result, 97% of high schools in the state of Washington offer some form of dual credit opportunity, with 64.5% of all students engaged in at least one dual credit course in a school year (OSPI, n.d.; WSAC, 2020). However, gaps in participation and access still exist across the United States and in the state of Washington dual credit systems (Birkeland, 2019; Dai, 2021; National Center of Educational Statistics [NCES], 2019; WSAC, 2020; Xu et al., 2020). While dual credit programs provide significant positive outcomes, they also have a variety of design limitations and barriers to access and success (Horton, 2021; Rodriguez & McGuire, 2019; Villarreal, 2017). For example, there are numerous dual credit models, like Advanced Placement, Running Start, and Tech Prep to name a few (Birkeland, 2019; Conley, 2003; WSAC, 2020). Some schools and programs require qualification standards with grades or tests, while others have no entrance requirements (Ricciardi & Winsler, 2021). Depending on the state, county, school, or financial status, these dual credit programs could be paid in full by the school system or the student may be responsible for all costs (Moore & Williams, 2022; Partridge et al., 2021). In addition, the location of the dual credit programs could be at the high school or off-campus at a college location (Robson & O'Neal-Scheiss, 2020; Rodriguez & McGuire, 2019; Witkowsky et al., 2020).

While dual credit opportunities come in a variety of programs, this research focused on dual credit in the College in High School program (CiHS) within the state of Washington public school system. Dual credit in the state of Washington has strong enrollment with over 64% of students taking at least one dual credit course (OSPI, n.d.; WSAC, 2020). According to the

Office of the Superintendent of Public Instruction state report card system, 15.7% of high school students enrolled specifically in CiHS courses in 2022-23 (OSPI, n.d.).

According to the Washington Student Achievement Council (2016, 2020, 2021), there are participation gaps in CiHS programs in the state of Washington for students of color, students eligible for free and reduced lunch (FRL), students with disabilities, and students in rural settings. Under legislative guidance, the state of Washington formed a task force to ascertain barriers to student access and success (WSAC, 2021). The task force identified costs associated with taking courses on and off campus, access to information for students and families, school district capacity to provide the additional supports needed, and the lack of a state data system to accurately track and monitor students in the dual credit systems as the primary barriers (WSAC, 2021). However, it is important to note that research has shown that increasing access and opportunity does not always correlate with increased access and participation for all groups (Kettler & Hurst, 2017; Rodriguez & McGuire, 2019; Xu et al., 2020). While state bill 5048 addressed the cost barriers associated with CiHS, this study explored factors that influence student choice in dual credit opportunities.

Background

Employers in today's marketplace seek employees that possess the credentials that will facilitate employment within their industry (Carnevale et al., 2022). While experts debate student pathways of college vs. career, there is very little debate for the need for postsecondary credentials (Arrambide et al., 2021; Carnevale et al., 2022; Ma et al., 2019; Morgan et al., 2018; Phelps & Chan, 2017). A postsecondary credential is required in approximately two-thirds of the employment opportunities in the United States (Carnevale et al., 2020; Morgan et al., 2018; Washington Roundtable, 2024). Employers seek employees with the necessary certifications,

associate degrees, bachelor degrees, and professional degrees that will grow their needed workforce (Matthews, 2020). In addition to increased employment opportunities, the earning of a postsecondary credential significantly increases individual earning potential (Carnevale et al., 2021, 2022; Ma et al., 2019; Morgan et al., 2018). In evaluating occupations with high numbers of both high school graduates and college graduates, college graduates earn on average 50% more per year (Hershbein & Kearney, 2014; Ma et al., 2019; Vedder, 2018). Additionally, for individuals in the 35 to 44 age group, working full time making $100,000 or more, only 5% possess only a high school diploma, compared to 19% with some college or an associate, 28% with a bachelor's degree, and 43% with an advanced degree (Ma et al., 2019; NCES, 2023). Additionally, the unemployment rate of young people with a college degree is significantly lower (50% less) than that of high school graduates (Ma et al., 2019; NCES, 2023). According to Carnevale et al. (2021) in an evaluation of career earning, adults completing only a high school diploma earn an average of $1.6 million over their lifetime, adults with some college with no degree earn an average of $1.9 million, an associate's degree increases that average to $2 million, and those having a bachelor's degree will earn an average of $2.8 million over a lifetime (Carnevale et al., 2021).

According to the National Center for Education Statistics, the cost of college tuition has increased 180% since 1980 (Maldonado, 2018). The average student loan debt of American students was just over $37,000 in 2023 (NCES, 2023). Furthermore, over half of all students 20 years past degree obtainment still owe an average of $20,000 (M. Hanson, 2021; Ma & Pender, 2021; NCES, 2023). Combine this staggering cost with the fact that college tuition is rising at a faster rate than wages, this leads to a large-scale educational problem (Burd et al., 2018; Levine, 2022). In the 1960's, the costs associated with tuition, room, and board at a four-year public

university was approximately $10,000; by 2022 it was close to $30,000 (Carnevale et al., 2022; NCES, 2023). Allen and Wolniak (2019) indicate that tuition spikes at public four-year universities are negatively impacting enrollment of underrepresented populations of students. They also indicate the same relationship can be found in public community colleges. These impacts are more prevalent with first-year full-time students (Allen & Wolniak, 2019). While college tuition cost increases slowed during the COVID pandemic and stabilized, wage earning pre- and post-pandemic have not kept pace with the cost of credential attainment (Ma & Pender, 2021; Maldonado, 2018). There is argument that the increased cost of college has de-valued the bachelor's degree; however, the college degree wage premium or return on investment has maintained at a high level of 14%. This establishes a college education as a solid investment and worth it (Abel & Deitz, 2019).

State governments and policy makers are now grappling with how to increase their educated workforce to meet growing demands of industry, make postsecondary credentials more affordable, and handle a workforce with a large student loan debt (Matthews, 2020; SREB, 2020; WSAC, 2020). In addressing these concerns, almost every state has initiated legislation focused on career readiness or Career and Technical Education (CTE), amounting to more than 600 legislative bills (Mathers, 2019). Mathers (2019) indicates this legislative focus was primarily in the areas of employer connection, program accountability, and work-based learning. According to the Washington's Skilled and Educated Workforce Report (2020), this trend rings true in the state of Washington where nearly 70% of all open jobs require postsecondary education, with 60% of those openings needing a minimum of one year in postsecondary training.

The state of Washington is one of the leaders in the United States for adults with college credentials, ranking 14th out of 50 states (Cahalan et al., 2021). However, the state ranks 46th out

of the 50 states for college enrollment of its 18 to 24-year old's (Cahalan et al., 2021). A key strategy to tackle these education issues in the state of Washington is dual credit opportunities for high school students (Birkeland, 2019; WSAC, 2016). Numerous bills and legislation have been enacted in the state of Washington addressing dual credit, such as House Bills 1302, 1546, 1760, and 1867 (WSAC, 2016, 2020). Additionally, House Bill 1094 in the 2020 state of Washington legislature established a task force to investigate what barriers exist for students in accessing and utilizing dual credit for credential obtainment (WSAC, 2020). The task force specifically identified student access, student and school costs, student support systems, and communication as key barriers for student access and was used by legislators to support House Bill 1094. This work is strongly supported by the research of Carnevale et al. (2022), Finger (2022), and Smith (2007) in examining the correlation between students' post-secondary aspirations with grades, parental education, parental expectations, dual credit enrollment, homework, reading, and dual credit location. These studies highlighted findings that student goals matter, adequate access to counseling is critical, dual credit location is important, and lastly, that dual credit participation was a greater predictor of high aspirations in students than grades or parents. Specifically, dual credit is a strategy utilized to increase high school graduation, increase transition to post-secondary education, and increase the number of career and workforce-ready credentialed graduates (Henneberger et al., 2022; Morgan et al., 2018; Phelps & Chan, 2017).

Statement of the Problem

Current dual credit research is hyper-focused on the outcomes of student participation in the different dual credit systems (Allen et al., 2020; Arrambide et al., 2021; Giani et al., 2014; Lee et al., 2022; Torres & Liu, 2020). Research studies spend significant time evaluating dual

credit programs, which have been identified as a good strategy to increase student college readiness, provide postsecondary opportunities, increase college participation, reduce college remediation, increase college completion, and reduce costs for degree and credential attainment (Bowers & Foley, 2018; Edmunds et al., 2020; Lee et al., 2022; Villarreal, 2017). In addition, the current literature has evaluated and assessed gaps that exist in underrepresented groups of students within the various dual credit programs (Kettler & Hurst, 2017; Lee et al., 2022; Ricciardi & Winsler, 2021; Rivera et al., 2019; Robson & O'Neal-Scheiss, 2020). The literature review of dual credit drives several potential research questions, but most importantly, very little has been explored on why students choose dual credit paths, and conversely, why they are not choosing dual credit when available. Furthermore, when information is provided about student choice, it is focused on those students who have chosen dual credit (Dare et al., 2017; Johnson & Brophy, 2006; Kimble, 2022).

Many students today are prepared and ready for the challenges of dual credit opportunities, but they do not enroll in their schools' dual credit programs (Creel, 2020; Ricciardi & Winsler, 2021; Touchstone, 2010). States and school districts have placed increased focus on dual credit programs to increase student participation (Giani et al., 2014; Kurlaender et al., 2020; OSPI, n.d.; WSAC, 2020). States often provide schools and school districts with financial incentives or have changed school accountability systems to measure dual credit participation (OSPI, n.d.; WSAC, 2020). These interventions have increased total participation, yet at the same time, have increased the gaps between socioeconomic groups, students of color and White students, and students with disabilities and their peers (Fink, 2023; Freeman-Green et al., 2018; Kettler & Hurst, 2017; Kurlaender et al., 2020; Lee et al., 2022; Rivera et al., 2019; Rodriguez & McGuire, 2019). In addition to racial gaps widening, dual credit programs still have

opportunity gaps in gender and rural settings despite countless new interventions (Lin et al., 2020; Rivera et al., 2019; Roberts & Grant, 2021; Shields et al., 2021).

Dual credit is a confusing topic in educational literature and policy (SREB, 2020). When referencing dual credit, it is hard to distinguish if the reference is about a specific program or a concept. In a review of the literature, dual credit is seen in numerous forms as a program or organization such as Advanced Placement (AP) (Ma et al., 2019), International Baccalaureate (IB) (Suldo et al., 2018), Running Start/concurrent enrollment (Birkeland, 2019), Early College High School (Justice & Mansell, 2014), Tech Prep /CTE (Phelps & Chan, 2017), and College in the High School/dual credit (Hochstrat, 2019; WSAC, 2020). Conversely, it is also a concept or process. Dual credit is a systems process to provide college credit and rigorous coursework to students in high school (M. Hanson et al., 2015; Hemelt & Swiderski, 2022; Lee & Villarreal, 2022). Research that indicates dual enrollment and dual credit opportunities for high school students have positive outcomes has grown through the years (Birkeland, 2019; Bowers & Foley, 2018; Edmunds et al., 2020; Lee et al., 2022; Villarreal, 2017; WSAC, 2020). However, gaps and limitations exist in both the concept of dual enrollment and the programs that provide it (SREB, 2020).

Research Questions

The purpose of this study was to evaluate what factors influence student choice in enrollment for College in the High School courses. This study used a concurrent research design, a design where the qualitative and the quantitative data are collected during the same time frame (Creswell & Creswell, 2018). This mixed methods approach, also referred to as convergent design, focused on the perceptions of school counselors, dual credit teachers, and school administrators from high schools in the state of Washington. In addition, the study

evaluated what factors influence student choice in enrollment for College in the High School courses by interviewing college-ready students. The following research questions guided the quantitative portion of this study:

RQ1: What factors do school personnel perceive that influence students to choose a standard high school general education course over the equivalent dual credit option?

The survey asked respondents to rate the level of influence the following factors have on student choice when selecting courses with a dual credit alternative: peers, family, school advising, course rigor, and awareness of choice/availability (Anderson, 2014; Garcia & Martinez, 2019; Kimble, 2022; WSAC, 2020).

RQ2: How do school personnel perceptions differ on the behavioral intentions of students when choosing not to take dual credit courses?

The survey allowed for evaluation of differences in perceptions of school administrators, school counselors and teachers.

The following research questions guided the qualitative portion of this study:

RQ3: What factors do students express that influence them to choose a standard high school general education course over the equivalent dual credit option?

The study utilized focus group interviews to elicit student voice.

RQ4: How do students' experiences and motivations differ from school personnel perceptions on student course selection behaviors?

The concurrent mixed methods design of the study enabled data to be analyzed through comparison across all data sources.

Description of Terms

The researcher used the following terms and descriptions operationally in this study.

Advanced Placement. Advanced placement is a national dual credit program run by the CollegeBoard, referred to as AP. These courses are taught at the high school by high school teachers that have been trained in AP. The CollegeBoard has partnership with universities that award students credits in content areas based on an assessment at the end of the course (Kolluri, 2018).

Achievement Gap. The term achievement gap refers to data from one group of students that are grouped by race, age, gender, economics, etc., and outperforms another group of students on a selected set of data in a significant way (Dyer et al., 2022; Hemelt & Swiderski, 2022).

Behavioral Intention. The term behavioral intention refers to the motivational factors that influence behavior. It is a term derived within the theory of planned behavior (Fishman et al., 2020).

Career and Technical Education. The title Career and Technical Education (CTE) is used to describe programs in the United States associated with trade and skill programs offered in high schools. Several of these CTE pathways are aligned with regional career and technical colleges that provide dual credit articulation agreements. Students earn high school credit and college credit with no additional costs. These programs are most frequently associated with community colleges (Phelps & Chan, 2017).

College and Career Readiness. College and career readiness refers to the preparation a high school student needs in order to succeed, without remediation, in postsecondary coursework that offers a college degree or the ability to transfer to a college program. Additionally, this term encompasses the preparation necessary for a certificate program that

enables a student to enter directly into a career pathway with advancement (Adelman, 1999; Conley, 2003).

College in the High School. College in the High School (CiHS) is a dual credit program in the state of Washington for high school students grades 10 through 12. The college courses are taught on the high school campus, by high school teachers who are qualified through partnership with a participating college, using the college curriculum, college text, college assessments, and with monitoring and mentoring by the college faculty. The students earn high school and college credit simultaneously and the student or school must pay a tuition fee to the college for the credit (WSAC, 2016).

Concurrent Enrollment. Concurrent enrollment refers to any dual credit program where high school students earn both the high school credit and the college credit simultaneously. Concurrent enrollment refers specifically to dual credit that is in partnership with a college or university. The partnership includes credit from the college, credit from the high school, and support from the partnering institution's faculty and academic departments (Anderson, 2014; Birkeland, 2019).

Dual Credit. Dual credit refers to classes or programs that provide students with the opportunity to earn high school and college credit simultaneously. Dual credit can come in a wide variety of formats and options. These dual credit options can be test-based; Advanced Placement (AP), Cambridge, International Baccalaureate (IB). They can be dual enrollment, like Running Start, or they can be concurrent enrollment, like College in the High School or Career and Technical Education dual credit (Tech prep), in which students take college courses on their high school campus (OSPI, n.d.).

Dual Enrollment. Dual enrollment references high school programs in which students are simultaneously enrolled in both the high school and the college courses. The term is often used interchangeably with dual credit. It is a direct reference to students earning credit at high school and college simultaneously. Dual enrollment can be used to describe both Running Start and College in the High School programs in the state of Washington (Birkeland, 2019; Lee et al., 2022).

Early College High School. Early College High Schools are typically open enrollment or choice high schools within the public-school system of the states that offer them and are partnered with an institution of higher education. Students that attend these schools earn both a high school diploma and an associate degree or a large number of college credits to apply toward a university degree (Duncheon, 2020; Justice & Mansell, 2014).

Excellence Gap. Excellence gap is a term used to identify gaps with regard to race, gender, and socioeconomics along three areas; advanced course access, achievement, and persistence (Ricciardi & Winsler, 2021).

Postsecondary Education. Postsecondary education is the education level following the completion of high school. Postsecondary education can include a wide variety of educational opportunities including university or college, community college, vocational schools, apprenticeship programs, and certification programs embedded in the workplace. It typically completes with an earning of a diploma, degree, or professional certification (OSPI, n.d.).

Running Start. Running Start is a dual credit program that is dual enrollment in several states including Washington. Students in grades 11 or 12 enroll in a Running Start program and attend college courses taught on the college campus by a college instructor. They can be housed at a community college or at a university. The courses are open courses at the college and the

Running Start student earns college credit while simultaneously earning high school credits toward their high school graduation. The student does not pay any tuition at the post-secondary institution; tuition is covered through state allocation. The student is often responsible for books and fees (WSAC, 2016).

School Personnel. School personnel in this dissertation refers to public high school administrators or principals, school counselors, and teachers of dual credit programs (Creel, 2020).

List of Acronyms

The following acronyms are used frequently throughout this dissertation and are listed here for your reference:

- ACT – American College Testing
- AP – Advanced Placement
- BIPOC – Black, Indigenous, People of Color
- CiHS – College in the High School
- CTE – Career and Technical Education
- ECHS – Early College High School
- ELA – English Language Arts
- ELL – English Language Learner
- ESSA – Every Student Succeeds Act
- FAFSA – Free Application for Federal Student Aid
- FCCRI – Florida College and Career Readiness Initiative
- FRL – Free and Reduced Lunch
- GPA – Grade Point Average

- IDEA – Individuals with Disabilities Educational Act
- NACEP – National Alliance of Concurrent Enrollment Partnerships
- NCQ - Noncognitive Questionnaire
- OSPI – Office of the Superintendent of Public Instruction
- RS – Running Start
- SES – Socioeconomic Status
- SCT – Social Cognitive Theory
- TSI – Texas Success Initiative
- WSAC – Washington Student Achievement Council

Significance of the Study

The current state of research literature on student participation factors in dual credit programs is not expansive, but it is available (Garcia et al., 2020; Kimble, 2022). This literature has a primary focus on why students have selected dual credit and what motivated or impacted their decisions (Dare et al., 2017; Roberts & Grant, 2021; Witkowsky et al., 2020). In contrast, there is a gap in the literature in regard to student course selection and behavioral intentions of students who have opted to not take dual credit when it is an available option (Johnson & Brophy, 2006; Kimble, 2022; McGowan & Simpson, 2022; Rodriguez & McGuire, 2019). This study investigated the factors that influence student choice when students have elected to not enroll in College in the High School dual credit programs when given the option. The study provides quantitative and qualitative data from the perceptions of school counselors, dual credit teachers, and school administrators. Additionally, the research collected qualitative data from students who chose not to enroll in dual credit course options. The research sought to

understand how different school staff positions see the behavioral intentions of students in selecting the standard high school course option over the dual credit alternative.

Overview of Methods

Research methods focused on the behavioral intentions that impact student course selection, and specifically on the factors that cause a student to select a course that is not College in the High School when given the choice. The research focused on schools in the state of Washington. In order to address the research questions on the factors impacting student course selection with regard to College in the High School, the researcher utilized a mixed methods concurrent design approach. Mixed methods research combines quantitative and qualitative analysis within the same investigation. A combination of the two research pathways can provide unique perspectives and insights into your research questions. The researcher utilized a mixed method approach with quantitative data collected from school personnel and qualitative data collected from student focus groups (Creswell & Guetterman, 2019).

The quantitative research utilized a survey to assess school personnel perceptions related to the behavioral intentions of students who decline to take College in the High School courses when given a choice between a general education course and its alternate dual credit course. The researcher created the survey to address the study's research questions, followed by the necessary examination to ensures survey validity and reliability. School administrators, school counselors, and dual credit teachers completed the survey electronically. Following completion of the survey, evaluation of data examined the factors that influence course selection and how different school personnel view factors that influence student choice. The data provided insight in how different school personnel see student choice motivations and behaviors within course selection.

The qualitative research targeted both school personnel and student voice in relation to the factors that influence student course selection. The researcher collected school personnel data through the survey tool. The researcher collected student data through interviewing college-ready high school students who selected a traditional high school course over the alternative CiHS option. The researcher obtained permission to interview the students from the school district, the students individually, or received parental permission if the students were under the age of 18. The researcher transcribed the student interviews, followed by data analysis and coding to better understand students' behavioral intentions when choosing courses with dual credit options.

The targeted GPA to establish student readiness for college level work in alignment with Hodara and Lewis (2017), is a cumulative GPA of 3.0 or higher. Several studies over the past 20 years have highlighted that high school GPA is a strong predictor of college readiness when compared to other college entrance standards (Allensworth & Clark, 2020; Geiser & Santilices, 2007; Hodara & Lewis, 2017). Allensworth and Clark (2020) found that high school GPA was five times stronger in predicting graduation from college than the ACT. Research has demonstrated the predictive ability of high school GPA to gauge student readiness for entry level college material (Hodara & Lewis, 2017). Research surrounding the GPA line and college readiness can vary on college ready predictiveness from 2.5 to 3.0 (Allensworth & Clark, 2020; Geiser & Santilices, 2007; Hodara & Lewis, 2017), this study has selected to follow 3.0 GPA.

Conclusion

Dual credit is positively correlated to post-secondary enrollment and post-secondary completion (Bowers & Foley, 2018; Edmunds et al., 2020; Lee et al., 2022**;** Villarreal, 2017). Access to dual credit options for underrepresented populations has increased, and has resulted in higher rates of participation for Black, Indigenous, People of Color (BIPOC) students, students

with disabilities, and students on FRL (Kurlaender et al., 2020; Lee & Villarreal, 2022; Lin et al., 2020; Ricciardi & Winsler, 2021; Rodriguez & McGuire, 2019;). However, barriers to access and participation still exist across the educational landscape (Creel, 2020; Horton, 2021; Kolluri, 2018). Despite increased student participation, achievement gaps and excellence gaps still persist in all dual credit opportunities in the state of Washington (Ricciardi & Winsler, 2021; WSAC, 2021). Understanding how high school principals, counselors, and dual credit teachers perceive student behavioral intentions when selecting dual credit courses will help inform schools, districts, and state organizations in developing intervention strategies to provide a more equitable system that supports all students (Creel, 2020; M. Hanson et al., 2015).

Chapter 2 presents a review of current research and literature related to dual credit. The review describes dual credit's role and impacts in college readiness, college participation, college retention, underrepresented populations, college level course specific content, and student and staff perceptions. Chapter 3 describes the research methodology, design, and the procedures utilized for this investigation. Chapter 4 describes the data obtained and how it was analyzed. The chapter provides a summary of the results in both written and graphical form. Finally, Chapter 5 provides an interpretation and discussion of the results of the study in relation to the current research related to factors that impact students' selection of CiHS courses in the state of Washington.

Chapter Two: Review of the Literature

Introduction

Postsecondary education has historically been the vehicle of success in our society (Carnevale et al., 2021). However, the cost of postsecondary education is increasing, which limits access and opportunity (Carnevale et al., 2021, 2022; Ma et al., 2019). High School dual credit programs are critical in increasing access to postsecondary education for all students (Garcia et al., 2020; SREB, 2020). Dual credit is a frequent education topic in public instruction (Kurlaender et al., 2020; OSPI, n.d.; WSAC, 2020). The issues surrounding dual credit can be found on the legislative floors of state government, in work groups of K-12 educational leaders, and today's high school classrooms. Dual credit can be found in all 50 states, the District of Columbia, and in over 70% of high schools in America (Robson & O'Neal-Scheiss, 2020). The objective of this literature review is to identify the impacts of dual credit programs on student success across several student indicators, evaluate concerns of student access, and identify gaps or limitations within the broad scope of dual credit in today's high schools.

The term dual credit itself is confusing in the current scope of research literature. When referencing dual credit, it could be related to Advanced Placement (AP), International Baccalaureate (IB), Cambridge, College in the High School (CiHS), Early College (ECHS), Running Start, and Tech Prep. Regardless of the dual credit program, educational systems are universally trying to positively impact students' future educational attainment (Birkeland, 2019; Lee et al., 2022).

The primary objectives of dual credit programs are to increase student college readiness, increase student preparedness for workforce demands, increase postsecondary enrollment and completion, reduce costs for degree/credential completion, and provide equitable access for

students (Kim & Bragg, 2008; SREB, 2020; Villarreal, 2017; WSAC, 2016). Through this extensive review of the literature, it is clear that current dual credit research is hyper-focused on the outcomes of student participation in the different dual credit systems (Bowers & Foley, 2018; Lee et al., 2022; Lichtenberger et al., 2014; Smith, 2007; Torres & Liu, 2020). Research studies have spent significant time evaluating dual credit programs' impact on college enrollment, retention, and degree completion (Bowers & Foley, 2018; Edmunds et al., 2020; Lee et al., 2022). Interestingly, very little research has explored the reason students choose dual credit paths, and conversely, why they are not choosing dual credit options. Few studies evaluate what factors influence student choice in the registration of dual credit in the high school setting. In addition, when information is provided about student choice, it is focused on those students who have chosen to take dual credit (Anderson, 2014; Birkeland, 2019; Creel, 2020; Dare et al., 2017; M. Hanson et al., 2015). The lack of information regarding factors that impact students' choice to not take advantage of dual credit options available creates a knowledge gap in student access to dual credit in public education.

Background

Dual credit is certainly not a new concept across the educational landscape (Arrambide et al., 2021). However, with the federal government's passage of the Every Student Succeeds Act (ESSA) in 2015, there is accountability within states' educational systems to measure its participation (Birkeland, 2019; Hochstrat, 2019; OSPI, n.d.; Phelps & Chan, 2017; WSAC, 2020). With the addition of this requirement, there has been an increase in dual credit options and types (Alsup & Depenhart, 2022; Clayton, 2021; Duncheon, 2020; Matthews, 2020). To fully understand the scope of how dual credit works within systems and its impacts on students,

one must understand fundamental differences between dual credit options persistent in the literature (Table 1).

Table 1

Description of Dual Credit Programs

Program	**Offered by**	**Taught by**	**Credits earned by**
Advanced Placement	High school	High school teacher	Passing exam
Cambridge	High school	High school teacher	Passing exam
Career and Technical Education - Tech Prep	High school	High school teacher	Passing course
College in the High School	High school	High school teacher	Passing course
Early College High School	High school	High school teacher or college instructor (varies)	Passing course or exit exam (varies)
International Baccalaureate	High school	High school teacher	Passing exam
Running Start	College/ University	College instructor	Passing course

Advanced Placement (AP) is a national dual credit program offered through the CollegeBoard corporation (Birkeland, 2019; Kolluri, 2018). This program facilitates high schools offering courses labeled AP because they have been vetted and approved through the CollegeBoard organization in partnership with higher education advisory. Students take exams at the completion of the courses, and if they score high enough, they receive credit at participating universities (Kolluri, 2018; Ma et al., 2019). Smaller programs such as International Baccalaureate (IB) and Cambridge function very similarly to AP. They also require a post-course exam and if students score high enough, they receive credit at participating universities (Birkeland, 2019; Suldo et al., 2018).

Similar to AP, IB, and Cambridge, CiHS and Tech Prep programs also occur in the high school setting. In both programs, students earn high school credit and college credit simultaneously without exam requirements (Kim, 2014; WSAC, 2016). Tech Prep refers to programs housed under the umbrella of Career and Technical Education (CTE). These courses are typically career track specific and are articulated directly with a local community college (Phelps & Chan, 2017). Conversely, CiHS courses are often referred to in numerous ways in the literature as concurrent enrollment, dual enrollment, and dual credit (Birkeland, 2019; Johnson & Brophy, 2006; Morgan et al., 2018). This program partners high schools with institutions of higher education to offer courses taught through approved instructors at the high school for college credit. In these courses, the college credits are awarded and either the student, the high school, or the state pays the associated fees to the college. The students' courses and grades are directly associated with and transcripted by the accrediting college (Birkeland, 2019; Clayton, 2021, WSAC, 2016).

Early College High Schools (ECHS) are high schools directly partnering with a community college for completion of an associate's degree, while simultaneously completing the requirements for high school graduation (Duncheon, 2020; Edmunds et al., 2017; Justice & Mansell, 2014). They may differ in operation between school district partnerships with universities and the states that offer the program. Most ECHS programs have students on a high school campus taking concurrent enrollment courses credited from the partner institution (Duncheon, 2020). In some cases, students split time between their high school campus and the connected community college. These ECHS programs often function as a choice high school within state public educational systems (Duncheon, 2020; Mansell & Justice, 2014).

Running Start is a term used by the states of Hawaii, Illinois, Montana, New Hampshire, and Washington to label a program that allows students to enroll in and participate in college courses with a higher education institution and receive high school and college credit concurrently (Birkeland, 2019; OSPI, n.d.). This program is designated for junior and senior students, and tuition costs are covered by the state education program (Birkeland, 2019; Johnson & Brophy, 2006; WSAC, 2016). The student attends school on the college campus. Alsup and Depenhart (2022) found that students taking Running Start through the community college had a higher correlation to their degree completion compared to high school dual credit courses. According to Fink and Jenkins (2023), 70% of dual enrollment courses across the United States is happening in community colleges.

Dual Credit and College Readiness

The spotlight on the high school to produce students who attend and complete postsecondary training is essential for today's labor market (Carnevale et al., 2022; SREB, 2020). According to the Washington's Skilled and Educated Workforce Report (2020), 70% of available employment requires postsecondary education, with two-thirds of that requiring completion of a program, certification, or a degree. According to Adelman's (1999, 2006) significant work on college readiness for the United States Department of Education, the greatest predictor of postsecondary success is the rigor of a student's high school coursework. Since Adelman's original work on academic intensity, the field of college readiness has been thoroughly examined in the context of college enrollment and completion (M. Hanson et al., 2015; Leeds & Mokher, 2022; Roberts & Grant, 2021). One key aspect to college readiness is the development of a connection between high schools and higher education institutions, and a partnership that includes collaboration of knowledge and standards is the key to its success

(Conley, 2003). Dual credit coursework is a direct product of these collaborations (Dai, 2021; SREB, 2020).

Dual credit coursework and dual enrollment programs are used as indicators for college readiness (Edmunds et al., 2017; Kostyo et al., 2018). In these programs, students develop skills for success, exposure to college level coursework, and experience a reduced time towards college completion, which are keys to successful transition to career readiness (An, 2015; Hemelt & Swiderski, 2022; Hochstrat, 2019). Bowers and Foley (2018) examined the relationship between students that attend college having earned AP or dual credit coupled with college readiness (as predicted on the ACT) and students without these readiness indicators. They found AP courses in math and ELA resulted in a 20% better rate of retention from one academic year to the next in college. Dual credit produced similar results with 17% retention improvement (Bowers & Foley, 2018). The work by Mokher et al. (2019) supports similar conclusions in their work on college readiness, directly correlating engagement with dual credit coursework, and increased college enrollment and persistence. Of note in their study was dual credit impacted college readiness specifically in math and ELA. Students who entered postsecondary education with AP math and ELA were far more likely to have the college readiness scores on standardized exams and be retained the following school year (Bowers & Foley, 2018). In an analysis of qualitative feedback of students who passed exams and those who did not, Cooney et al. (2013) found that both had similar responses on the positivity of AP class experiences, referenced them as high quality, rigorous, and helpful. Of note in the study was that students who were not successful on AP examination, however, were more likely to refer to their courses as lower quality. An and Taylor (2015) in a review of 14 states' first-year university students found that the impacts of accelerated credit programs (dual credit, concurrent

enrollment) on college readiness were minimal, but present. Students with dual credit had higher GPA and retention after the first year of college, but there was no difference between students who earned credits through dual credit programs versus test-based programs (AP or IB) (An & Taylor, 2015).

College persistence and maintaining college enrollment through completion is frequently studied alongside dual credit impacts (Giani et al., 2014; Lin et al., 2020). Morgan et al. (2018) examined if college readiness coursework can be correlated with college persistence and completion of undergraduate degree by year six. The study showed that if students participated in an AP, CiHS mathematics, or ELA course, they were almost two times more likely to enroll in college, but no such relationship existed for dual credit courses in science. This work found that the greatest predictor of college enrollment in their data set was not a college readiness indicator, but FAFSA completion. FAFSA completion resulted a four times higher rate of college enrollment versus those who do not complete the FAFSA process. Morgan et al. (2018) identified the most significant predictor of college persistence to be the student's high school GPA, among the factors directly measured. Additionally, when comparing immediate college enrollment versus delayed enrollment, immediate enrollment had greater significance than other variables in this comparison. Students were 12 times more likely to complete college if they enroll immediately following high school rather than a delayed enrollment. A specific limitation mentioned in this work is that it did not directly evaluate credit accumulation in high school dual credit as a factor towards college completion, which could be a great indicator of college readiness (Morgan et al., 2018).

When tackling college and career readiness, states often develop programs to encourage dual credit enrollment or develop unique programs to ensure students are engaged in college-

ready work (Hemelt et al., 2020; Hemelt & Swiderski, 2022; Leeds & Mokher, 2022; Pyzdrowski et al., 2011). The Florida College and Career Readiness Initiative (FCCRI) is a program designed to target students in need of college readiness coursework based on state exam scores (Leeds & Mokher, 2022). Leeds and Mokher (2022) assessed how the FCCRI impacted passing rates in college coursework and tracked subsequent course-taking patterns of students who engaged in the FCCRI courses in high school. The study indicated that students near the state's college-ready cutoff ended up taking fewer advanced courses due to the FCCRI. In math courses, the reduction ranged from 16.7 % to 32.6% more likely to take the college-ready course in lieu of advanced math. The FCCRI impacted even the highest level tracked math sequence, reducing enrollment in calculus, pre-calculus, and other advanced math courses. Similar results of reduced enrollment in high-level courses in English were observed. The FCCRI led to a 26.1% increase in the college-ready course, which led to less student enrollment in advanced ELA options. The FCCRI likely impacts college readiness and preparation in a negative way and reduces advanced course-taking in Florida schools (Leeds & Mokher, 2022).

In Tennessee, the state initiated a state-wide program to increase dual credit options for students (Hemelt & Swiderski, 2022). The program increased access and availability to dual credit courses offered through the state higher education system. The study found a significant increase in student enrollment in dual credit coursework. In addition, with that increase in participation there was no loss in advanced placement participation in Tennessee. The study met the target population for participation, which were students with modest academic preparation. However, few schools added new classes and only changed existing courses. Of concern, the majority of students completing the courses and taking the exit exams did not pass. The students

that passed the exam most closely resembled the academic preparation of the typical advanced placement students (Hemelt & Swiderski, 2022).

College and career readiness is often correlated with CTE programs (Kim & Bragg, 2008). Phelps and Chan (2017) assessed the relationship between CTE dual credit and college and job market outputs. In their study of student longitudinal data from 2008 to 2011in a community college system in Wisconsin, students enrolled in the community college with an average of 5.94 credits from CTE articulation, with females 20.1% more likely to transfer credits than males. Females and students who placed high on the math placement exams had degree completion rates 2% higher. Students with direct transfer credit from high school were 9% more likely to graduate with an associate's degree in three years. High school programs with a direct relationship with the specific community college had a higher rate of completion, reinforcing the importance of higher education collaboration in college readiness (Phelps & Chan, 2017). Similarly, Kim and Bragg (2008) indicated a positive relationship with college readiness in both reading and math through articulated CTE programs. In a qualitative evaluation of a CTE dual credit program, Wilker (2018) found some college readiness concerns. Students' reported that while the courses were relevant to student needs and students appreciated the cost savings of CTE credits, the college credits did not have consistent transferability to other higher education institutions (Wilker, 2018).

Dual Credit and College Participation and Retention

The majority of research in the field of dual credit and dual enrollment is focused on its impact on student enrollment in postsecondary education, student persistence in postsecondary, and degree or credential completion (Bowers & Foley, 2018; Lee et al., 2022; Lichtenberger et al., 2014; Smith, 2007; Torres & Liu, 2020). Dual credit programs have existed in colleges and

universities throughout the United States as far back as the 1950s (Grant, 2019). However, it was not really formalized until the establishment of the National Alliance of Concurrent Enrollment Partnerships (NACEP) in the late 1990s, which established procedures and rules for institutions of higher education (Paulsen & Perna, 2016). In the early 2000s, dual credit moved from regionalized programs to national policies that aimed to increase students attending and succeeding in postsecondary education (Lee et al., 2022). Smith (2007) showed that 83.3% of participants in dual credit aspired for a four-year degree, while only 39.1% of the students not in dual credit desired a four-year degree.

In a study by Lee et al. (2022), they assessed college enrollment, choice, and persistence in relationship with taking at least one dual credit course. This quantitative research project utilized the state of Nebraska's 2018 graduating class including over 21,000 students of which over 6,000 participated in dual credit. The study strongly suggests that students who engage in dual credit courses in high school have an increased probability to graduate from high school, go to college, choose a university over community college, and retain into year two of college. The impact of dual credit was greater on graduation from high school and college enrollment than choice and retention. Taking dual credit increased high school graduation for Whites by 3.5%, while the impacts were greater for Black and Hispanic students at 11.7% and 7% respectively. Dual credit students who were first generation students or qualified for Free and Reduced Lunch (FRL) benefited more along measured demographic variables than non-first generation and middle-income students (Lee et al., 2022).

A study by Bowers and Foley (2018) correlated college readiness with dual credit through college retention. This quantitative analysis took place in a single Tennessee University and included the entire first-year 2015 cohort. The correlation between AP courses in

mathematics and ELA resulted in a 20% better retention rate fall to fall, and dual credit had a similar rate of retention at 17%. However, in direct comparison, AP math and AP ELA versus enrollment in dual credit courses showed no advantages in retention rate between years. Essentially, the study suggests that dual credit increases college retention, but the type of dual credit was not a factor (Bowers & Foley, 2018). Similarly, Villarreal (2017) found that dual credit courses in ELA improved bachelor degree completion at four, six, and eight years and associate degree completion at two and four years.

In the examination of the Early College High School (ECHS) model in North Carolina, Edmunds et al. (2020) evaluated the impact that ECHS had on student performance in college. The study evaluated students from 19 of the 85 ECHS facilities in North Carolina and compared them directly with traditional high schools with similar demographics within the same region. The research examined 4,054 students from both rural and urban locations. The data indicates that students completing ECHS credits earned a credential (certificate or degree) at a higher rate than the control group when including associates of arts degrees in the completion criteria. The control group (traditional high school) caught up to the treatment group (ECHS) when evaluated on university completion at the 6-year mark (Edmunds et al., 2020). The data also suggests that ECHS programs positively impacted all students, and indicated greater advantages for students who face less challenges such as economics, race, and academic standing (An, 2015; Edmunds et al., 2020).

In contrast to Edmunds et al. (2020), Moreno et al. (2021) also evaluated student impacts in ECHS. Moreno et al. (2021) examined dual enrollment in an ECHS and dual enrollment in a traditional high school and explored if differences existed in student demographics. In addition, they evaluated what impacts participation in the different dual enrollment programs had on

degree completion. The data for the research came from a community college in Texas and the dual enrollment programs attached to it. The targeted population of both high schools were over 50% students of color. The main variables for the study were demographics, economic status, and dual enrollment program. Moreno et al. (2021) found that ECHS had a negative effect on college participation compared to traditional high school students. They found that college participation was 1.97 times higher for students from traditional high schools than students from ECHS programs (Moreno et al., 2021). Their results suggest that students engaging in traditional high school dual credit programs are 6.03 times more likely to enroll in college than students who do not engage in dual credit within a traditional high school. The study also highlighted a correlation between dual credit participation and a reduction in total costs of college, indicating students save education costs through dual credit participation. This study indicated a lower participation rate with Black students. In addition, it also showed a lower rate of college completion than their White counterparts (Moreno et al., 2021).

Several studies have explored how dual credit and dual enrollment affects community college participation and completion. Grubb et al., (2017) evaluated the potential impacts of dual credit on student remediation and community college completion at two years and three years separately. Students with dual enrollment participation were 9% less likely to need remediation and 26% more likely to complete a degree in two years, and 28% more likely to complete in year three. In addition, Torres and Liu (2020) evaluated the potential correlation between students' participation in dual enrollment programs and their GPA in community college. The study assessed students’ completion of associate degree or transfer to a four-year college. Students who engaged in dual credit programs while in high school completed community college or transferred to a four-year university at a higher rate than students of similar factors who did not

have dual credit courses. In addition, the data did show some predictive association to students of low SES and Black students specifically for dual credit (Torres & Liu, 2020). Villarreal (2017) found that when looking at community college certificate completion and associate degree completion in the state of Texas, the rate of community college degree or certification completion doubled for all students in a high school who completed a minimum of one dual credit course.

Race and Equitable Access

Equitable access is the most frequently studied facet of dual credit in today's educational landscape (Corra et al., 2011; Moreno et al., 2021; Ricciardi & Winsler, 2021; Rodriguez & McGuire, 2019; Xu et al., 2020). College and career readiness for all students is, at its heart, an equity issue (Kostyo et al., 2018; Rury & Rife, 2018). When examining equity across dual credit, the most evaluated topics are race, socioeconomic status, and gender. The excellence gap is a term used to identify these gaps with regard to race, gender, and wealth along three areas: advanced course access, achievement, and persistence (Ricciardi & Winsler, 2021). The data shows that Black and Latinx students take advanced courses at a lower rate than Whites and Asians, females more than males, and non-FRL over FRL students (Ricciardi & Winsler, 2021; Robson & O'Neal-Scheiss, 2020; Young et al., 2013). With the addition of multiple pathways to access dual credit, such as CiHS, ECHS, Running Start, Tech Prep, and more, one could expect more equitable access. However, data from the National Center for Education Statistics (2019) states the opposite. The report shows that Black and Hispanic students lag behind in dual credit participation by over 11% to that of Whites and Asians, which is also supported by the work of Dai (2021) who found that in the state of Kentucky, dual credit students are most likely to be White or Asian. According to Rodriguez and McGuire (2019), in a comprehensive study on dual

credit course offerings, both Black and White students have the same chance of attending a high school with dual credit offered. However, Black students are more likely to be enrolled in schools with less dual credit options. Additionally, Black students are more likely to attend schools that are in the lowest quartile of schools in the United States in offering dual credit. Essentially, the study found that the more dual credit courses offered to students in schools, the larger the equity gap in participation between Black and White students, suggesting that more access without other intervention simply widened the access gap (Rodriguez & McGuire, 2019).

Gaps and inequitable patterns persist in racial participation in AP and dual credit, specifically in comparison of White to Black and White to Hispanic students in the United States (Hooper & Harrington, 2022; Ricciardi & Winsler, 2021; Rodriguez & McGuire, 2019; Xu et al., 2020). Xu et al. (2020) assessed racial participation and access in AP and dual credit, targeting geographical implications, policy impacts, resource allocations, and school differences. While race was the primary focus of study in this work, secondarily they analyzed socioeconomic factors. This study utilized data over multiple publicly accessible sources, civil rights data, the American Community Survey, Common Core Data, the Sanford Education Data Archive, and the US Department of Education. The study provided significant exploration of data into dual credit and AP access, with variation across and within states prevalent. The larger gaps in AP enrollment were 9.8% White to Black and 6.9% White too Hispanic. The enrollment gaps for dual credit were smaller at 4.7% White to Black and 4.2% White too Hispanic. The majority of school districts in the United States have racial gaps in dual credit participation, the results vary between states, and states with the largest participation in dual credit have the largest racial gaps (Kostyo et al., 2018; Rodriguez & McGuire, 2019; Xu et al., 2020). Similarly, Rodriguez and McGuire (2019) found 71% of schools they studied had AP course enrollment gaps for Black

students, with 28% of the schools having gaps of 15% or larger. The study also showed that more access to additional AP course offerings actually increases the participation gap between Black and White students. Every additional AP course resulted in a 0.17% increase in the participation gap. The strongest predictor to counter this imbalance in research is pre-high school achievement. Student preparation prior to high school was the best predictor and best potential tool in closing the racial gap in dual credit (Ricciardi & Winsler, 2021; Rodriguez & McGuire, 2019; Xu et al., 2020).

In a study of over 24,000 students in Texas that included over 50% students of color, Moreno et al. (2021) found that students who identified as low socioeconomic and took at least one dual enrollment course were less likely to attend college than their counterparts with high socioeconomic status. Students of high economic status were 2.46 times more likely to enroll in college. In addition, they also found that Black students were less likely to attend college compared to their White counterparts (Moreno et al., 2021). A study in the state of Texas by Young et al. (2013) found similar results in racial gaps. Between 2005 and 2012, Hispanic participation in dual credit rose 10.7%, Asian participation rose 29.9%, White participation rose 10.5%, yet Black participation only rose 2.1%. Black students had the lowest overall participation in dual credit by over 10%. Similarly, Edmunds et al. (2020) examined over 4,000 dual credit students in North Carolina and found that dual credit had positive impacts on all students. The study used a regression model that created an output called the impact estimate that was predictive of a student's degree completion. The research found similar results with underrepresented minority students, but with a lower impact estimate than that of their White counterparts. Several studies have indicated that dual credit programs have a positive impact on college enrollment and retention, but student participation is highest among Whites, Asians,

females, non-English learners, and rural students (An, 2013; Estacion et al., 2011; Lochmiller et al., 2016). Conversely, with regard to students with low socioeconomic status, Edmunds et al. (2020) obtained results that suggest that dual credit levels the field with almost identical impact estimates.

A comprehensive racial access study by Kettler and Hurst (2017) examined the participation of students in AP/IB programs and evaluated gaps in that participation. Specifically, the study investigated AP/IB participation related to White students and Black students in order to properly assess the gap and its change over time. The work focused on the rate of change in the gap and in what way or direction the gap is changing. The study utilized data from 117 suburban public high schools in the state of Texas from 2001 to 2011. Each school had to have a minimum of 5% Black student population to participate in the data collection. The study included only AP and IB dual credit programs; other dual credit options were not considered. The results confirmed the hypothesis that participation increased for White, Black, and Hispanic students with a mean increase of 8.8% participation. Of note is that Whites had the highest participation at the start, followed by Hispanics, and then Black students. In addition, there was still a gap in 2011 and that gap increased. The participation rate gap between Whites and Blacks was 1.71% higher in 2011 for White students. The rate of participation in AP and IB in Hispanics versus Whites was also higher but only at a 0.24%. The issue of access and opportunity for underrepresented groups of students persists within the rate of participation. The participation of all groups increased from 2001 to 2011. However, while overall participation increased, the equity gap of participation has widened (Kettler & Hurst, 2017).

The widening of this equity participation gap was also evaluated by Miller et al. (2017) and Rury and Rife (2018). Miller et al. (2017) found that dual credit participation rates are

different in District of Columbia area schools by race, FRL, urban locations, gender, and GPA. They found that the participation gaps in dual credit continued, despite numerous interventions for increased access. Rury and Rife (2018) explored the larger concept of opportunity hoarding in America. The term opportunity hoarding is often associated with this educational phenomenon of equity gaps. This term references a group's advantages in educational institutions with regards to system navigation and access (Rodriguez & McGuire, 2019; Rury & Rife, 2018). Rury and Rife (2018) found that early history of the Kansas City housing and school districting pushed Black students into urban schools which tend to have fewer academic opportunities.

Lee et al. (2022) evaluated the role dual credit plays in high school graduation, college enrollment, college type, and college retention. The study also assessed the impact of racial differences, first generation college enrollment, and socioeconomic status on the identified targets of high school graduation, college enrollment, college type, and college retention. This research project utilized the state of Nebraska's 2018 graduating class with student demographic data, ACT scores, high school information, and college enrollment through the first year of college. Taking dual credit increased high school graduation for Black and Hispanic students at 11.7% and 7% respectively. The positive relationship of dual credit with graduation was highest for minority students, first-generation students, and low-income students (Lee et al., 2022).

White students benefit disproportionately in dual credit programs (Kettler & Hurst, 2017; Rivera et al., 2019; Rodriguez & McGuire, 2019). Rivera et al., (2019) found that while White students made up 51.79% of the students in their high school longitudinal study, they consisted of 63.43% of the students in dual credit. Minority students and male students are less likely to be enrolled in dual credit courses (Lee et al., 2022; Moreno et al., 2021; Spencer & Maldonado, 2021). Robson and O'Neal-Scheiss (2020) in their brief for the U.S. Department of Education

found that 1 in 10 white students participate in dual credit compared to 1 in 16 for Hispanic students and 1 in 20 for Black students. While their data varied across districts in the United States, they found that one quarter of all school districts have equity gaps in participation greater than 7%.

Socioeconomics

Dual credit programs are frequently used as target interventions to assist students who may not have access and/or opportunity to attend college due to socioeconomic status (Lee & Villarreal, 2022). Dual credit has shown positive correlation for graduation and future positive effects in GPA for low-income students (Dai, 2021; Lee & Villarreal, 2022). However, schools with low socioeconomic status or schools in urban areas are less likely to have dual credit programs (Gagnon et al., 2021; Robson & O'Neal-Scheiss, 2020). Similarly, Robson and O'Neal-Scheiss (2020) also report that dual credit participation is higher in students with parents that possess higher education. They found that 42% of students who come from higher educated families utilized dual credit compared to 26% of students whose parents only have a high school diploma. Gagnon et al. (2021) found that dual credit access was lower in rural and city locations compared to areas considered suburban, with rural locations having the lowest access. Cram and Bejar (2019) found that a lower social class identity can persist in first-year college students and cause lower self-worth. This is often the opposite for students with more financial advantages who assimilate well into the college environment and the classroom systems (Horton, 2021).

Torres and Liu (2020) found that students participating in dual credit who are categorized as low socioeconomic status were more likely to complete their degree than students who did not take dual credit. Dual credit participation of low-income students resulted in a 21.8% increase in college enrollment and a 14.2% increase in college graduation eight years after graduation

compared to their traditional counterparts that did not take dual credit (Lee & Villarreal, 2022). However, Rivera et al. (2019) found that socioeconomic status is a strong predictor of participation in dual credit, with students from low socioeconomic status enrolling at a lower rate. State education systems often address this issue with financial programs targeting students designated in the federal FRL program to reduce or eliminate costs associated with dual enrollment (Nelson & Waltz, 2019). In examining the cost savings of dual credit students in Georgia, Partridge et al. (2021) found that students on average saved $4,122 in tuition costs through the state program. However, the state of Georgia implemented a limit on dual credit per student to reduce state expenditures, possibly reducing access (Partridge et al., 2021). Additionally, Hornbeck et al. (2023) in a study of principals in the states of Texas and Ohio found that principals see economic value of dual credit as the single greatest motivator of student participation.

Research completed by Lin et al. (2020) investigated how financial assistance is awarded to dual credit students in relationship to their race and socioeconomic status. To study how financial assistance impacted student persistence in dual credit programs, they compared it to those who do not receive assistance and evaluated how the financial assistance then impacts postsecondary persistence over time. The study aimed to support policy and interventions to support access and opportunity for all students. The results of the study clearly showed that Pell grants and other types of financial aid positively impact student retention and persistence. They also concluded that students who take AP and dual credit have the highest persistence, yet are highest in socioeconomic status and have the highest achievement while receiving the most in gifted aid. The study suggested that the impact of financial aid on persistence may be greater for

non-dual credit students. The study did not define a relationship between financial aid impacts with dual credit tied directly to college completion (Lin et al., 2020).

Research shows that affordability is a major factor in dual credit programs and is a barrier to access for low SES students (Horton, 2021; Lin et al., 2020). Thus, the discrepancies in social class start with access. The access gap then translates to a college readiness gap and then a time gap on college campuses towards completion (Horton, 2021; Lee & Villarreal, 2022). This can lead to social class isolation, feelings of self-doubt, and a lack of belonging. Social class feelings and self-worth have an immediate impact on classroom performance (Horton, 2021). To further stretch the gap, student access differs from state to state and district to district (Birkeland, 2019; Creel, 2020; Fenty & Allio, 2017; Hemelt & Swiderski, 2022; Horton, 2021). While disparities and negative impacts can be associated with dual credit, generally the research shows positive impacts for students who do access and complete dual credit regardless of student factors (Horton, 2021; Lee & Villarreal, 2022; Lin et al., 2020; Torres & Liu, 2020).

Gender

Gender gaps are often discussed in relation to education categories (Corra et al., 2011; Gurantz, 2021; Lichtenberger et al., 2014). Gender inequality in postsecondary education has been increasing as females are attending college at a higher rate and out-achieving their male counterparts (Buchmann et al., 2008; Burns et al., 2019; Corra et al., 2011; Lichtenberger et al., 2014). The data is increasingly showing that White females have the greatest level of enrollment in advanced coursework and White males come in a close second. Black females and males are significantly less in their participation in advanced coursework, lagging behind White females and White males by 27% and 32% respectively (Corra et al., 2011; Morgan et al., 2018). Similarly, both Burns et al. (2019) and Morgan et al. (2018) found that female students

participate in honors, dual credit, and have higher GPAs than their male counterparts. Moller et al. (2013) investigated the impacts of advanced placement on outcomes and participation of males and females. Their study found that the opportunity to learn in an AP curriculum provides an increased academic preparation and that impact is greater for females than for males and more female students are enrolled in advanced placement than males. Similarly, Rivera et al. (2019) in their study of the high school longitudinal data for the U.S. from the 2009 graduating class found that females participate in dual credit at a higher rate than males. In a multiyear study of gender differences in dual credit enrollment, Young et al. (2013) found that each year between 2005 to 2012, the number of females enrolled in a Southwest Texas Community College with dual credit from high school was greater than their male counterparts. They found that while females make up 49.59% of all students, they comprise 57.6% of the students in dual credit. This is also supported by the work of Kim and Bragg (2008) who found that females in an Oregon community college consortium earn more dual credit hours than their male counterparts. However, Torres and Liu (2020) researching dual credit and its effects on degree completion in Los Angeles, California, found that gender-based assessment of dual credit participation had no predictive effect on associate degree outcome.

In a comprehensive study investigating the effects of accelerated learning through dual credit in Rhode Island, Shields et al. (2021) assessed gaps in student demographics. The research evaluated race and ethnicity, socioeconomics, math state assessments scores, and gender. The study found gaps in race, economics, and gender. Specifically, male students only made up 42% of all dual credit students in Rhode Island. Dai (2021) found similar results in a comprehensive review of dual credit participation in the state of Kentucky. Females outnumbered males, however, dual credit participation did not seem to impact the likelihood of earning a GPA of 3.0

or higher for female students in their first year of college, but did seem to positively impact GPA for male students who engaged in dual credit. In a study evaluating the perspectives of gifted female students in dual credit programs, Vanderbrook (2006) investigated why females choose this curricular path and found that gifted females were strongly attracted to dual credit courses through relationships with peers with similar motivations and academically strong teacher support.

Dual Credit Course-specific Outcomes

In the exploration of research into dual credit impacts, the area of course-specific outcomes have significant focus in practice and study (Bowers & Foley, 2018; Giani et al., 2014; Morgan et al., 2018; Pyzdrowski et al., 2011; Villarreal, 2017). The data suggests that not all courses are equally beneficial and some courses even have negative impacts on college participation and retention (Cram & Bejar, 2019; Giani et al., 2014; Hemelt et al., 2020; Villarreal, 2017). Studies in this area tend to focus primarily on the effects of ELA and Mathematics (Bowers & Foley, 2018; Giani et al., 2014; Morgan et al., 2018). However, there is some interesting work in the area of specialized courses targeting student college readiness (Cram & Bejar, 2019; Villarreal, 2017). While the data provided significant support for all dual credit courses, Morgan et al. (2018) showed that taking any course that is deemed dual credit results in a multiplication factor of 1.26 for students' odds of graduating with a degree within six years of enrollment.

English Language Arts

English language arts are a common gateway dual credit course in all categories of delivery. In evaluating over three million Texas students, Villarreal (2017) found that English dual credit courses were associated with a higher college degree attainment rate than that of

mathematics, social science, and CTE. The study found that completion of ELA dual credit more positively correlated with graduation, college application, enrollment, and completion than all other subjects. Similarly, when examining AP English impacts on college persistence, Bowers and Foley (2018) discovered that students with AP English credit were 20.47% more likely to re-enroll for their second year in college. This is supported by Morgan et al. (2018), who found that gateway language arts courses (AP and dual credit) resulted in students having been 1.86 times more likely to enroll in college than their non-dual credit peers. The research also supports positive correlation towards bachelor's degree attainment after six years (Giani et al., 2014; Morgan et al., 2018). Both Bowers and Foley (2018) and Morgan et al. (2018) indicate that the results were not contingent on successful test scores (AP passing) or transcription of the dual credit courses (paying for the credits) at the university, but rather focused on student participation in dual credit programs.

Mathematics

Math progression, or access to advanced math in high school, has shown significant importance toward high school graduation, college entrance, and college completion (Adelman, 1999). It is often highlighted as the greatest gatekeeper course and most influential for college entrance, attainment, and completion (Adelman, 1999; Conley, 2003). Dual credit mathematics has shown to be a sizable predictor of college participation and completion (Conley, 2003; Giani et al., 2014; Morgan et al., 2018; Villarreal, 2017). Giani et al. (2014) found that dual credit math increased students' odds of graduating from college between 60 to 90% over six years. Research conducted by Morgan et al. (2018) found that students who took one dual credit math course were 1.8 times more likely to retain enrollment into their second year of college versus students with no dual credit math and 3.2 times more likely to graduate with a degree. Additionally,

Bowers and Foley (2018) found that students enrolled in AP math courses were 19.5% more likely to enroll in postsecondary education than their counterparts without AP math. In addition, they found that students engaging in AP math were significantly more prepared for college mathematics (Bowers & Foley, 2018). In contrast, the work of Villarreal (2017) indicates that while dual credit math increased college application and enrollment, it did not have impacts on certificate or degree completion rates. Also, Bowers and Foley (2018) found that participation in dual credit math did not show any significant differences between fall-to-fall college retention.

In response to the significance of math and dual credit in student preparation for college entrance and success, Hemelt et al. (2020) investigated the development of a dual credit math course specific for college readiness. This study utilized the development of a new dual credit course in advanced algebra and trigonometry that would provide college credit within the Tennessee University system and applied it to students in different high schools (Hemelt et al., 2020). The new course represented the treatment variable in test schools. The control schools continued with their traditional advanced math course. The treatment schools received specific training and an outlined curriculum for the course. The results of the study did not find any direct impact of the treatment math course on college enrollment. The data did indicate that participation in the advanced dual credit math course showed an increase of four-year college enrollment for students from the middle of the math distribution curve. In addition, the results show a decrease in the need for college remediation math courses for students who participate in the dual credit math program. However, the study did not continue to student degree completion, but only evaluated college entrance, choice, and remediation (Hemelt et al., 2020). Similarly, Pyzdrowski et al. (2011) compared college algebra students taking the algebra course on the campus of West Virginia to students taking the same course in their high school. The students on

the high school campus had slightly higher ACT scores post-course, outperformed on labs, final exams, and final grades. Furthermore, the dual credit students showed additional success on the subsequent math courses. They scored at an identical success rate on calculus I and scored higher than non-dual credit students on survey calculus (Pyzdrowski et al., 2011).

Specialized Courses and other Content Areas

Similar to the addition of a specific content course, Florida International University wanted to assess the impacts of adding their "Strategies for Success" course as a dual enrollment option in local high schools (Cram & Bejar, 2019). The course targets general college readiness in academics and behaviors. Their goal was to measure impacts of students' performance, retention, and confidence. Specifically, the new course was to address perceived gaps in college readiness in soft skills observed by advisors, or skills and habits associated with engaging in college-level work. This study evaluated over 2,000 high school students along four semesters of school. All course instructors received the necessary curriculum and staff development prior to course implementation. In addition, all instructors held minimum qualifications of Florida International adjunct faculty. The study showed initial promise in the development of a dual credit "Strategies for Success" course for high school students that was aligned and consistent with university standards and presentation. Embedded in the course are qualitative feedback measures that provide student perspectives and opinions on the topics covered. Student feedback was generally positive and supportive of the course and its objectives. Early data shows that 99% of students who took the dual credit course in high school and attended Florida International persisted to the second semester. The length of the study was not adequate to assess the effectiveness of this particular dual credit course in relationship to college success and retention long term (Cram & Bejar, 2019).

The research work on dual credit in content areas outside of math and ELA is minimal (D'Anna et al., 2019; Pyzdrowski et al., 2011; Touchstone, 2010). Villarreal (2017) showed that increases in students' average number of credits earned in dual credit social science and computer science did result in positive correlations with college entrance and enrollment. However, the work found no positive correlation between dual credit in science, health, and art with college application, enrollment, and completion (Villarreal, 2017). Morgan et al. (2018) found strong relationship with ELA and math dual credit, connected with student graduation and college engagement. However, the study results did not find similar graduation results with dual credit science. The results of the study indicated slight positive relationships between dual credit science and college enrollment and persistence (Morgan et al., 2018). Research into AP courses in STEM contents indicated that 20% of students who earned AP credit for those courses retook the course at the university, compared to a retake rate of 10% for non-STEM courses (Gurantz, 2021).

Dual Credit and Career Technical Education

A large and growing category of dual credit is focused in Career and Technical Education (CTE) (D'Anna et al., 2019; Kim, 2014; Kim & Bragg, 2008; Phelps & Chan, 2017). Dual credits in CTE are usually given through direct articulation with a partnering postsecondary institution or through traditional dual credit enrollment (Kim, 2014). In CTE, courses and programs are focused on student pathways to careers and vocational opportunities. Many of these programs view dual credit through the lens of community college degree completion (D'Anna et al., 2019; Kim, 2014; Kim & Bragg, 2008; Phelps & Chan, 2017).

Phelps and Chan (2017) investigated the relationship between CTE dual credit and college outputs, job market outputs, and the variables that impacted that relationship. In doing so,

the research focused on four targets: student and school demographic, types of dual credit impact on two-year college completion, types of dual credit impact on three-year college completion, and types of dual credit associated with labor market outcomes. The research included a single community college partner institution, Fox Valley Technical College (FVTC), using a longitudinal transcript review from 2008 to 2010. This allowed for CTE dual credit assessment and evaluation in a program completion time frame. Additionally, the study used unemployment insurance wage records from the Wisconsin Department of Workforce to evaluate income. In CTE, course types were STEM, engineering, and health. Results showed that students enrolled in the community college with an average of 5.94 credits from CTE articulation, with females transferring more credits than males. Students' completion rates were higher among females and students who placed high on the math placement exams at both two and three years. Students with direct transfer credit were 9% more likely to graduate in three years. Students from high school programs with a direct relationship with FVTC had a higher rate of completion, reinforcing the importance of that collaboration. In addition, the students selecting long-term completion programs had both a higher completion rate and higher earnings compared to short-term certification programs (Phelps & Chan, 2017). The authors of this research specifically highlight that data from student and teacher perspectives on the key attributes of CTE dual credit and specific data on students with disabilities earning dual credit in CTE would be beneficial in framing future CTE programs (Phelps & Chan, 2017).

D’Anna et al. (2019) performed large-scale evaluation of the outcomes of the Rutgers University Health Sciences College program located in area high school CTE programs. The study aimed to assess the impact dual credit had on student graduation rates and completion for both associates and bachelor’s degrees. Specifically, the research also targeted data on degree

type, evaluating the effectiveness of the program in increasing degrees in the fields of health science. The study found that a significantly better rate of graduation from both associates and bachelor programs existed at 150% the normal national rate. This data exceeds the local and national rates for degree completion. Approximately 45% of the degrees from this cohort were in the health professions. These are some of the best results for a vocational college credit program in the literature. The study's largest limitation was the lack of a control group and tracking of students who have not received a degree (D'Anna et al., 2019).

There is debate in the literature as to whether CTE or tech prep credits have similar post-secondary results to that of traditional dual credit programs (Kim, 2014; Villarreal, 2017; Wilker, 2018). In an evaluation of CTE dual credit on college retention for tech prep students versus non-participants, Kim's (2014) results suggest encouraging tech prep students to take a CTE dual credit course, as it shows positive correlation toward college persistence. However, Kim (2014) found no effects between dual credit and CTE tech prep on college-readiness in reading and writing. Additionally, Ison (2022) evaluated the relationship between taking dual credit courses and the final completion of a degree or credential with specific attention given to investigating if dual credit had any positive impacts on associate's degree completion or the attainment of certificate credentials. The research by Ison (2022) generally supports the current literature, recognizing a positive relationship of dual credit and degree completion compared to students without dual credit (Burns et al., 2019; Edmunds et al., 2020; Grubb et al., 2017; Villarreal, 2017). However, when the data is specifically analyzed for the completion of associate degrees and certification credentials commonly associated with CTE and tech prep, it shows diminished results (Ison, 2022; Kim, 2014). These results do run counter to many state reports and policy

briefs that strongly suggest dual enrollment will increase credential attainment (Villarreal, 2017; WSAC, 2020).

In a larger comprehensive study of four community college systems, Kim and Bragg (2008) researched the impacts of tech prep and dual credit on college readiness and remedial course-taking patterns. The study used consortium data from community college systems in Texas, Oregon, Ohio, and Florida. The data from all four state consortia show that tech prep credit had a positive relationship with college readiness in both reading and writing. That relationship was not as prevalent within mathematics. Tech prep articulated dual credits have been found to have a significant positive relationship within the Ohio consortium as those credits are tightly associated with career pathway programs that lead to credential completion. The data of this large report in regard to college retention and credits earned varied significantly between the sampled consortia. The most likely explanation of this data is that dual credit, and to a lesser extent tech prep credit, often assist students in a faster transfer to a four-year college track or to a credential providing institution. This makes it difficult to assess retention and credential completion (Kim & Bragg, 2008).

Dual Credit and Inclusion

Federal and state legislation, specifically the Individuals with Disabilities Act (IDEA), have long guided the education of students (Fenty & Allio, 2017; Kurlaender et al., 2020). High schools continue to increase inclusive practices and have students with disabilities alongside each other in all classrooms (Dare et al., 2017; Griffin & Papay, 2017; Mazzotti et al., 2021). However, the presence of students with disabilities in dual credit classrooms is a large gap in schools and in the research surrounding dual credit (Freeman-Green et al., 2018). Additionally, little is known about dual credit in several unique school populations, including English language

learners, foster youth, and homeless students (Kurlaender et al., 2020). In their report on California participation in dual credit, Kurlaender et al. (2020) found that almost one-third of all students in California are students with disabilities, ELL students, foster youth, or homeless students. Their results indicated that while over 18% of all students in California participate in dual credit, only 13% of homeless students and foster youth participate, 10% of ELL students, and 9% of students with disabilities (Kurlaender et al., 2020).

Research is limited with regard to students with disabilities in dual credit programs (Fenty & Allio, 2017; Freeman-Green et al., 2018; Kurlaender et al., 2020). The data is very clear that dual credit programs support students and college readiness, yet it is unclear what role inclusion of students with disabilities is occurring within these courses (Cook et al., 2017). Freeman-Green et al. (2018) engaged in a large-scale review of available data to determine to what extent students with disabilities participate in dual credit. Specifically, the study sought to examine where students with disabilities are successful and where that data is being disaggregated to identify students with individual education plans (IEP). The study identified 15 different college-ready programs used throughout the research literature. The program selection used an extensive literature review utilizing a strict criterion protocol and item descriptors of inclusion and college-ready. After program identification, the researchers using literature review evaluated them for connectivity to students with disabilities, special education, and inclusivity. Of the 15 programs, only two programs had data specifically for students with diagnosed disabilities. High School/High Tech (schools specific for disabilities) and tech prep CTE programs are the two with disaggregated data for students with IEPs. In High School/High Tech, the data shows a positive relationship towards college participation ranging between 53% to 83% at various schools. Tech prep showed positive impacts on graduation rates and attendance, but

not much on post-secondary enrollment (Freeman-Green et al., 2018). There is a data gap for students with disabilities in regard to dual credit (Fenty & Allio, 2017; Freeman-Green et al., 2018; Kurlaender et al., 2020). There are new reporting requirements at the state and national level that could increase the data and close this gap, as schools report on the percentage of inclusion and least restrictive environment (OSPI, n.d.).

An investigation by Fenty and Allio (2017) focused on the impacts of a virtual access Advanced Placement program. The program targeted students that are traditionally underrepresented in AP and dual credit. It sought to assess if this program could have positive impacts on students with identified disabilities or who are English language learners (Fenty & Allio, 2017). Research questions aimed to assess if students are targeted for Virtual AP, how participation compared to the norm, and what challenges occurred. The action research project contained 20 grantees over nine school districts that met a 25% FRL qualifier in the state of New York. The study found that grantee programs were most likely to focus on low income and minority students for participation and least likely to recruit students with disabilities. The results did show that student participation in the virtual AP program was slightly more racially diverse than the traditional high school demographic for AP students. However, of significant note, the study found a lower than expected participation of students with disabilities despite the target being communicated in the grant program (Fenty & Allio, 2017). These findings are similar to other findings when evaluating programs designed to increase access for students with disabilities. The results of the interventions to increase access often increase the number of participants in the dual credit program but seldom increase the underrepresented target population of the intervention, rather increase the gaps that previously existed (Hemelt & Swiderski, 2022; Ricciardi & Winsler, 2021; Rodriguez & McGuire, 2019).

Cook et al. (2017) explored inclusion through concurrent enrollment or Running Start in which participants with intellectual disabilities in the study were evaluated for self-determination skills. Specifically, the study questions aimed at whether the program contributed to factors of self-determination and in what ways. The study yielded results that indicated student's self-determination increased if the students engaged in the program for at least two of the three semesters, however the results were not significant with a $p = 0.06$. Single semester students did not show significant increases. Students in the two plus semesters cohort saw increases in autonomy, self-regulation, psychological empowerment, and self-realization (Cook et al., 2017).

An emerging pathway for dual credit is tied directly to students with disabilities (Griffin & Papay, 2017). As dual credit becomes a required offering within K-12 systems, many states and school districts are looking at transitional programs identified within the IEP that could receive federal support (Cook et al., 2017; Griffin & Papay, 2017; OSPI, n.d.). Griffin and Papay (2017) investigated transitional programs offering dual credit for transition of students with learning disabilities. Transition is the move of students from high school special education to a vocational program or university that helps students establish a career path (Goodman et al., 2020). Griffin and Papay (2017) found that within the ThinkCollege program in Massachusetts, over half of the students engaged in transitional and postsecondary programs from 2010 to 2015 earned dual credit and they recommended further research into the program to increase access.

English language learners (ELL) are a relatively unstudied cohort of dual credit students (Birkeland, 2019; OSPI, n.d.; Warner, 2018). The Regional Educational Laboratory Northwest team of H. Hanson et al. (2016) investigated the extent of ELL students accessing dual credit in Washington State compared to non-ELL students. They found that school systems with the lowest concentration of ELL students offer more dual credit courses than schools with the

highest percentage of ELL students. In addition, ELL students take one half to one less advanced/honors/dual credit course than non-ELL students per year. They hypothesized that part of the access gap may be attributed to the fact that ELL students are 40%-50% less likely to have accessed advanced math in middle school, reducing all ELL students' ability to access dual credit math in high school (H. Hanson et al., 2016).

School Perspectives, Student Perspectives, and Student Choice

As early as the 1960's, dual credit has benefited students, providing rigor for students who needed additional challenges while remaining in their home high school community (Jones & Baxter, 1962). Several studies have found that students engaging in dual credit work while in high school have higher postsecondary aspirations than their peers and is a better predictor of success in postsecondary than that of grades or family educational attainment (Adelman, 1999; Bowers & Foley, 2018; Morgan et al., 2018; Smith, 2007). These results suggest all students would benefit from dual credit, yet many students do not engage in dual credit opportunities (Garcia et al., 2020). Several factors influence students to choose or not choose dual credit programs including lack of understanding of benefits, cost as a barrier, family and peer influence, and lack of communication (Anderson, 2014; Johnson & Brophy, 2006; Kimble, 2022).

Johnson and Brophy (2006) investigated why students in a rural school district in the state of Washington chose to engage in dual credit, specifically Running Start. The research utilized a survey developed by the research team that assessed academics, financial, social, and choice as factors. The highest rated reason selected by students was academic preparation, followed by finance or cost saving. The results show that seniors valued academic reasons and social benefits more than junior-level counterparts. The factors of choice and finance did not

produce significant differences between grades (Johnson & Brophy, 2006). Moore and Williams (2022) investigated student perception on engaging in Running Start and continuing at the same school after high school graduation. The themes that emerged from the data that impacted students to choose to remain were faculty, learning environment, costs, locale, degree completion, and transferability (Moore & Williams, 2022). The most common theme that emerged in this analysis was faculty; the participants referenced faculty accessibility and their willingness to help when needed. The research noted that the participants seemed most at ease when discussing the faculty. As most commonly predicted, students frequently mentioned cost and location as primary reasons for Running Start participation (Moore & Williams, 2022).

Similarly, Dare et al. (2017) examined student motivations in choosing Running Start and examined educator views on student motivations for choosing concurrent enrollment. The results showed that students organized their reasons into seven distinct concepts, while educators grouped them into five distinct areas. Educator clusters regarding why students chose concurrent enrollment included planning ahead, love of learning, academic challenge, smart kids, and meeting like peers. Student clusters were getting ahead, preparing for university, love of learning, academic challenge, self-fulfillment, socializing, and initiative (Dare et al., 2017). The categorization of reasoning for school choice by students and educators possessed similarities and differences. They were most similar in categorizing the love of learning, or that students in concurrent enrollment were self-motivated to learn. The two groups were markedly different in how they organized the planning ahead feedback. While educators saw planning ahead as a single category, students saw it as two, in preparing for college and getting ahead (Dare et al., 2017).

Justice and Mansell (2014) examined reasons students who qualify for dual credit programs enroll in those programs in both traditional and Early College High Schools (ECHS). Beyond that scope, the research also investigated the reasons why students who qualify for dual credit coursework elect not to take dual credit courses at either high school locations. The data that emerged for the reasons the students engaged in dual credit were primarily the earning of college credit followed by cost savings for college. Several students also referred to academic rigor or academic preparation benefits of dual credit (Justice & Mansell, 2014). The typical response for why students chose traditional high school versus ECHS related to students indicating the culture and climate of traditional high school as a deciding factor. Additionally, and in conjunction with school climate, participants referenced friends and relationships as critical. Reasons to not choose dual credit were the taking of AP courses or financial costs associated with the dual credit programs. Additionally, some respondents mentioned they were advised away from dual credit courses by their counselor (Justice & Mansell, 2014). Garcia et al. (2020) found similar results with their evaluation of high school staff, teachers, and administrators. They also referenced a conflict between dual credit courses and AP courses. Staff perceived a student choice conflict with AP courses. Garcia et al. (2020) reference cost as a barrier to dual credit and students selecting the AP course as the alternative because the student cost is lower. Justice and Mansell (2014) and Clayton (2021) suggest that students are selecting AP over the dual credit option for academic challenge.

Kimble (2022) examined the reasons that students who had taken dual credit courses did not experience success or did not continue to engage in dual credit. The research investigated student perceptions to ascertain barriers to success in dual credit programs and what characteristics caused students to opt out of the program. The results indicated 14 themes from

the participants. Of significance were limited family support and undetermined future path (Kimble, 2022). Additionally, themes emerged around costs, overall experience, academic readiness, and course scores. The study found that while students were considered college-ready, that did not automatically translate to motivation and success in dual credit programs (Kimble, 2022). Kimble's (2022) results suggesting lack of family support for not taking dual credit aligns with Garcia (2020) who suggests family influence is a major factor in students engaging in dual credit programs. In surveying staff, faculty, and administrators, Garcia (2020) found that the three key reasons that students engage in dual credit are family support, college cost savings, and peer influence. The findings also show that dual credit programs improve students' academic progress and social development (Garcia, 2020).

With regard to student choice in high schools, Rodriguez and McGuire (2019) discussed the presence of opportunity hoarding theory in some schools. School staff can influence choice through potential discriminatory practices that reduce students of color in the more rigorous coursework. Additionally, they discuss the impact of parental influence on course choice, which generally favors higher socioeconomic students. Lastly, Rodriguez and McGuire (2019) refer to student self-selection. While self-selection and open student choice are important, it is also critical to understand the external mechanisms that can impact student choice, such as life circumstances, family structure, and social relationships (Dare et al., 2017; Rodriguez & McGuire, 2019). A similar study by M. Hanson et al. (2015) investigating students' access looked at the primary adult stakeholders and gatekeepers of dual enrollment in high schools. The study surveyed high school principals, counselors, and dual credit instructors. The largest area of agreement among subgroups with regard to school impact was 85% agree that their schools have necessary courses to prepare students and the least agreement, 63%, that dual enrollment impacts

students' post-secondary enrollment (M. Hanson et al., 2015). These results support other literature on this issue and indicate that students frequently see the teacher as the primary resource for dual credit information and are also the top influencer in participation (Anderson, 2014; M. Hanson et al., 2015; Touchstone, 2010). Missaghian (2021) explored the types of social systems or social capital students use to make decisions about post-secondary education. The study focused solely on low-income students. Students with a higher frequency of visits with school personnel on advising for post-secondary placement resulted in predictable post-secondary choices with their overall academic performance. The study also showed a high misalignment of post-secondary paths when students noted a dependence on social capital or family and friend advice (Missaghian, 2021).

Allen et al. (2020) asked Hispanic students in the north Texas region how dual credit impacted their college decisions and if earning credits impacted their college destinations. This study focused on the interviewing of 10 individual students that enrolled in university but had engaged in dual credit at the high school level. The fundamental questions focused on dual credits' impacts on the students' collegiate aspirations and college choice. This research found no connection between dual credit participation and student postsecondary choices. In addition, the interview data presented hints that larger factors of college choice for Latinx students are family and peer influence (Allen et al., 2020). Other dual credit studies have also suggested a larger family and peer role in the selection of dual credit programs (Garcia, 2020; Kimble, 2022).

Dyer et al. (2022) examined how cognitive and noncognitive factors impact and are predictive of success in dual credit courses in a single Texas charter school. In the investigation of cognitive factors impacting dual credit achievement, the study utilized the Social Cognitive Theory (SCT) framework. The research utilized 94 students in grades 9-12, all of whom accessed

dual credit courses. To measure cognitive skills in mathematics, reading, and writing, the study used the Texas Success Initiative (TSI) Assessment and used the noncognitive questionnaire (NCQ) for characteristics related to self and traditional soft skills. The research found that only the TSI in writing was predictive of achievement in dual credit courses. Data showed a correlation between the TSI in writing and GPA in dual credit. For each unit increase on the TSI in writing, it resulted in a student GPA increase of 0.24. The only NCQ indicator that was predictive of dual credit achievement in the assessment was positive self-concept. A single unit increase in self-concept correlated with a 0.34 increase in student GPA. The potential objective was to better inform practice on enrollment and possible qualifiers to enrollment in dual credit programs in addition to academic and behavior assessments to predict success. However, the NCQ is typically an assessment used with college-aged students and it is possible that its use with younger students could have caused inconsistencies in some participants' responses (Dyer et al., 2022).

A topic of significant variation in dual credit is how it is paid for and by whom (Clayton, 2021; Garcia et al., 2020; Hemelt & Swiderski, 2022; Justice & Mansell, 2014; Kimble, 2022; OSPI, n.d.; Witkowsky et al., 2020). Starkey (2020) conducted a study to explore and understand students' perspectives on how dual enrollment programs are funded. The study utilized qualitative analysis to explore the student experiences in dual enrollment in a single comprehensive university and aimed to develop recommendations for administrators of dual credit programs that would assist students with understanding how the systems operate. Three distinct themes surrounding dual credit and finance emerged from this work. The first was that students had an understanding of financial aspects of dual credit, the second was identification of potential gaps in financial understanding, and lastly how college readiness connects within the

system of dual credit finance. The study highlighted that students had different experiences in who paid for credits and fees within their attended systems. Some high schools paid for credits while others did not. All students reported having to pay fees associated with university enrollment. Participants all shared that parents played an important role in navigation of the dual credit pathway. All participants shared a lack of any knowledge on how high schools and universities partner. Students generally reported they were unsure of how to navigate general university systems, like obtaining books and several reported being mis-advised in which courses they need to take to complete high school and college requirements (Starkey, 2020).

In a study to understand and examine the perspectives of advisors at colleges and universities with regard to students who enter with a large number of dual enrollment credits, Witkowsky et al. (2020) explored advisor perception of how students transition to full-time collegiate work. These students are often ahead of their peers and are likely in traditionally second-year coursework. This study explored academic advisors' thoughts on high-credit incoming students. High-credit students were deemed to be any student entering with 24 or more dual enrollment credits. The results varied, but there were common trends. It was frequently noted that students assumed all credits would transfer and count towards degree completion. Data showed many students did not understand course sequences in some pathways, prerequisites, and electives. There were also misconceptions around time-to-degree completion. Students with a high number of credits regularly believed that they have automatically saved one to two years of school in college. The authors suggest increased and improved communication between high schools and four-year institutions to ensure students’ courses counted towards degree completion (Witkowsky et al., 2020).

Conclusion

The primary objectives of dual credit programs are to increase student college readiness, increase student preparedness for workforce demands, increase postsecondary enrollment and completion, reduce costs for degree/credential completion, and provide equitable access to all students (Alsup & Depenhart, 2022; Bowers & Foley, 2018; Clayton, 2021; Garcia et al., 2020; Robson & O'Neal-Scheiss, 2020). Dual credit can take countless forms, but in each form, it is a rigorous course option and supports college readiness (Adelman, 1999; Leeds & Mokher, 2022; Roberts & Grant, 2021). Generally, dual credit programs increase college enrollment, college participation, and college retention (Bowers & Foley, 2018; Edmunds et al., 2020; Lee et al., 2022). These interventions can increase participation, yet at the same time increase the racial gaps they are designed to close (Kettler & Hurst, 2017; Lee et al., 2022; Rivera et al., 2019). In addition to widening racial gaps, dual credit programs still have opportunity gaps related to gender and socioeconomic status despite new interventions (Lin et al., 2020; Rivera et al., 2019). Even with the current policy and educational focus on inclusivity, very little is being done to promote and engage students with disabilities in dual credit (Freeman-Green et al., 2018).

The literature review of dual credit drives several potential research questions. Several studies have examined why students choose dual credit, why students might select one dual credit program over another, and what factors influence students to choose dual credit (Garcia, 2020; Justice & Mansell, 2014; Kimble, 2022; Rodriguez & McGuire, 2019). However, very little has been evaluated on why students do not choose dual credit, even when students possess the academic skills to be successful in dual credit courses. Additionally, few studies have evaluated what factors influence student choice in the registration of dual credit in the high

school setting. The answers to these questions could significantly influence dual credit programs and state policies in the future.

Chapter Three: Design and Methodology

Introduction

This mixed methods study examined the factors that influence course selection of high school students in the state of Washington in relationship to College in the High School (CiHS) dual credit offerings. Dual credit programs, like CiHS, are utilized to target college readiness, increase college enrollment and completion, reduce education costs, and provide equitable access for underrepresented populations of students (Bowers & Foley, 2018; Fink & Jenkins, 2023; Hemelt & Swiderski, 2022; SREB, 2020; Villarreal, 2017). To better understand student enrollment in CiHS, it is important to understand the behavioral intention and motivational factors that influence student choice with course selection (Allen et al., 2020; Garcia et al., 2020; Johnson & Brophy, 2006; McGowan & Simpson, 2022). Through a survey of school personnel including administrators, school counselors, and teachers of CiHS courses, this research examined school personnel perceptions of what factors most likely influence students to choose the traditional high school course over the CiHS course alternative. The survey tool aimed to evaluate the behavioral intentions of students and their factors of motivation as seen through the lens of school personnel responsible for development, leadership, and instruction of CiHS programs. Additionally, the researcher interviewed a sample population of college-ready students who chose traditional high school courses over the CiHS option when given the course choice. Interviews with students took place across the state of Washington simultaneously with quantitative data collection in order to fully examine student intentions within course selection. Interviews took place through focus groups of students using a semi-structured interview approach.

The purpose of this study was to evaluate how school personnel interpret student choice and explore motivations that influence the selection of high school courses with regard to dual credit courses and evaluate student voice in direct comparison to school personnel perceptions. This chapter explains the methodology used to collect and evaluate personnel perceptions through survey assessment. It describes data analysis procedures and methods used to evaluate the relationship between staff positions. It also explains the procedures used to evaluate school personnel survey data, as well as provides details on the data used to create the interview framework for semi-structured student interviews. Additionally, this chapter discusses the population, instrument, validity, reliability, and limitations of the study.

Research Questions

The following research questions guided this research study:

RQ1: What factors do school personnel perceive that influence students to choose a standard high school general education course over the equivalent dual credit option?

RQ2: How do school personnel perceptions differ on the behavioral intentions of students when choosing not to take dual credit courses?

RQ3: What factors do students express that influence them to choose a standard high school general education course over the equivalent dual credit option?

RQ4: How do students' experiences and motivations differ from school personnel perceptions on student course selection behaviors?

Research Design

This research utilized a concurrent design mixed methodology approach, which simultaneously collected quantitative data from school personnel through a survey instrument that focused on course selection factors and qualitative interviewing of college ready high school

students through focused groups (Creswell & Creswell, 2018; Creswell & Guetterman, 2019). In this method, the survey collection of quantitative data occurred during the same time frame as the collection of qualitative data. This process allowed for the researcher to collect data from both participant groups without prior bias from either interfering with data collection (Creswell & Guetterman, 2019; Marshall & Rossman, 2016).

This research used descriptive research methods and survey methods. These methods allowed for the use of multiple variables, a target population, and tools to assess what is the current status of the research question in the active setting (Aggarwal & Ranganathan, 2019; Creswell & Guetterman, 2019). This method allowed for the examination of various school personnel perceptions on student behavior intentions with regard to course choice during the 2023-24 academic year. Additionally, this survey method allowed for data to be collected quickly and include numerous participants (Creswell & Guetterman, 2019; Gall et al., 2007). However, the method had some limitations related to the questions asked and the data collected. The study did not investigate any causal relationship and could not assess the entire population (Aggarwal & Ranganathan, 2019).

The student-centered research used semi-structured interviewing of high school students in the state of Washington with a focus group design. In this work, the researcher used a qualitative method that allowed for an inquiry into students' motivations and decision-making as it pertained to course selection factors and focused on their experience in the educational setting (Creswell & Guetterman, 2019). The students shared their opinions and thoughts regarding motivations in course selection as it pertains to CiHS. In the final phase of the research, the researcher compared the quantitative and qualitative survey results from school personnel with the qualitative findings from students (Bowen et al., 2017).

Participants and Setting

The first target population of this study included school counselors, administrators, and teachers of CiHS in Washington State high schools. The study limited participation in the survey to schools that offered this specific type of dual credit program, College in the High School. There are 295 school districts in the state of Washington with 884 high schools. Some type of dual credit is offered in 97% of public high schools in the state of Washington, and 47% of students graduate having completed at least one dual credit course (OSPI, n.d.; WSAC, 2020). Of all the types of dual credit available in the state of Washington, 27,500 students took CiHS courses in 2020 which represented approximately 3% of high school students registered for college credit in the state (WSAC, 2020).

School personnel play a significant role in how dual credit is offered in high schools (Brophy & Johnson, 2007; M. Hanson et al., 2015; Mokher et al., 2019; Touchstone, 2010). Several studies demonstrate that school counselors and dual credit teachers often function as gatekeepers to dual credit opportunities in the high school setting (Creel, 2020; Garcia et al., 2020; M. Hanson et al., 2015; Osumi, 2010). Additionally, research is clear that principals and school leadership are critical in shaping the college-ready culture of a school and providing dual credit opportunities for students (Duncheon, 2020; M. Hanson et al., 2015; Hornbeck et al., 2023; Williams, 2022). The design of the survey targeted school personnel mindsets around the factors that influence course choice.

The researcher used nonprobability sampling, a method of sampling that allowed for non-random selection of participants. Specifically, the research utilized convenience sampling, with survey distribution and collection using electronic distribution to large listserv populations. With permission granted from the Association of Washington School Principals (Appendix C and D),

survey distribution accessed all administrators in the state of Washington. Additionally, the Washington School Counselor Association distributed the survey to all of its members. The researcher requested that school administrators and counselors forward the survey to their colleagues and CiHS teachers. The survey did not collect the participants' name, school, or school district. Surveyed individuals recorded their position as a school administrator, counselor, or teacher of CiHS. The limited time frame to conduct the research and the need for school access made total population sampling not possible (Creswell & Guetterman, 2019).

The second target population included high school students in the state of Washington who were considered to be college-ready and that when given CiHS dual credit course options, selected courses that were not CiHS dual credit. The researcher utilized student GPA as the predictor of college-readiness. Several studies have highlighted that high school GPA is a strong predictor of college readiness when compared to other college entrance standards (Allensworth & Clark, 2020; Geiser & Santilices, 2007; Hodara & Lewis, 2017). Allensworth and Clark (2020) found that high school GPA was five times stronger in predicting graduation from college than the ACT. Research has demonstrated the predictive ability of high school GPA to gauge student readiness for entry-level college material (Hodara & Lewis, 2017). Within this work, the GPA line can vary on college-ready predictiveness from 2.5 to 3.0. In alignment with Hodara and Lewis (2017), the researcher used a GPA of 3.0 to establish student readiness for college-level work.

Student interviewing occurred in focus groups at six high schools in the state of Washington. The schools selected for the focus groups represented Western, Central, and Eastern Washington to increase student diversity. The researcher sent out requests to participate to high schools in the three state regions and selected the first two schools in each region to respond to

the request. The researcher obtained permission to conduct the research in each school from a representative of the school administration following a review of the procedures and IRB approval (Appendix E). The school principal at each school agreed to participate and assist in student recruitment for focus group participation.

The researcher instructed the participating school principal on student parameters of the study and distributed copies of the consent form in both English and Spanish. The selection process carried out at each site targeted students over the age of 18 with a GPA of 3.0 or higher, and who had taken a traditional high school course that had a CiHS equivalent option. The age criterion ensured that participants possessed the ability to give the necessary permissions to participate. However, due to time constraints and the requisite permissions involved in working with students under the age of 18, the researcher adopted a flexible approach. In instances where eligible students over the age of 18 were not available or accessible, the researcher utilized participants under the age of 18, provided they had appropriate permissions from guardians or legal representatives. This approach ensured that the research could proceed efficiently without compromising ethical standards or participant safety. All students selected for the study volunteered for participation. The school principal screened participants to ensure they met the GPA requirements and had taken at least one traditional high school course where an equivalent CiHS course was offered. The principal at each participating school distributed and collected consent forms from the students. The school principals from all six schools communicated difficulty in finding students that met the participation requirements. Every student that volunteered met the entry requirements and returned consent forms participated in the focus groups.

The researcher targeted focus groups size between 4 to 10 students. The researcher deemed this group size appropriate to facilitate dynamic discussions while ensuring that all participants had ample opportunity to contribute their perspectives and experiences. By keeping the group size manageable, the researcher aimed to foster a comfortable and conducive environment for open dialogue and information sharing. The researcher utilized purposeful sampling for qualitative interview participants, allowing for a targeted population of participants that would most effectively provide the information related to the research questions (Palinkas et al., 2015). The research used homogenous sampling, as participants in the qualitative phase of the research were students who chose not to take CiHS courses when given the option.

Data Collection

This research included a survey of working professionals and the interviewing of high school students in grades 10-12. This use of study participants required approval from the Northwest Nazarene University Institutional Review Board. This process was required to protect research participants, and ensure ethical research practices. This research received IRB approval in August 2023.

Data collection for this study occurred through two methods. The first method utilized a 15 question Likert survey given to school personnel across the state of Washington. The researcher partnered with the Association of Washington State Principals Association and the Washington School Counselors Association for distribution of the Qualtrics survey through email. The survey collected quantitative data on respondents' perceptions of student intentions and motivation with regard to selecting the traditional course over the CiHS option. Additionally, the survey included a single open-ended question, that allowed respondents the opportunity to expand on their thoughts of why students choose traditional courses over the CiHS option. The

second method of data collection involved student focus group interviews. The researcher utilized the qualitative data collected from the interviews of college-ready high school students to better understand the quantitative results of students' behavioral intentions as seen through school personnel perceptions and to confirm or disconfirm data between the study groups.

Focus Groups

The researcher worked with each school site principal to coordinate location, date, time, and student participation. School principals identified eligible students for the focus group based on the study parameters of GPA and the choice of a traditional high school course over the CiHS option. Principals at each study site distributed and collected all consent forms from willing participants. Additionally, the researcher met with the principal of each school prior to conducting the student focus group interview to review goals of the process and collect consent forms. Each student focus group consisted of no more than 10 students. The researcher did not provide compensation to the students who participated; however, snacks and beverages were provided during the interview process. Focus group interviews took place in school classrooms to ensure interviewees were at ease and comfortable.

The researcher created and used the same protocol for each focus group (Appendix F). All groups followed the same process of introduction and assent, rules of discussion, and the first question (Krueger, 2014). Each interview started with a question about student's goals post high school to help participants be more at ease in the process (Krueger, 2014). The questions utilized for the focus group originated from themes seen in the literature on student course selection and dual credit (Anderson, 2014; Cooney et al., 2013; Creel, 2020; Gurantz, 2021; M. Hanson et al., 2015). Additionally, the questions built upon one another and provided participants with the opportunity to share perspective.

The researcher utilized bracketing during the interview process to reduce individual bias. Prior to the focus group interviews, a colleague with experience in qualitative research interviewed the researcher to explore their thoughts on the questions and what they believe students might share. This process increased the researcher's clarity on personal biases and allowed for better awareness of the researcher's own opinions prior to engaging in interviews with the students (Rolls & Relf, 2006). Additionally, the researcher used a journal to continuously reflect on the questions, participants, and personal bias that could interfere with the research (E. Hanson, 1994).

Instrumentation

After conducting an extensive literature review, the researcher could not identify a survey instrument that would provide necessary feedback to answer the research questions for this study. In the review of the literature, several areas of focus surfaced as relevant to student course selection behavior. A survey developed by the researcher utilized a variety of valid and reliable prompts from published research, modification of published prompts, and creation of additional prompts. The survey utilized a four-point Likert scale from strongly agree through strongly disagree. The survey respondents could select the following choices on the Likert-scale; Strongly Agree (1), Agree (2), Disagree (3), and Strongly Disagree (4). The survey targeted data on the behaviors and motivations that school personnel see as impacting student course selection with regard to CiHS course options. The survey (Appendix A) consisted of 15 prompts and one open-ended response. The survey targeted respondents' perceptions on peer influence, family influence, staff influence, course requirements, course content, and general advising. The researcher organized data output by combining the strongly agree and agree into a single data point, and repeated that process for disagree and strongly disagree. The combining of categories

provided enhanced interpretability of the data set, increased statistical robustness with increased sample size, and increased simplicity of analysis (Harpe, 2015). In addition to the survey questions, the respondents provided demographic information specific to their position, years in their current position, gender, school size, school FRL, and the types of dual credit programs that their school offers students.

The researcher utilized Qualtrics software to create the survey and distributed the survey via email to respondents for ease of access and completion by the participants. The researcher administered the pilot survey to a small representative population of school personnel with geographic proximity to the researcher. The pilot survey included a total of seven school principals, seven counselors, and 10 teachers of CiHS courses. Following the pilot survey, each participant completed a short feedback form (Appendix B). The feedback questionnaire asked participants about survey clarity and whether there was adequate opportunity in the survey to provide their perceptions on what factors impact student choice with regard to CiHS. The researcher used pilot study participants' feedback to finalize the survey.

The researcher conducted an expert panel review of the survey prompts to establish its' reliability and validity. Content validity refers to the extent to which a survey adequately covers the content domain it intends to measure. Maintaining high content validity is crucial as it ensured the survey accurately captured the constructs or variables of interest (Lynn, 1985; Polit & Beck, 2006). Nine experts in the field of education and specifically dual credit reviewed the survey for its relevance, reliability, and validity in answering the research questions. The researcher assessed the results using the content validly index (CVI) with a threshold of 0.78 (Lynn, 1985; Polit & Beck, 2006). All 16 questions produced a validity of 0.78 or higher from

the expert panel review. Results produced an CVI of 0.90 which met the requirements of use (Table 2).

Table 2

Expert Panel Survey Item Review

Survey Question	Number in Agreement	CVI	Interpretation
1	9	1.00	Appropriate
2	9	1.00	Appropriate
3	7	0.78	Appropriate
4	8	0.89	Appropriate
5	9	1.00	Appropriate
6	7	0.78	Appropriate
7	7	0.78	Appropriate
8	8	0.89	Appropriate
9	7	0.78	Appropriate
10	9	1.00	Appropriate
11	8	0.89	Appropriate
12	8	0.89	Appropriate
13	7	0.78	Appropriate
14	9	1.00	Appropriate
15	9	1.00	Appropriate
16	9	1.00	Appropriate
Mean CVI		0.90	

*Note: Number of items considered relevant by all the panelists=16, Number of items =16, S-CVI/Ave or Average of I-CVIs=0.90, S-CVI/UA**=0.44*

Sources of Data

The survey collected demographic and quantitative data from the school personnel respondents. Additionally, the survey collected data on school size, total students, and the school's FRL population size. Evaluation of the data assessed the whole surveyed group of school personnel, as well as within each sub-group of school administrators, school counselors, and teachers of CiHS. Additionally, each individual survey question used the same grouping analysis for evaluation of the school personnel position, school size, school FRL, respondents' years in position, and the respondents' gender.

The researcher developed the open-ended interview questions for the pilot of the focus groups through extensive review of the available literature. The qualitative data collection with students for both the pilot and actual research used semi-structured interviews at the students' school location and lasted no more than 50 minutes. Each school site provided an empty classroom space to conduct the interview. The interviews followed a focused group approach, using no more than 10 participants per school. The researcher's experience as a dual credit instructor and school leader provided the background knowledge to collect data, follow up for clarity, and interpret data. In order to reduce potential researcher unconscious biases, the researcher recognized the potential of bias, followed the interview script, kept questions direct to the objectives, and provided time for answers without interruption.

When data is collected and evaluated in research studies, it is important to address bias (Marshall & Rossman, 2016). In the pursuit of addressing bias within the scope of this study, the researcher employed a method known as bracketing, which served as a safeguard against the imposition of personal values or influence on the research process (Marshall & Rossman, 2016). Bracketing is a nuanced practice involving constant self-reflection throughout the entirety of the research journey. The researcher meticulously maintained a reflective journal, utilizing it for both pre- and post-interview contemplation, consistently probing their own thoughts against the information shared, and engaging in peer review processes. Despite these efforts, the inherent subjectivity of data always poses the risk of bias (Creswell & Guetterman, 2019).

Collection of interview data utilized notetaking and audio recording. The researcher then transcribed these interviews into written form using Otter AI, a sophisticated audio-to-text software application chosen for its accuracy and efficiency. Following transcription, the researcher edited the generated transcripts to ensure verbatim representation, an essential step in

preparing the data for physical coding where each word and utterance carries significance in the analytical process.

The coding process involved a comprehensive series of steps to analyze and organize the interview data effectively. Initially, the text underwent multiple readings accompanied by annotations, highlighting, and marking, facilitating the identification of both anticipated and unforeseen codes. Employing an inductive approach, the researcher allowed the data to naturally generate codes and patterns, ensuring a nuanced understanding of the interview content. The researcher manually coded transcripts, collecting text segments and reducing code overlap. The researcher organized codes, collapsed codes, and reduced for efficiency. The codes were then placed into categories to assess major ideas or behavioral intentions. This coding process was further refined through theme identification with particular emphasis on in vivo coding, a method focused on preserving the authentic voice of the participants. In vivo coding involves extracting phrases directly from the participants' dialogue, enhancing the fidelity of the analysis (Creswell & Guetterman, 2019; Saldana, 2021). Subsequently, the researcher constructed a summary table to delineate the common themes. This table served as a framework for reviewing and organizing the coded data, while incorporating student quotes to maintain their voices within the narrative summary. The researcher utilized the same process for both student focus groups and the single open-ended question given to the school personnel at the completion of the quantitative survey. Additionally, the researcher coded and themed the interview data for questions regarding familiarity with CiHS and data focused around who influenced students in course choices.

Validation of data used two measures, theory triangulation and member checking. Theory triangulation involved consulting colleagues outside the content area for peer debriefing, enriching the review with diverse perspectives (Marshall & Rossman, 2016). Member checking

necessitated validation from the participants themselves. At the conclusion of the interviews, participants were provided with an opportunity to review and verify their responses, ensuring accuracy and authenticity in the representation of their perspectives. The researcher paraphrased the participants responses to each question to ensure accurate collection of student voice (Creswell & Guetterman, 2019).

Analytical Methods

Initial evaluation of the survey results utilized descriptive statistics for each prompt being assessed, which included measures of central tendency such as mean, median, and mode, as well as measures of variability like standard deviation and range. Descriptive statistics serve as a fundamental tool for the initial evaluation of survey data, particularly when dealing with extensive datasets, as they offer a concise summary of the data's distribution and characteristics (Kaliyadan & Kulkarni, 2019). Additionally, the researcher examined the frequency of responses to gain insights into the distribution and patterns, providing a comprehensive picture of how different groups engaged with and responded to each individual prompt within the survey. This analysis allowed for an understanding of the respondents' behavior and preferences, laying the groundwork for further in-depth exploration and interpretation of the survey findings.

Additionally, evaluation of the data used a one-way ANOVA that compared the three distinct groups of school personnel (nominal), as well as the scores collected on the survey (ordinal). A one-way ANOVA is a robust statistical method employed to scrutinize the means of three or more independent groups, aiming to discern if there are noteworthy discrepancies among them (Keselman et al., 2019). The selection of the one-way ANOVA method enabled the researcher to conduct multiple comparisons within a single test, streamlining the analytical process while providing a unified outcome. The researcher used the same statistical evaluation to

assess variation in group responses with the respondent's gender, years in position, school size, and school's percentage of FRL. A one-way ANOVA examines a single independent and single dependent variable (Keselman et al., 2019). This study's independent variables consisted of school personnel, years in current position, gender, school size, and school FRL. The determination of statistical significance within the scope of these assessments utilized the Statistical Package for the Social Sciences (SPSS), ensuring robust and accurate statistical inference. The ANOVA yielded an F-statistic and associated p-value, indicating the significance of differences among group means.

The researcher evaluated the homogeneity with the Levene test. The Levene test is a statistical method used to assess whether the variances of two or more groups are equal (Derrick et al., 2018). It is employed as a preliminary step before conducting the one-way ANOVA, which assumes equal variances across groups. The Levene test calculates a test statistic based on the absolute deviations of each observation from the group mean, and then assesses whether these deviations significantly differ among groups (Keselman et al., 2019). If the p-value associated with the Levene test is greater than a predetermined significance level (e.g., 0.05) it is tenable, and suggests that there is no significant difference in variance among the groups, thus meeting the assumption of homogeneity of variances for subsequent parametric analyses (Derrick et al., 2018).

The researcher assessed normality through histograms, which displayed the distribution of data by showing the frequency of values within different intervals. A histogram of normally distributed data forms a bell-shaped curve, with the majority of data points clustered around the mean and symmetrically distributed (Field, 2020). Additionally, the researcher used the Shapiro-Wilk test to quantitatively assess normality. The Shapiro-Wilk test calculated a test statistic

based on the differences between observed data and data expected under the assumption of normality (Field, 2020). If the p-value associated with the Shapiro-Wilk test is greater than a chosen significance level (e.g., 0.05), it suggested that the data did not significantly depart from a normal distribution (Field, 2020). Thus, by combining visual inspection with statistical tests, the researcher evaluated the normality assumption for the data.

This study utilized Tukey's HSD (Honestly Significant Difference) post-hoc test following the one-way ANOVA to determine which specific group means differ significantly from each other (Navarro, 2022). The one-way ANOVA assessed the overall differences among the means of the groups, but ANOVA’s do not pinpoint which specific group means are different. Tukey's HSD addressed difference by calculating the critical value based on the overall error rate and the number of group means being compared. It then compared the differences between all pairs of group means, considering this critical value. If the difference between two group means exceeded the critical value, it indicated a statistically significant difference between those groups. Tukey's HSD offered a straightforward and conservative approach to multiple comparisons, making it a quality method to identify significant differences among group means while effectively controlling the overall error rate (Navarro, 2022).

Additionally, the researcher evaluated gender data using an independent t-test, a statistical analysis that compares the means of two independent groups to determine if there is a significant difference between them (Field, 2020). In this study, survey data collected from respondents represented two different genders, and the independent t-test assessed whether there were significant variations in survey response between these groups.

Limitations

Research is an imperfect process and regardless of the research performed, there is none without limitations (Marshall & Rossman, 2016). These limitations inform those that examine research on the conditions and challenges that studies have encountered. This process also creates opportunities for the researcher and others exploring similar research pursuits (Marshall & Rossman, 2016).

The small number of participants involved in the focus groups limited the statistical power of the study, thereby reducing the reliability and generalizability of the findings. A smaller sample size constrained the researchers' ability to disaggregate data according to various student demographics such as grade level, gender, ethnicity, or geographic area. Disaggregation is crucial for understanding if and how different groups may experience or perceive course selection factors differently. Insufficient sample size reduced the researcher’s ability to examine significant differences between student groups. As such, the study's ability to draw nuanced conclusions that reflect the diverse experiences of the student body was impaired, limiting the applicability of the findings.

The researcher used student focus group interviews at six high schools in the state of Washington to meet the scope of this research study. However, this study parameter limited the student sample population. The addition of a broader range of high schools could potentially increase the student diversity of the sample and the overall sample size, addressing the sample size limitations.

This study’s survey focused on the perspectives of school personnel with regard to reasons why students choose the traditional course over the CiHS option. No quantitative data presented within this research addressed student perceptions on the factors that influence student

behavioral intentions. Although this research did not incorporate quantitative data pertaining to student perceptions on these determinants of behavioral intentions, there exists a notable opportunity to explore this aspect further. A potential avenue for future research could involve conducting a quantitative survey specifically targeted at high school-aged students, mirroring the methodology utilized in this study. Such an approach would yield valuable insights directly from the student perspective, complementing the perspectives provided by school personnel. This holistic approach would furnish a comprehensive understanding of the dynamics influencing student decision-making processes.

This study evaluated factors that influence course-taking patterns surrounding CiHS. The study did not collect data on course-taking of the other dual credit options present in Washington schools. In Washington State schools, there are numerous dual credit programs. In addition to CiHS, schools offer Running Start, Advanced Placement, International Baccalaureate, and Cambridge options to students (WSAC, 2016).

To keep the survey length down and increase respondent participation, school demographics and respondent information only included position, years in their current position, gender, school size, school FRL, and dual credit programs offered. This limitation prevented expansive evaluation of school types, school locations, and respondent demographics to further compare responses. Additionally, no survey items addressed the concept of the course teacher influencing course selection. The concept of course teacher impacting course selection surfaced in qualitative data.

Chapter Four: Results

Introduction

The purpose of this study was to investigate the factors that influence high school student course choices within the CiHS program in the state of Washington. This chapter reports the findings of the mixed method data collection conducted through a concurrent design. The results from school personnel include descriptive statistics collected using a 4-point Likert survey, a one-way ANOVA test of the Likert data to evaluate differences between personnel groups and school demographics, an independent t-test to compare gender differences, and a single open-ended question aligned with Research Question 1. Additionally, student focus groups provided qualitative interview data and student voice in response to the research questions regarding student behavioral intentions with course decision making.

The organization of the results follow the concurrent mixed methods design as described by Creswell and Creswell (2018). The first section describes the sample participants in both the student focus groups and the surveyed population of school personnel. The second section describes the qualitative responses in relationship to research Questions 1 and 3 from both sample populations. The third section describes the survey results of school personnel and the statistical analysis of those responses. The fourth section addresses the integration of the research to evaluate research Questions 2 and 4 of the study.

Research Study Participants

A total of 30 high school students participated in research focus group interviews (Table 3). The high school students came from six different schools in three different regions of the state of Washington. The students spanned grade levels from sophomore through senior with an average age of 16.9 years old. All students met the basic requirements of focus group participation.

Table 3

Student Focus Group Participants

Characteristics	Focus Group Participants	
	n	%
Gender		
Male	13	43.33
Female	15	50.00
Other	2	6.67
Grade		
10	1	3.33
11	8	26.67
12	21	70.00
Race		
Caucasian	17	56.67
BIPOC	13	43.33
WA State Region		
Eastern	11	36.67
Central	10	33.33
Western	9	30.00

Note. N=30. Participants were an average age of 16.9 years old (SD=0.65)

A total of 327 school personnel respondents engaged in the research survey, with 25 respondents being disqualified after the initial question requiring school participation in the state of Washington CiHS program. Additionally, the researcher removed 23 respondents due to submitting incomplete surveys. In total, respondents completed 279 surveys, with 213 completing the qualitative question at the end of the survey. The number of school personnel who completed the survey is represented in Table 4.

Table 4

Survey Completers by School Position

	Frequency	Percent
Teacher	86	30.8
Counselor	97	34.8
Administrator	96	34.4
Total	279	100.0

School personnel who completed the survey provided basic demographic information. The school personnel respondents included 45.2% males and 54.5% females (Table 5). The majority of teacher respondents, 62.8%, had been teaching for more than 10 years, while 73.5% of counselors and 76.0% of administrators had worked less than 11 years in their current positions (Table 6). The distribution of school size and school FRL was fairly evenly distributed amongst the categories with the highest response rate from larger schools and FRL above 40% (Tables 7 & 8).

Table 5

Gender of School Personnel Respondents

	Gender Identification			
	Male	Female	Non-binary / third gender	Prefer not to say
Teacher	40	46	0	0
Counselor	22	74	0	1
Administrator	64	32	0	0
Total	126	152	0	1

Table 6

Years in Position of School Personnel Respondents

	How long have you been in your current position?			
	0-5 years	6-10 years	11-15 years	16+ years
Teacher	10	22	9	45
Counselor	35	26	15	21
Administrator	46	27	14	9
Total	91	75	38	75

Table 7

Size of School of School Personnel Respondents

	What is the approximate size of your school?			
	0-499 students	500-999 students	1000-1499 students	1500+ students
Teacher	26	22	18	19
Counselor	11	23	28	35
Administrator	20	18	24	34
Total	57	63	70	88

Table 8

School FRL of School Personnel Respondents

	What is the approximate Free and Reduced Lunch Percentage of your school?			
	0-20%	21-40%	41-60%	Over 60%
Teacher	12	14	26	30
Counselor	8	31	32	25
Administrator	15	29	28	24
Total	35	74	86	79

Qualitative Data for Student Responses

Qualitative data collected from students focused on Research Question 3, "What factors do students express that influence them to choose a standard high school general education course over the equivalent dual credit option?" The researcher used an inductive process to code the data, which allowed for the interview data to produce codes and patterns. The researcher then organized the codes to eliminate overlap through theme identification (Creswell & Guetterman, 2019; Saldana, 2021). The evaluation of student responses produced six codes that were reduced to four themes in response to the interview question, "What would you say is your primary reason for taking the traditional high school course over the CiHS option?" The researcher identified the themes of students' personal interests, course workload, course access, and course teacher.

The researcher found that 90% of student feedback for the reasons not to take CiHS courses connected to students' personal interests or course workload (Table 9). Student responses associated with course access and course teacher made up 10% of responses. The researcher did not identify any patterns in student feedback associated with race, gender, or age. The results for course workload and student interests produced a pattern of note between the state regions assessed. Students in Central Washington identified student interests as their

primary reason at 80% and course workload at 20%, students in Eastern Washington identified student interests as their primary reason at 46% and course workload at 36%, while students in Western Washington identified student interests as their primary reason at 11% and course workload at 89%. However, the sample size per region was 11 students or fewer.

Table 9

Student Themes for Choosing Traditional Course Over CiHS

	Frequency	Percent
Student Interests	14	46.7
Course Workload	13	43.3
Course Access	2	6.7
Course Teacher	1	3.3
Total	30	100.0

In the focus group interviews, students identified interests (n = 14, 46.7%) as the most common theme for choosing a traditional course over the CiHS option. Student responses in this theme included:

1. I was looking at the classes and honestly, I was just like, trying to get the classes that are required to take and like what classes interested me and which seemed like not boring.
2. For me, a lot of it has to do with my career. There are a ton of classes that are specific college courses that don't revolve around the career that I want to go into.
3. For me, it kind of came down to priorities. Last year, I revised what my schedule was going to look like, at least 100 times. Looking back over and over and over what classes I wanted to take and why.

In the focus group interviews, students identified course workload (n = 13, 43.3%) as the second most common theme for choosing a traditional course over the CiHS. Student responses in this theme included:

1. For me, I just kind of decided to go the easier route, and like, not do the harder stuff.
2. For me the primary reason as to why I didn't end up staying in college level classes was mainly because of the workload and because like “blue” said, she said that it's hard to keep a higher GPA in those circumstances because the workload sometimes feels like it can double or triple per class.
3. To me, I kind of felt like it would be too much work. I was like not really into that.

In the focus group interviews, students identified course access (n = 2, 6.7%) as the third theme for choosing a traditional course over the CiHS. Student responses in this theme included:

1. I wanted to do English course but they said that they wouldn't let me because when I asked it was full. I had requested it a couple of months before the end of last school year, so I really don't know why I didn't get it.
2. I went back and she said, No, it's too late. So basically, I was like, so why can’t I get into all these other classes and stuff?

In the focus group interviews, a student identified course teacher (n = 1, 3.3%), as the final theme for choosing a traditional course over the CiHS option. The one student response in this theme included:

1. Can I say like a specific teacher? Miss Hope (pseudonym).

Qualitative Data for School Personnel Responses

The research survey launched in August 2023 and closed in November 2023. The researcher distributed the survey to all high school principals in the state of Washington through

the Association of Washington School Principals, to all school counselors through the Washington School Counselors Association, and to dual credit teachers through school administrators and counselors surveyed. The survey concluded with an open-ended qualitative question asking respondents to identify in short answer form, the primary reason students choose to take a traditional course instead of the CiHS option.

Qualitative data collected from school personnel focused on Research Question 1, "What factors do students express that influence them to choose a standard high school general education course over the equivalent dual credit option?" The researcher utilized the same process used with student responses to code the data, which allowed for question responses to produce codes and patterns. The researcher then organized the codes to eliminate overlap through theme identification (Creswell & Guetterman, 2019; Saldana, 2021). The evaluation of school personnel responses produced 11 codes that were reduced to six themes in response to the interview question, "What would you say is your primary reason for taking the traditional high school course over the CiHS option?" Data coding revealed the themes of students' interests, course workload, course access, course teacher, school advising, and peer influence. The themes of school advising and peer influence were not present in student feedback for the same question.

The researcher found that 73.2% of the school personnel feedback on the reasons students choose not to take CiHS courses connected to students' course workload and personal interests (Table 10). The remaining school personnel responses in order of highest frequency were school advising, peer influence, course access, and course teacher. The researcher did not identify any deviation in the order of frequency of the top two themes of course workload and student interest amongst evaluated demographics of school position, gender, years in position, school size, or school FRL. Some deviations in frequency observed within demographics occurred within the

third most frequent to the sixth most frequent school personnel identified themes. Counselors and teachers produced identical pattern of frequency as the whole population, while administrators identified peer influence and course teacher at a higher rate (Table 11). Male personnel favored student interests and courses access at a higher rate than female counterparts (Table 12). School personnel years in current position of 11-15 years did not provide any responses related to course access and reported lower peer influence (Table 13). School FRL of 41-60% and school size of 0-499 students produced over 80% of the respondents identifying course workload and student interests as the primary reason not to take CiHS courses (Tables 14 & 15).

Table 10

Staff Themes for Choosing Traditional Course Over CiHS

	Frequency	Percent
Student Interests	46	21.6
Course Workload	110	51.6
Course Access	11	5.2
Course Teacher	9	4.2
School Advising	22	10.3
Peer Influence	15	7.0
Total	213	100.0

Table 11

School Position - Staff Themes for Choosing Traditional Course Over CiHS

	Student Interests	Course Workload	Course Access	Course Teacher	School Advising	Peer Influence	Total
Counselor	15	43	5	2	9	5	79
Teacher	10	38	2	2	9	5	66
Administrator	21	29	4	5	4	5	68
Total	46	110	11	9	22	15	213

Table 12

Gender - Staff Themes for Choosing Traditional Course Over CiHS

	Student Interests	Course Workload	Course Access	Course Teacher	School Advising	Peer Influence	Total
Other	0	0	0	0	1	0	1
Female	18	64	3	5	13	8	111
Male	28	46	8	4	8	7	101
Total	46	110	11	9	22	15	213

Table 13

Years in Current Position - Staff Themes for Choosing Traditional Course Over CiHS

	Student Interests	Course Workload	Course Access	Course Teacher	School Advising	Peer Influence	Total
0-5 years	19	31	3	4	7	5	69
6-10 years	13	30	3	1	7	4	58
11-15 years	8	16	0	3	3	1	31
16+ years	6	33	5	1	5	5	55
Total	46	110	11	9	22	15	213

Table 14

School Size - Staff Themes for Choosing Traditional Course Over CiHS

	Student Interests	Course Workload	Course Access	Course Teacher	School Advising	Peer Influence	Total
0-499 students	16	25	1	2	3	2	49
500-999 students	10	31	1	3	5	1	51
1000-1499 students	11	23	4	1	7	3	49
Over 1500 students	8	31	5	3	7	9	63
Total	46	110	11	9	22	15	213

School personnel identified, course workload (n = 110, 51.6%) as the most common theme for choosing a traditional course over the CiHS option through the open-ended question. School personnel responses in the course workload theme included:

1. Workload and difficulty of the course

2. Fear of low grade or too much homework
3. Fear of more rigorous coursework
4. I believe it's a perception issue. Students are concerned about the workload, rigor, and potential negative impact to their GPA.

School personnel identified student interests (n = 46, 21.6%) as the second most common theme for choosing a traditional course over the CiHS option through the open-ended question. School personnel responses in students' interests theme included:

1. I feel like students are excited about the courses that we offer as CiHS so they are more likely to sign up for the courses (African American Lit, Native American Lit). Depending on their graduation pathway, students take Math 107 and our newest CiHS (Human Physiology).
2. Lack of long-range goals that include attending college.
3. They aren't clear on their post-secondary plans and how CiHS classes can be extremely helpful, especially if thinking about a 4-year university. Plus Running Start is the more exciting/sexy option in many students' minds.
4. Lack of interest in the content.

School personnel identified school advising (n = 22, 10.3%) as the third most common theme identified for choosing a traditional course over the CiHS option through the open-ended question. School personnel responses in the school advising theme included:

1. Currently, I believe students don't understand the difference between the two options. More information needs to be provided to students and parents, especially since CiHS is now free.
2. Students don't know about CiHS and it isn't as big as running start or AP.

The school personnel identified peer influence (n = 15, 7.0%) as the fourth most common theme identified for choosing a traditional course over the CiHS option open-ended question. School personnel responses in the peer influence theme included:

1. 98% has to do with what students' peers are doing and/or telling them.
2. Students want to follow their friends and what they are taking. Also, not all students see themselves going to a four-year university.

Finally, school personnel identified course access (n = 11, 5.2%) and course teacher (n = 9, 4.2%) respectively as the fifth and sixth most common themes identified for choosing a traditional course over the CiHS option through the open-ended question. School personnel responses in the course access theme included:

1. We don't have a lot of CiHS options yet.
2. Accuplacer has been a barrier, competes with AP, and up until this year the cost has impacted student participation.

School personnel responses in the theme of course teacher included:

1. To avoid a teacher or to select a teacher.
2. The teacher that is teaching the course, I think, has the biggest impact on if students will take CiHS courses. They base this opinion on peer feedback or past experiences with the teacher.

Qualitative Summary

The student focus groups from across the state and the school personnel responding through electronic survey responded to the same qualitative question about the primary reason students choose a traditional course over the CiHS option when available. Both students and staff data produced themes in student interests, course workload, course access, and course teacher.

School personnel responses produced additional themes in school advising and peer influence. Additional qualitative data collected from students through the interview process is presented in relationship to school personnel quantitative survey questions as they relate directly to the student responses.

Quantitative Survey

The quantitative survey utilized a 4-point Likert scale, where responses of 1 and 2 corresponded to "strongly agree" and "agree," respectively, while scores of 3 and 4 represented "disagree" and "strongly disagree." This scale allowed respondents to express varying degrees of agreement or disagreement with the statements presented. Data analysis combined agree and disagree categories in to two dichotomous groupings to enhance interpretability and simplicity of analysis (Harpe, 2015). Following data collection, the researcher calculated the mean scores for each group, and subsequently, a one-way ANOVA examined potential differences in mean scores across these groups. This analytical approach enabled exploration of any significant variations in responses among different groups, thus providing insights into the relationships between the variables under scrutiny. Evaluation of each survey question completed by the researcher utilized mean comparisons, with any mean less than 2.5 indicating some degree of agreement with the question and a mean greater than 2.5 indicting some degree of disagreement.

Question 1 - Students know what CiHS courses are available to them and how to register for them.

School personnel agreed with this statement at 90.3% (Table 15). There was no significant difference between the means of years in current position (Appendix I), and school FRL (Appendix K) in response to Question 1; however, the researcher identified differences among school personnel and school size for this question.

Table 15

School Personnel Survey Results

	Agree or Strongly Agree		Disagree or Strongly Disagree	
	Count	N %	Count	N %
Q1 Students know what CiHS courses are available to them and how to register for them.	252	90.3%	27	9.7%
Q2 Students are more likely to follow peer advice on CiHS course selection than the advice of family.	220	80.0%	55	20.0%
Q3 Students are more likely to follow family advice on CiHS course selection than the advice of school staff.	145	52.5%	131	47.5%
Q4 Our school has prerequisites to CiHS courses that keep some students from registering for the CiHS courses.	67	24.0%	212	76.0%
Q5 Students' choice to take the traditional course over the CiHS option is based on the perception that the CiHS course is more difficult.	206	74.1%	72	25.9%
Q6 Students' choice to take the traditional course over the CiHS option is based on lack of interest in course content for the CiHS option.	117	42.4%	159	57.6%
Q7 Students' choice to take the traditional course over the CiHS option is based on grade considerations, specifically the potential impact on their GPA.	164	58.8%	115	41.2%
Q8 Our partner university for CiHS has prerequisites to the CiHS courses that keep some students from registering for the course.	90	32.4%	188	67.6%
Q9 Students that choose the traditional course over the CiHS option are following the advice of school staff (advising of a teacher, counselor, or administrator).	108	39.0%	169	61.0%
Q10 Students' choice to take the traditional course over the CiHS option is because they do not understand the differences between the course options.	134	48.6%	142	51.4%
Q11 Students' choice to take the traditional course over the CiHS option is based on time concerns or workload.	232	83.8%	45	16.2%
Q12 Students' choice to take the traditional course over the CiHS option is impacted by peers advice.	223	81.7%	50	18.3%
Q13 Students' choice to take the traditional course over the CiHS option are following family advice.	142	51.6%	133	48.4%
Q14 Students are more likely to follow peers' advice on CiHS course selection than the advice of school staff.	184	66.4%	93	33.6%
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	212	76.5%	65	23.5%

The researcher used a one-way ANOVA to evaluate the null hypothesis that there is no difference between school personnel in response to Question 1 (N=279). The independent variable of school personnel included teachers (M=1.84, n=86), counselors (M=1.93, n=97), and administrators (M=1.64, n=96) (Table 16). The calculations found the assumption of normality to be tenable for all groups. The Levene test calculated the assumption of homogeneity of variances to be tenable (Table 17). The one-way ANOVA indicated statistical significance, F(2, 276)=5.378, p=0.005 (Table 18). Thus, there was significant data to reject the null hypothesis and conclude a significant difference in Question 1 with school personnel. The researcher used the Tukey HSD test (Table 19) to conduct post hoc comparisons, which revealed a significant difference between the mean scores of counselors and administrators at $p<0.05$. The teachers' group for Question 1 did not have a significant difference from the other groups at $p<0.05$. Figure 1 provides a visual comparison of the means for Question 1 for school personnel. School administrators had a significantly higher level of agreement with Question 1 in comparison to school counselors.

Table 16

Descriptives- Question 1, School Personnel

						95% Confidence Interval for Mean	
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
Q1 Students know what CiHS courses are available to them and how to register for them.	Teacher	86	1.84	.648	.070	1.70	1.98
	Counselor	97	1.93	.665	.068	1.79	2.06
	Administrator	96	1.64	.583	.059	1.52	1.75
	Total	279	1.80	.642	.038	1.72	1.88

Table 17

Tests of Homogeneity of Variances- Question 1, School Personnel

		Levene Statistic	df1	df2	Sig.
Q1 Students know what CiHS courses are available to them and how to register for them.	Based on Mean	1.734	2	276	.178
	Based on Median	.674	2	276	.510
	Based on Median and with adjusted df	.674	2	274	.510
	Based on trimmed mean	1.346	2	276	.262

Table 18

ANOVA- Question 1, School Personnel

		Sum of Squares	df	Mean Square	F	Sig.
Q1 Students know what CiHS courses are available to them and how to register for them.	Between Groups	4.304	2	2.152	5.378	.005
	Within Groups	110.455	276	.400		
	Total	114.760	278			

Table 19

Multiple Comparisons- Question 1, School Personnel

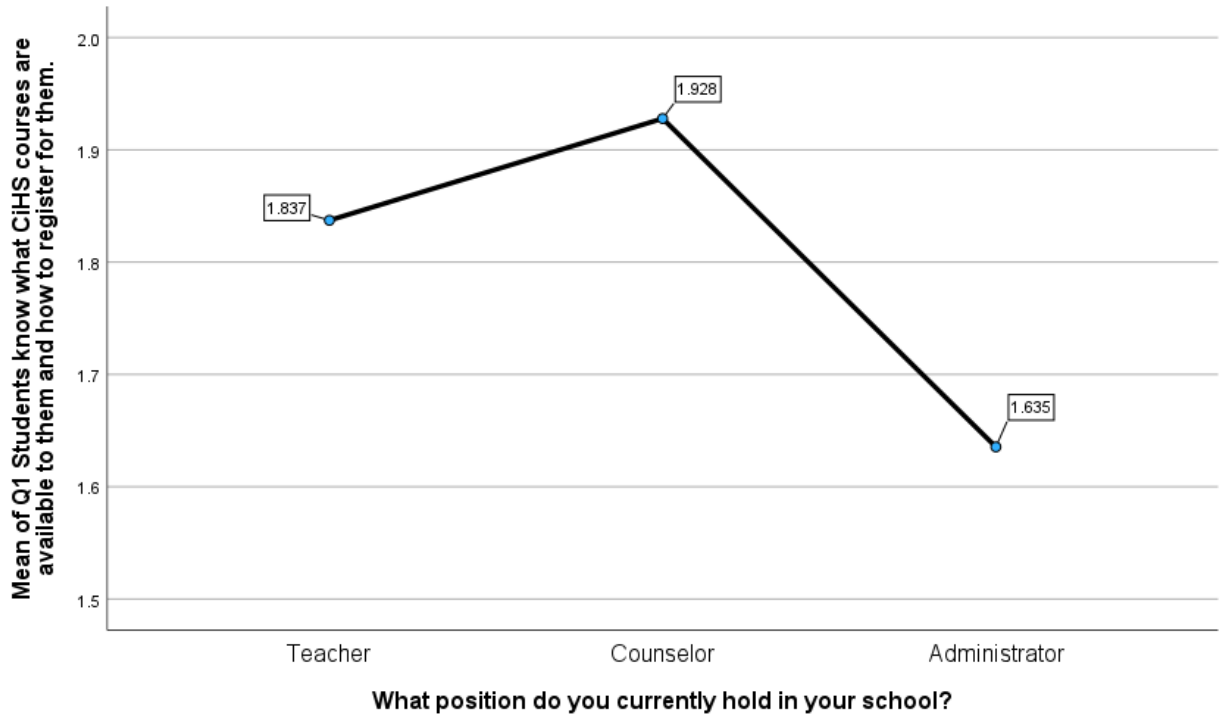
Tukey HSD

Dependent Variable	(I) What position do you currently hold in your school?	(J) What position do you currently hold in your school?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Q1 Students know what CiHS courses are available to them and how to register for them.	Teacher	Counselor	-.091	.094	.598	-.31	.13
		Administrator	.202	.094	.082	-.02	.42
	Counselor	Teacher	.091	.094	.598	-.13	.31
		Administrator	.292*	.091	.004	.08	.51
	Administrator	Teacher	-.202	.094	.082	-.42	.02
		Counselor	-.292*	.091	.004	-.51	-.08

*. The mean difference is significant at the 0.05 level.

Figure 1

Visual Comparison of the Means for Question 1 for Respondents' Position in School



The researcher used a one-way ANOVA to evaluate the null hypothesis that there is no difference between school size in response to Question 1 (N=278). The independent variable of school size included 0-499 (M=1.67, n=57), 500-999 (M=1.68, n=63), 1000-1499 (M=1.83, n=70), and 1500+ (M=1.94, n=88) (Table 20). The calculations found the assumption of normality to be tenable for all groups. The Levene test calculated the assumption of homogeneity of variances to be tenable (Table 21). The one-way ANOVA indicated statistical significance, $F(3, 274)=1.248$, $p=0.028$ (Table 22). Thus, there was significant data to reject the null hypothesis and conclude a significant difference in Question 1 in regard to size of school. However, post hoc comparisons conducted using the Tukey HSD test did not identify differences between test groups (Table 23). The Tukey post hoc test is conservative as it attempts to control the overall alpha level. Tukey's test is a pairwise comparison test used after ANOVA to

determine which specific groups are significantly different from each other. If Tukey's test doesn't find significant differences between any pairs of groups, it suggests that although there is a difference in means overall, those differences are not between any specific pairs of groups. This can occur due to various reasons such as sample size, variability within groups, or the nature of the data (Midway et al., 2020). As a result, no school size groups surveyed had a significant difference from other groups at $p<0.05$ using Tukey HSD. Figure 2 provides a visual comparison of the means for Question 1 within respondents' size of school. Visual difference in means can be seen, however, Tukey HSD did not identify a difference with significance.

Table 20

Descriptives- Question 1, School Size

						95% Confidence Interval for Mean	
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
Q1 Students know what CiHS courses are available to them and how to register for them.	0-499 students	57	1.67	.664	.088	1.49	1.84
	500-999 students	63	1.68	.591	.074	1.53	1.83
	1000-1499 students	70	1.83	.680	.081	1.67	1.99
	1500+ students	88	1.94	.613	.065	1.81	2.07
	Total	278	1.80	.644	.039	1.72	1.87

Table 21

Tests of Homogeneity of Variances- Question 1, School Size

		Levene Statistic	df1	df2	Sig.
Q1 Students know what CiHS courses are available to them and how to register for them.	Based on Mean	2.564	3	274	.055
	Based on Median	1.084	3	274	.356
	Based on Median and with adjusted df	1.084	3	271	.356
	Based on trimmed mean	2.721	3	274	.045

Table 22

ANOVA- Question 1, School Size

		Sum of Squares	df	Mean Square	F	Sig.
Q1 Students know what CiHS courses are available to them and how to register for them.	Between Groups	3.743	3	1.248	3.081	.028
	Within Groups	110.976	274	.405		
	Total	114.719	277			

Table 23

Multiple Comparisons- Question 1, School Size

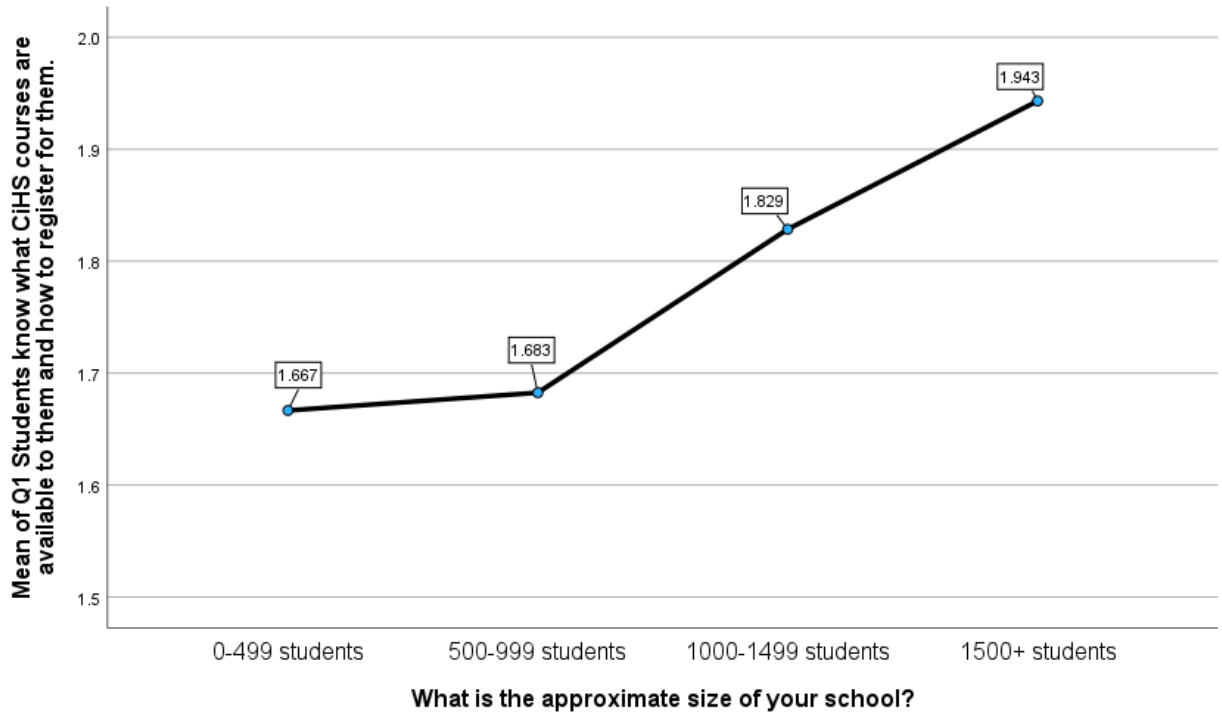
Tukey HSD

Dependent Variable	(I) What is the approximate size of your school?	(J) What is the approximate size of your school?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Q1 Students know what CiHS courses are available to them and how to register for them.	0-499 students	500-999 students	-.016	.116	.999	-.32	.28
		1000-1499 students	-.162	.114	.484	-.46	.13
		1500+ students	-.277	.108	.054	-.56	.00
	500-999 students	0-499 students	.016	.116	.999	-.28	.32
		1000-1499 students	-.146	.111	.550	-.43	.14
		1500+ students	-.261	.105	.065	-.53	.01
	1000-1499 students	0-499 students	.162	.114	.484	-.13	.46
		500-999 students	.146	.111	.550	-.14	.43
		1500+ students	-.115	.102	.675	-.38	.15
	1500+ students	0-499 students	.277	.108	.054	.00	.56
		500-999 students	.261	.105	.065	-.01	.53
		1000-1499 students	.115	.102	.675	-.15	.38

*. The mean difference is significant at the 0.05 level.

Figure 2

Visual Comparison of the Means for Question 1 with Respondents' School Size



The researcher used an independent t-test to evaluate the difference in means for school personnel grouped by gender. Evaluation of the data for Question 1 showed a mean of 1.67 (N=126) for males and 1.91 (N=152) for females (Table 24). An independent t-test indicated a significant difference between genders for this question at t(276)=-3.06, p=.002 (Table 25). Male school personnel had a significantly higher level of agreement with Question 1 than that of female school personnel.

Table 24

Descriptive Statistics- Question 1, Gender of School Personnel

	Gender Identification	N	Mean	Std. Deviation	Std. Error Mean
Q1 Students know what CiHS courses are available to them and how to register for them.	Male	126	1.67	.591	.053
	Female	152	1.91	.665	.054

Table 25

Independent Samples Test- Question 1, Gender of School Personnel

		Levene Test for Equality of Variances		t-test for Equality of Means			
						Significance	
		F	Sig.	t	df	One-Sided p	Two-Sided p
Q1 Students know what CiHS courses are available to them and how to register for them.	Equal variances assumed	2.827	.094	-3.062	276	.001	.002

Question 2 - Students are more likely to follow peer advice on CiHS course selection than the advice of family.

School personnel agreed with this statement at 80.0% (Table 15). There was no significant difference between the means of school personnel (Appendix H), years in current position (Appendix I), school size (Appendix J), school FRL (Appendix K), and gender of school personnel (Appendix L) in response to Question 2.

Question 3 - Students are more likely to follow family advice on CiHS course selection than the advice of school staff.

School personnel agreed with this statement at 52.50% (Table 15). There was no significant difference between the means of school personnel (Appendix H), school size

(Appendix J), school FRL (Appendix K), and gender of school personnel (Appendix L) in response to Question 3; however, the researcher identified differences in years of experience in current position for this question.

A one-way ANOVA evaluated the null hypothesis that there is no difference between years of experience in current position in response to Question 3 (N=276). The independent variable of years in current position included 0-5 years (M=2.42, n=89), 6-10 years (M=2.37, n=75), 11-15 years (M=2.73, n=37), and 16+ years (M=2.44, n=74) (Table 26). The calculations found the assumption of normality to be tenable for all groups. The Levene test calculated the assumption of homogeneity of variances to be tenable (Table 27). The one-way ANOVA indicated statistical significance, $F(2, 271)=3.095$, $p=0.027$ (Table 28). Thus, there was significant data to reject the null hypothesis and conclude a significant difference in Question 3 with years in current position. The researcher used the Tukey HSD test (Table 29) to conduct post hoc comparisons, which revealed a significant difference between the mean scores of 11-15 years in current position with both 6-10 years and 0-5 years at $p<0.05$. No other years in current position groups surveyed had a significant difference from the other groups at $p<0.05$. Figure 3 provides a visual comparison of the means for Question 3 for years in current position. The school personnel with 11-15 years of experience had a significantly higher level of disagreement with Question 3 than that of groups of 0-5 years of experience and 6-10 years of experience.

Table 26

Descriptives- Question 3, Years in Current Position

						95% Confidence Interval for Mean	
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
Q3 Students are more likely to follow family advice on CiHS course selection than the advice of school staff.	0-5 years	89	2.42	.560	.059	2.30	2.53
	6-10 years	75	2.37	.673	.078	2.22	2.53
	11-15 years	37	2.73	.608	.100	2.53	2.93
	16+ years	75	2.44	.598	.069	2.30	2.58
	Total	276	2.45	.616	.037	2.38	2.53

Table 27

Tests of Homogeneity of Variances- Question 3, Years in Current Position

		Levene Statistic	df1	df2	Sig.
Q3 Students are more likely to follow family advice on CiHS course selection than the advice of school staff.	Based on Mean	1.390	3	272	.246
	Based on Median	.739	3	272	.529
	Based on Median and with adjusted df	.739	3	271	.529
	Based on trimmed mean	1.410	3	272	.240

Table 28

ANOVA- Question 3, Years in Current Position

		Sum of Squares	df	Mean Square	F	Sig.
Q3 Students are more likely to follow family advice on CiHS course selection than the advice of school staff.	Between Groups	3.446	3	1.149	3.095	.027
	Within Groups	100.942	272	.371		
	Total	104.388	275			

Table 29

Multiple Comparisons- Question 3, Years in Current Position

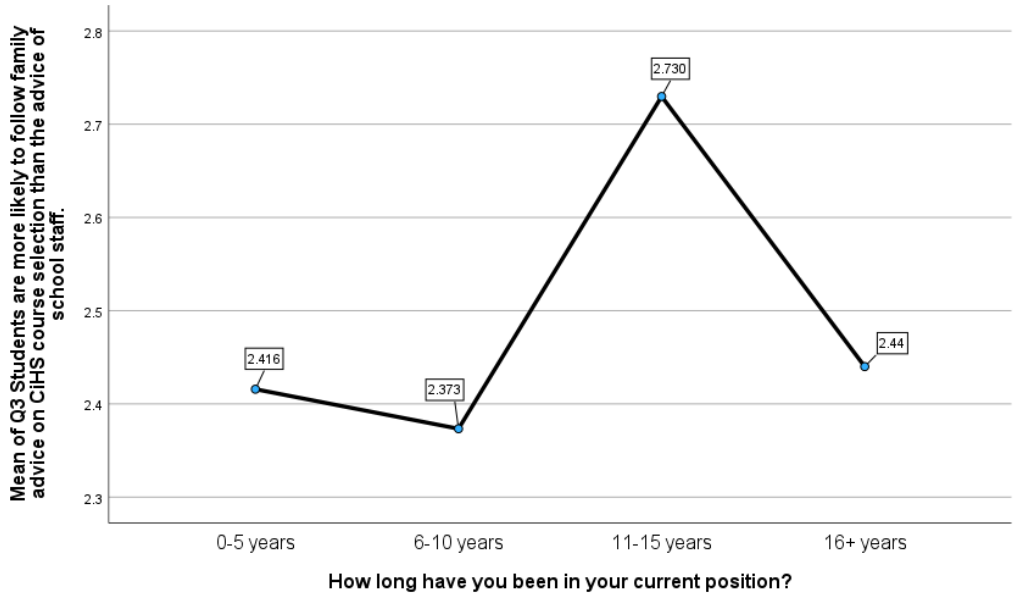
Tukey HSD

Dependent Variable	(I) How long have you been in your current position?	(J) How long have you been in your current position?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Q3 Students are more likely to follow family advice on CiHS course selection than the advice of school staff.	0-5 years	6-10 years	.042	.095	.971	-.20	.29
		11-15 years	-.314*	.119	.044	-.62	-.01
		16+ years	-.024	.095	.994	-.27	.22
	6-10 years	0-5 years	-.042	.095	.971	-.29	.20
		11-15 years	-.356*	.122	.020	-.67	-.04
		16+ years	-.067	.099	.908	-.32	.19
	11-15 years	0-5 years	.314*	.119	.044	.01	.62
		6-10 years	.356*	.122	.020	.04	.67
		16+ years	.290	.122	.086	-.03	.61
	16+ years	0-5 years	.024	.095	.994	-.22	.27
		6-10 years	.067	.099	.908	-.19	.32
		11-15 years	-.290	.122	.086	-.61	.03

*. The mean difference is significant at the 0.05 level.

Figure 3

Visual Comparison of the Means for Question 3 with Respondents' Years in Current Position



Question 4 - Our school has prerequisites to CiHS courses that keep some students from registering for the CiHS courses.

School personnel agreed with this statement at 24.0% (Table 15). There was no significant difference between the means of school personnel (Appendix H), school size (Appendix J), school FRL (Appendix K), and gender of school personnel (Appendix L) in response to Question 4 (Appendix G). The researcher identified differences in years of experience in current position for this question.

The researcher used a one-way ANOVA to evaluate the null hypothesis that there is no difference between years of experience in current position in response to Question 4 (N=279). The independent variable of years in current position included 0-5 years (M=2.79, n=91), 6-10 years (M=3.11, n=75), 11-15 years (M=3.08, n=38), and 16+ years (M=3.00, n=75) (Table 30). The calculations found the assumption of normality to be tenable for all groups. The Levene test

calculated the assumption of homogeneity of variances to be tenable (Table 31). The one-way ANOVA indicated statistical significance, F(3, 275)=2.683, p=0.047 (Table 32). Thus, there was significant data to reject the null hypothesis and conclude a significant difference in Question 4 with years in current position. The researcher used the Tukey HSD test (Table 33) to conduct post hoc comparisons, which revealed significant differences between the mean scores of 0-5 years in current position and 6-10 years at $p<0.05$. No other years in current position groups surveyed had a significant difference from the other groups at $p<0.05$. Figure 4 provides a visual comparison of the means for Question 4 for years in current position. The school personnel with 6-10 years in their position had a significantly higher level of disagreement in Question 4 than that of personnel with 0-5 years in their position.

Table 30

Descriptives- Question 4, Years in Current Position

						95% Confidence Interval for Mean	
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
Q4 Our school has prerequisites to CiHS courses that keep some students from registering for the CiHS courses.	0-5 years	91	2.79	.738	.077	2.64	2.94
	6-10 years	75	3.11	.764	.088	2.93	3.28
	11-15 years	38	3.08	.749	.122	2.83	3.33
	16+ years	75	3.00	.838	.097	2.81	3.19
	Total	279	2.97	.781	.047	2.88	3.06

Table 31

Tests of Homogeneity of Variances – Question 4, Years in Current Position

		Levene Statistic	df1	df2	Sig.
Q4 Our school has prerequisites to CiHS courses that keep some students from registering for the CiHS courses.	Based on Mean	.018	3	275	.997
	Based on Median	.203	3	275	.894
	Based on Median and with adjusted df	.203	3	270	.894
	Based on trimmed mean	.033	3	275	.992

Table 32

ANOVA- Question 4, Years in Current Position

		Sum of Squares	df	Mean Square	F	Sig.
Q4 Our school has prerequisites to CiHS courses that keep some students from registering for the CiHS courses.	Between Groups	4.828	3	1.609	2.683	.047
	Within Groups	164.943	275	.600		
	Total	169.771	278			

Table 33

Multiple Comparisons- Question 4, Years in Current Position

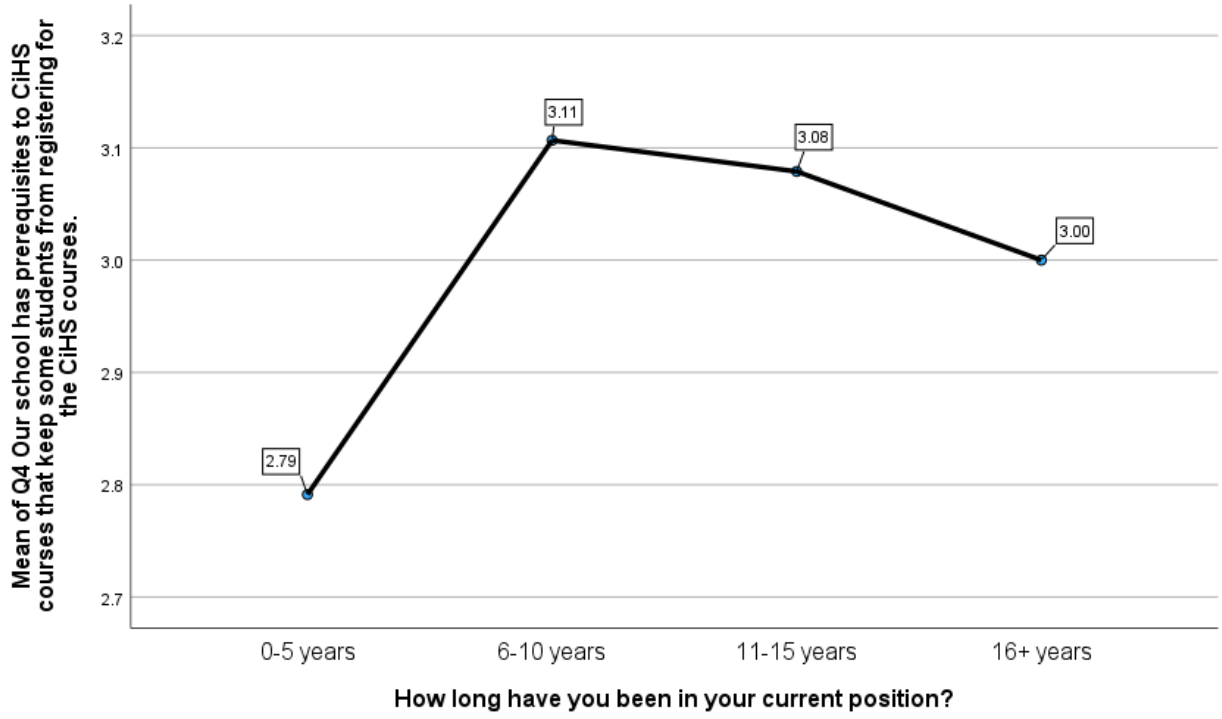
Tukey HSD

Dependent Variable	(I) How long have you been in your current position?	(J) How long have you been in your current position?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Q4 Our school has prerequisites to CiHS courses that keep some students from registering for the CiHS courses.	0-5 years	6-10 years	-.315*	.121	.047	-.63	.00
		11-15 years	-.288	.150	.221	-.67	.10
		16+ years	-.209	.121	.311	-.52	.10
	6-10 years	0-5 years	.315*	.121	.047	.00	.63
		11-15 years	.028	.154	.998	-.37	.43
		16+ years	.107	.126	.834	-.22	.43
	11-15 years	0-5 years	.288	.150	.221	-.10	.67
		6-10 years	-.028	.154	.998	-.43	.37
		16+ years	.079	.154	.956	-.32	.48
	16+ years	0-5 years	.209	.121	.311	-.10	.52
		6-10 years	-.107	.126	.834	-.43	.22
		11-15 years	-.079	.154	.956	-.48	.32

*. The mean difference is significant at the 0.05 level.

Figure 4

Visual Comparison of the Means for Question 4 with Respondents' Years in Current Position



Question 5 - Students' choice to take the traditional course over the CiHS option is based on the perception that the CiHS course is more difficult.

School personnel agreed with this statement at 74.1% (Table 15). There was no significant difference between the means of school personnel (Appendix H), years in current position (Appendix I), school FRL (Appendix K), and gender of school personnel (Appendix L) in response to Question 4. The researcher identified differences in school size for this question.

The researcher used a one-way ANOVA to evaluate the null hypothesis that there is no difference between size of school in response to Question 5 (N=277). The independent variable of school size included 0-499 (M=1.86, n=57), 500-999 (M=1.97, n=63), 1000-1499 (M=2.19, n=69), and 1500+ (M=2.36, n=88) (Table 34). The calculations found the assumption of normality to be tenable for all groups. The Levene test calculated the assumption of homogeneity

of variances to be tenable (Table 35). The one-way ANOVA indicated statistical significance, $F(3, 273)=5.109$, $p=0.002$ (Table 36). Thus, there was significant data to reject the null hypothesis and conclude a significant difference in Question 5 in regard to size of the school. The researcher used the Tukey HSD test (Table 37) to conduct post hoc comparisons, which revealed significant differences between the mean scores of 0-499 size with 1000-1499 and over 1500. Additionally, the data identified a significant difference between school size groups of 500-999 and 1500+ at $p<0.05$. No other school size groups surveyed had a significant difference from other groups at $p<0.05$. Figure 5 provides a visual comparison of the means for question 5 relative to school size. The school personnel from schools between 0-499 students had a significantly higher level of agreement with Question 5 than school personnel from schools 1000-1499 and 1500+. Additionally, the school personnel from schools between 500-999 students had a significantly higher level of agreement with Question 5 than school personnel from schools 1500+.

Table 34

Descriptives- Question 5, School Size

						95% Confidence Interval for Mean	
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
Q5 Students' choice to take the traditional course over the CiHS option is based on the perception that the CiHS course is more difficult.	0-499 students	57	1.86	.581	.077	1.71	2.01
	500-999 students	63	1.97	.695	.088	1.79	2.14
	1000-1499 students	69	2.19	.753	.091	2.01	2.37
	1500+ students	88	2.26	.686	.073	2.12	2.41
	Total	277	2.09	.701	.042	2.01	2.18

Table 35

Tests of Homogeneity of Variances- Question 5, School Size

		Levene Statistic	df1	df2	Sig.
Q5 Students' choice to take the traditional course over the CiHS option is based on the perception that the CiHS course is more difficult.	Based on Mean	2.420	3	273	.066
	Based on Median	1.366	3	273	.254
	Based on Median and with adjusted df	1.366	3	270	.254
	Based on trimmed mean	2.109	3	273	.099

Table 36

ANOVA- Question 5, School Size

		Sum of Squares	df	Mean Square	F	Sig.
Q5 Students' choice to take the traditional course over the CiHS option is based on the perception that the CiHS course is more difficult.	Between Groups	7.207	3	2.402	5.109	.002
	Within Groups	128.353	273	.470		
	Total	135.560	276			

Table 37

Multiple Comparisons- Question 5, School Size

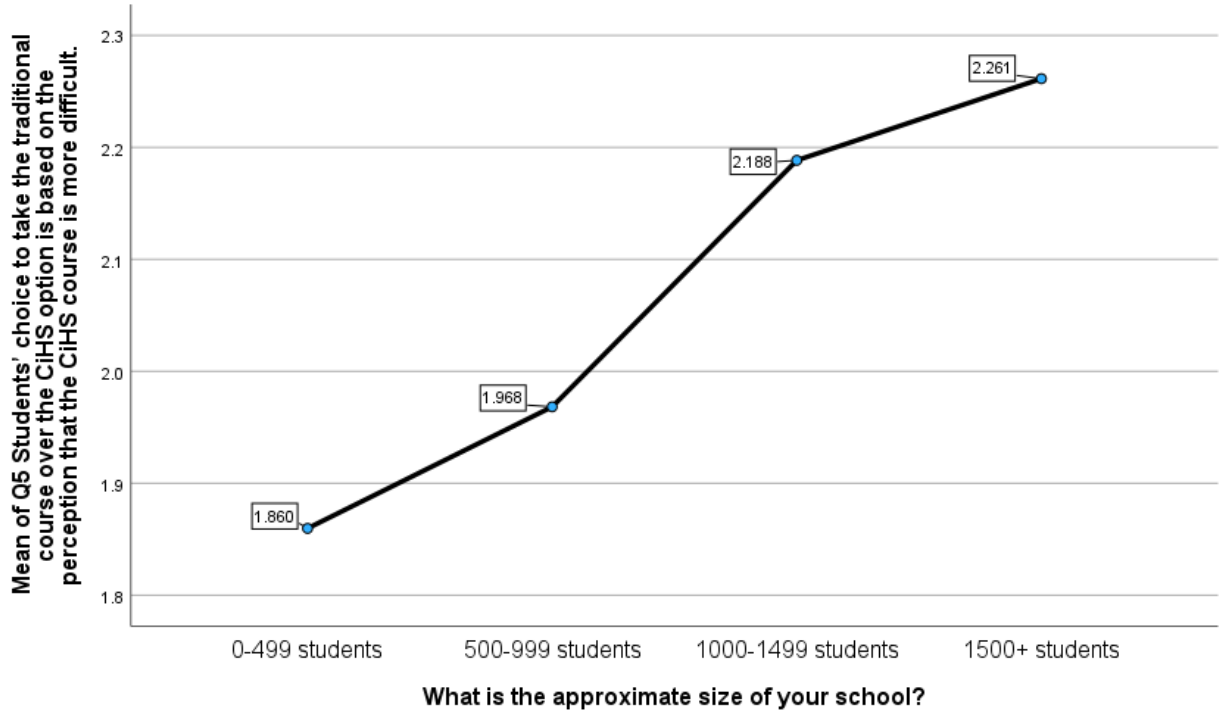
Tukey HSD

Dependent Variable	(I) What is the approximate size of your school?	(J) What is the approximate size of your school?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Q5 Students' choice to take the traditional course over the CiHS option is based on the perception that the CiHS course is more difficult.	0-499 students	500-999 students	-.109	.125	.822	-.43	.22
		1000-1499 students	-.329*	.123	.039	-.65	-.01
		1500+ students	-.402*	.117	.004	-.70	-.10
	500-999 students	0-499 students	.109	.125	.822	-.22	.43
		1000-1499 students	-.220	.119	.256	-.53	.09
		1500+ students	-.293*	.113	.049	-.59	.00
	1000-1499 students	0-499 students	.329*	.123	.039	.01	.65
		500-999 students	.220	.119	.256	-.09	.53
		1500+ students	-.073	.110	.911	-.36	.21
	1500+ students	0-499 students	.402*	.117	.004	.10	.70
		500-999 students	.293*	.113	.049	.00	.59
		1000-1499 students	.073	.110	.911	-.21	.36

*. The mean difference is significant at the 0.05 level.

Figure 5

Visual Comparison of the Means for Question 5 with Respondents' School Size



Question 6 - Students' choice to take the traditional course over the CiHS option is based on lack of interest in course content for the CiHS option.

School personnel agreed with this statement at 42.4% (Table 15). There was no significant difference between the means of school personnel (Appendix H), years in current position (Appendix I), school size (Appendix J), and school FRL (Appendix K) in response to Question 6.

The researcher used an independent t-test to evaluate the difference in means for school personnel grouped by gender. Evaluation of the data for Question 6 showed a mean of 2.70 (N=125) for males and 2.53 (N=150) for females (Table 38). The independent t-test indicated a significant difference between genders for this question t(273)=2.334, p=.020 (Table 39). Male

school personnel had a significantly higher level of disagreement with Question 6 than that of female school personnel.

Table 38

Descriptive Statistics- Question 6, Gender of School Personnel

	Gender Identification	N	Mean	Std. Deviation	Std. Error Mean
Q6 Students' choice to take the traditional course over the CiHS option is based on lack of interest in course content for the CiHS option.	Male	125	2.70	.609	.055
	Female	150	2.53	.642	.052

Table 39

Independent Samples Test- Question 6, Gender of School Personnel

		Levene's Test for Equality of Variances		t-test for Equality of Means			
						Significance	
		F	Sig.	t	df	One-Sided p	Two-Sided p
Q6 Students' choice to take the traditional course over the CiHS option is based on lack of interest in course content for the CiHS option.	Equal variances assumed	3.101	.079	2.334	273	.010	.020

Question 7 - Students' choice to take the traditional course over the CiHS option is based on grade considerations, specifically, the potential impact on their GPA.

School personnel agreed with this statement at 58.8% (Table 15). There was no significant difference between the means of school personnel (Appendix H), years in current position (Appendix I), school size (Appendix J), school FRL (Appendix K), and gender of school personnel (Appendix L) in response to Question 7.

Question 8 - Our partner university for CiHS has prerequisites to the CiHS courses that keep some students from registering for the course.

School personnel agreed with this statement at 32.4% (Table 15). There was no significant difference between the means of school personnel (Appendix H), years in current position (Appendix I), school FRL (Appendix K), and gender of school personnel (Appendix L) in response to Question 8.

The researcher used a one-way ANOVA to evaluate the null hypothesis that there is no difference between size of school in response to Question 8 (N=277). The independent variable of school size included 0-499 (M=2.81, n=57), 500-999 (M=2.61, n=62), 1000-1499 (M=2.54, n=70), and 1500+ (M=3.00, n=88) (Table 40). The calculations found the assumption of normality to be tenable for all groups. The Levene test calculated the assumption of homogeneity of variances to be untenable (Table 41). The one-way ANOVA indicated statistical significance, $F(3, 273)=6.261$, $p=<0.001$ (Table 42), however, with a significant Levene test an additional Welch statistic verified the homogeneity of variance at $p<0.05$ (Table 43). Thus, there was significant data to reject the null hypothesis and conclude a significant difference in Question 8 in regard to size of school. The researcher used the Tukey HSD test (Table 44) to conduct post hoc comparisons, which revealed significant differences between the mean scores of the 1500+ size with 500-999 and 1000-1499 school size at $p<0.05$. No other school size groups surveyed had a significant difference from other groups at $p<0.05$. Figure 6 provides a visual comparison of the means for Question 8 in regard to school size. The school personnel from schools between 1500+ students had a significantly higher level of disagreement with Question 8 than school personnel from schools between 500-999 and 1000-1499.

Table 40

Descriptives- Question 8, School Size

						95% Confidence Interval for Mean	
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
Q8 Our partner university for CiHS has prerequisites to the CiHS courses that keep some students from registering for the course.	0-499 students	57	2.81	.581	.077	2.65	2.96
	500-999 students	62	2.61	.710	.090	2.43	2.79
	1000-1499 students	70	2.54	.829	.099	2.35	2.74
	1500+ students	88	3.00	.727	.078	2.85	3.15
	Total	277	2.76	.744	.045	2.67	2.85

Table 41

Tests of Homogeneity of Variances- Question 8, School Size

		Levene Statistic	df1	df2	Sig.
Q8 Our partner university for CiHS has prerequisites to the CiHS courses that keep some students from registering for the course.	Based on Mean	5.086	3	273	.002
	Based on Median	3.203	3	273	.024
	Based on Median and with adjusted df	3.203	3	258	.024
	Based on trimmed mean	4.933	3	273	.002

Table 42

ANOVA- Question 8, School Size

		Sum of Squares	df	Mean Square	F	Sig.
Q8 Our partner university for CiHS has prerequisites to the CiHS courses that keep some students from registering for the course.	Between Groups	9.836	3	3.279	6.261	<.001
	Within Groups	142.958	273	.524		
	Total	152.794	276			

Table 43

Robust Tests of Equality of Means- Question 8, School Size

		Statistic[a]	df1	df2	Sig.
Q8 Our partner university for CiHS has prerequisites to the CiHS courses that keep some students from registering for the course.	Welch	5.724	3	146.732	<.001
	Brown-Forsythe	6.419	3	258.189	<.001

a. Asymptotically F distributed

Table 44

Multiple Comparisons- Question 8, School Size

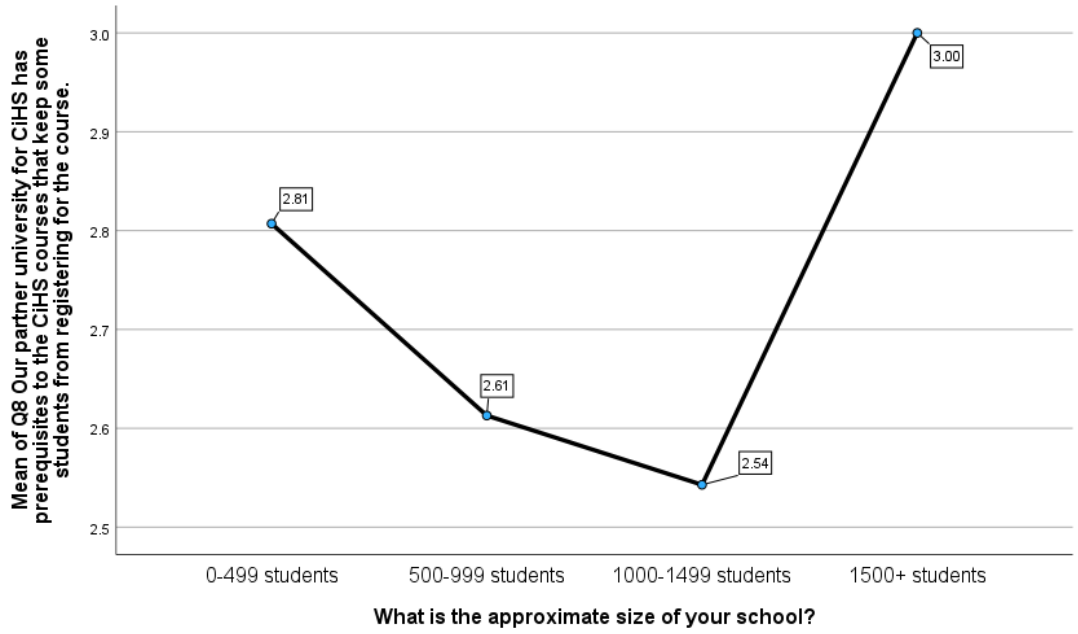
Tukey HSD

Dependent Variable	(I) What is the approximate size of your school?	(J) What is the approximate size of your school?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Q8 Our partner university for CiHS has prerequisites to the CiHS courses that keep some students from registering for the course.	0-499 students	500-999 students	.194	.133	.462	-.15	.54
		1000-1499 students	.264	.129	.174	-.07	.60
		1500+ students	-.193	.123	.398	-.51	.13
	500-999 students	0-499 students	-.194	.133	.462	-.54	.15
		1000-1499 students	.070	.126	.945	-.26	.40
		1500+ students	-.387*	.120	.008	-.70	-.08
	1000-1499 students	0-499 students	-.264	.129	.174	-.60	.07
		500-999 students	-.070	.126	.945	-.40	.26
		1500+ students	-.457*	.116	<.001	-.76	-.16
	1500+ students	0-499 students	.193	.123	.398	-.13	.51
		500-999 students	.387*	.120	.008	.08	.70
		1000-1499 students	.457*	.116	<.001	.16	.76

*. The mean difference is significant at the 0.05 level.

Figure 6

Visual Comparison of the Means for Question 8 with Respondents' School Size



Question 9 - Students that choose the traditional course over the CiHS option are following the advice of school staff (advising of a teacher, counselor, or administrator).

School personnel agreed with this statement at 39.0% (Table 15). There was no significant difference between the means of school personnel (Appendix H), years in current position (Appendix I), school size (Appendix J), school FRL (Appendix K), and gender of school personnel (Appendix L) in response to Question 9.

Question 10 - Students' choice to take the traditional course over the CiHS option is because they do not understand the differences between the course options.

School personnel agreed with this statement at 48.6% (Table 15). There was no significant difference between the means of school personnel, years in current position, school size, and gender of school personnel in response to Question 10 (Appendix L).

The researcher used a one-way ANOVA to evaluate the null hypothesis that there is no difference between school FRL in response to Question 10 (N=272). The independent variable of school FRL included 0-20% (M=2.43, n=35), 21-40% (M=2.53, n=74), 41-60% (M=2.64, n=86), and over 60% (M=2.30, n=77) (Table 45). The calculations found the assumption of normality to be tenable for all groups. The Levene test calculated the assumption of homogeneity of variances to be tenable (Table 46). The one-way ANOVA indicated statistical significance, $F(3, 268)=3.496$, $p=0.016$ (Table 47). Thus, there was significant data to reject the null hypothesis and conclude a significant difference in Question 10 with respondent's school FRL. The researcher used the Tukey HSD test (Table 48) to conduct post hoc comparisons, which revealed significant differences between the mean scores of FRL 41-60% and over 60% at $p<0.05$. No other respondents' school FRL groups surveyed had a significant difference from other groups at $p<0.05$. Figure 7 provides a visual comparison of the means for Question 10 for school FRL. The school personnel from schools with 41-60% FRL students had a significantly higher level of disagreement with Question 10 than school personnel from schools with over 60% FRL. The mean score of 41-60% FRL group leaned toward disagree, while the mean score of the group over 60% FRL produced a mean below 2.5 and leaned toward agreement.

Table 45

Descriptives- Question 10, School FRL

						95% Confidence Interval for Mean	
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
Q10 Students' choice to take the traditional course over the CiHS option is because they do not understand the differences between the course options.	0-20%	35	2.43	.739	.125	2.17	2.68
	21-40%	74	2.53	.667	.078	2.37	2.68
	41-60%	86	2.64	.649	.070	2.50	2.78
	Over 60%	77	2.30	.727	.083	2.13	2.46
	Total	272	2.49	.698	.042	2.40	2.57

Table 46

Tests of Homogeneity of Variances- Question 10, School FRL

		Levene Statistic	df1	df2	Sig.
Q10 Students' choice to take the traditional course over the CiHS option is because they do not understand the differences between the course options.	Based on Mean	.616	3	268	.605
	Based on Median	.572	3	268	.634
	Based on Median and with adjusted df	.572	3	264	.634
	Based on trimmed mean	.684	3	268	.562

Table 47

ANOVA- Question 10, School FRL

		Sum of Squares	df	Mean Square	F	Sig.
Q10 Students' choice to take the traditional course over the CiHS option is because they do not understand the differences between the course options.	Between Groups	4.968	3	1.656	3.496	.016
	Within Groups	126.973	268	.474		
	Total	131.941	271			

Table 48

Multiple Comparisons- Question 10, School FRL

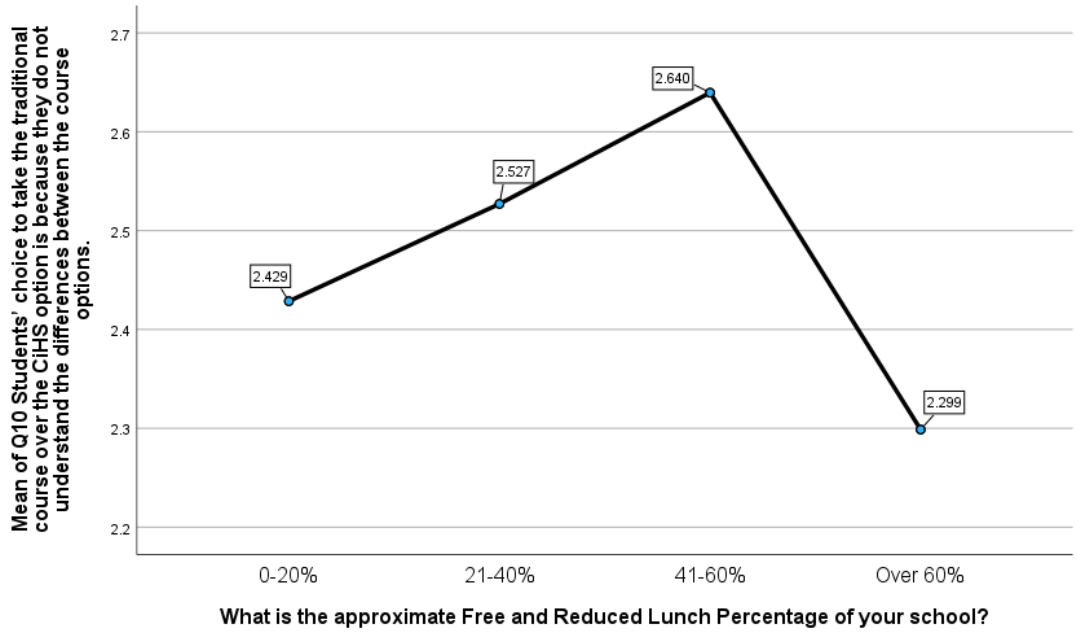
Tukey HSD

Dependent Variable	(I) What is the approximate Free and Reduced Lunch Percentage of your school?	(J) What is the approximate Free and Reduced Lunch Percentage of your school?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Q10 Students' choice to take the traditional course over the CiHS option is because they do not understand the differences between the course options.	0-20%	21-40%	-.098	.141	.898	-.46	.27
		41-60%	-.211	.138	.422	-.57	.15
		Over 60%	.130	.140	.791	-.23	.49
	21-40%	0-20%	.098	.141	.898	-.27	.46
		41-60%	-.113	.109	.731	-.39	.17
		Over 60%	.228	.112	.177	-.06	.52
	41-60%	0-20%	.211	.138	.422	-.15	.57
		21-40%	.113	.109	.731	-.17	.39
		Over 60%	.341*	.108	.010	.06	.62
	Over 60%	0-20%	-.130	.140	.791	-.49	.23
		21-40%	-.228	.112	.177	-.52	.06
		41-60%	-.341*	.108	.010	-.62	-.06

*. The mean difference is significant at the 0.05 level.

Figure 7

Visual Comparison of the Means for Question 10 with Respondents' School FRL



Question 11 - Students' choice to take the traditional course over the CiHS option is based on time concerns or workload.

School personnel agreed with this statement at 83.8% (Table 15). There was no significant difference between the means of school personnel (Appendix H), years in current position (Appendix I), school size (Appendix J), school FRL (Appendix K), and gender of school personnel (Appendix L) in response to Question 11.

Question 12 - Students' choice to take the traditional course over the CiHS option is impacted by peers' advice.

School personnel agreed with this statement at 81.7% (Table 15). There was as no significant difference between the means of school personnel (Appendix H), school size (Appendix J), school FRL (Appendix K), and gender of school personnel (Appendix L) in response to Question 12.

The researcher used a one-way ANOVA to evaluate the null hypothesis that there is no difference between years of experience in current position in response to Question 12 (N=273). The independent variable of years in current position included 0-5 years (M=2.03, n=87), 6-10 years (M=2.00, n=74), 11-15 years (M=2.26, n=38), and 16+ years (M=1.92, n=74) (Table 49). The calculations found the assumption of normality to be tenable for all groups. The Levene test calculated the assumption of homogeneity of variances to be tenable (Table 50). The one-way ANOVA indicated statistical significance, $F(3, 273)=2.909$, $p=0.035$ (Table 51). Thus, there was significant data to reject the null hypothesis and conclude a significant difference in Question 12 with years in current position. The researcher used the Tukey HSD test (Table 52) to conduct post hoc comparisons, which revealed significant differences between the mean scores of 11-15 years in current position with 16+ years at $p<0.05$. No other years in current position groups surveyed had a significant difference from other groups at $p<0.05$. Figure 8 provides a visual comparison of the means for Question 12 within years in current position. The school personnel with 16+ years in their current position had a significantly higher level of agreement with Question 12 than school personnel with 11-15 years in their current position.

Table 49

Descriptives- Question 12, Years in Current Position

						95% Confidence Interval for Mean	
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
Q12 Students' choice to take the traditional course over the CiHS option is impacted by peers' advice.	0-5 years	87	2.03	.599	.064	1.91	2.16
	6-10 years	74	2.00	.573	.067	1.87	2.13
	11-15 years	38	2.26	.554	.090	2.08	2.45
	16+ years	74	1.92	.614	.071	1.78	2.06
	Total	273	2.03	.597	.036	1.95	2.10

Table 50

Tests of Homogeneity of Variances- Question 12, Years in Current Position

		Levene Statistic	df1	df2	Sig.
Q12 Students' choice to take the traditional course over the CiHS option is impacted by peers' advice.	Based on Mean	1.153	3	269	.328
	Based on Median	.203	3	269	.894
	Based on Median and with adjusted df	.203	3	268	.894
	Based on trimmed mean	1.384	3	269	.248

Table 51

ANOVA- Question 12, Years in Current Position

		Sum of Squares	df	Mean Square	F	Sig.
Q12 Students' choice to take the traditional course over the CiHS option is impacted by peers' advice.	Between Groups	3.042	3	1.014	2.909	.035
	Within Groups	93.778	269	.349		
	Total	96.821	272			

Table 52

Multiple Comparisons- Question 12, Years in Current Position

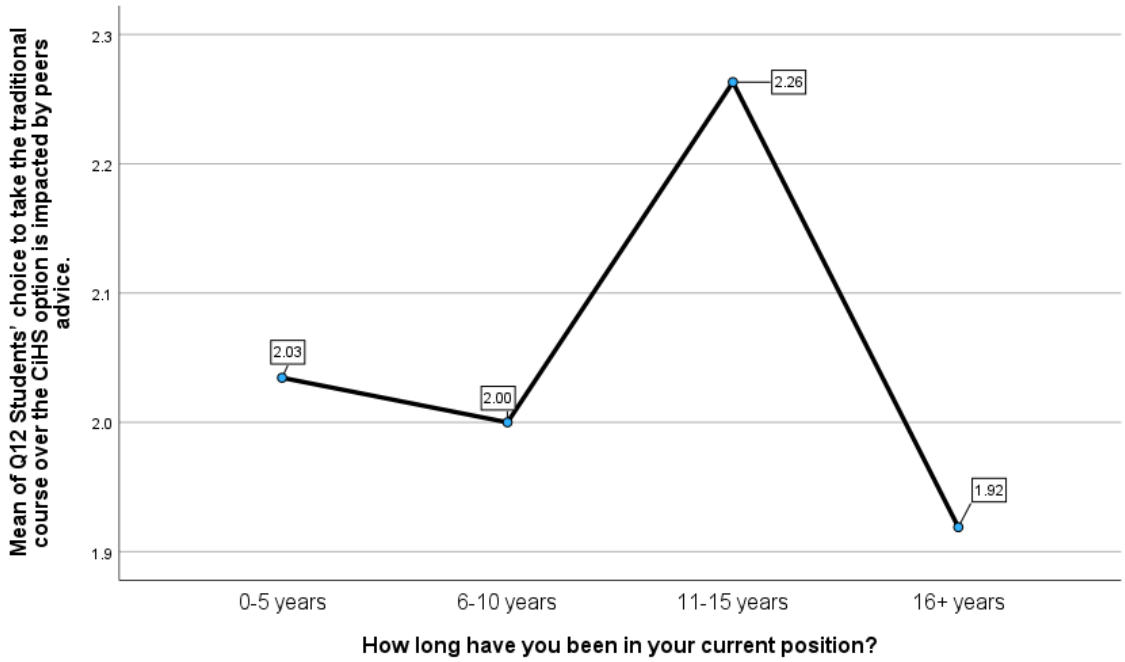
Tukey HSD

Dependent Variable	(I) How long have you been in your current position?	(J) How long have you been in your current position?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Q12 Students' choice to take the traditional course over the CiHS option is impacted by peers advice.	0-5 years	6-10 years	.034	.093	.983	-.21	.28
		11-15 years	-.229	.115	.194	-.53	.07
		16+ years	.116	.093	.603	-.13	.36
	6-10 years	0-5 years	-.034	.093	.983	-.28	.21
		11-15 years	-.263	.118	.117	-.57	.04
		16+ years	.081	.097	.838	-.17	.33
	11-15 years	0-5 years	.229	.115	.194	-.07	.53
		6-10 years	.263	.118	.117	-.04	.57
		16+ years	.344*	.118	.020	.04	.65
	16+ years	0-5 years	-.116	.093	.603	-.36	.13
		6-10 years	-.081	.097	.838	-.33	.17
		11-15 years	-.344*	.118	.020	-.65	-.04

*. The mean difference is significant at the 0.05 level.

Figure 8

Visual Comparison of the Means for Question 12 with Respondents' Years in Current Position



Question 13 - Students' choice to take the traditional course over the CiHS option are following family advice.

School personnel agreed with this statement at 51.6% (Table 15). There was no significant difference between the means of school personnel (Appendix H), years in current position (Appendix I), school size (Appendix J), and gender of school personnel (Appendix L) in response to Question 13.

The researcher used a one-way ANOVA to evaluate the null hypothesis that there is no difference between school FRL in response to Question 13 (N=271). The independent variable of school FRL included 0-20% (M=2.26, n=35), 21-40% (M=2.38, n=74), 41-60% (M=2.53, n=86), and over 60% (M=2.62, n=76) (Table 53). The calculations found the assumption of normality to be tenable for all groups. The Levene test calculated the assumption of homogeneity of variances to be tenable (Table 54). The ANOVA indicated statistical significance, F(3, 267)=1.406, p=.004

(Table 55). Thus, there was significant data to reject the null hypothesis and conclude a significant difference in Question 13 with respondent's school FRL. The researcher used the Tukey HSD test (Table 56) to conduct post hoc comparisons, which revealed significant differences between the mean scores of FRL over 60% with both 0-20% and 21-40% at $p<0.05$. No other respondents' school FRL groups surveyed had a significant difference from other groups at $p<0.05$. Figure 9 provides a visual comparison of the means for Question 13 with school FRL. The school personnel from schools with 60%+ FRL students had a significantly higher level of disagreement with Question 13 than school personnel from schools with 0-20% and 21-40% FRL. The mean score of the over 60% FRL group leaned toward disagree, while the mean score of the groups with 0-20% and 21-40% FRL produced mean below 2.5 and leaned toward agreement.

Table 53

Descriptives- Question 13, School FRL

						95% Confidence Interval for Mean	
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
Q13 Students' choice to take the traditional course over the CiHS option are following family advice.	0-20%	35	2.26	.561	.095	2.06	2.45
	21-40%	74	2.38	.488	.057	2.27	2.49
	41-60%	86	2.53	.568	.061	2.41	2.66
	Over 60%	76	2.62	.588	.067	2.48	2.75
	Total	271	2.48	.563	.034	2.41	2.55

Table 54

Tests of Homogeneity of Variances- Question 13, School FRL

		Levene Statistic	df1	df2	Sig.
Q13 Students' choice to take the traditional course over the CiHS option are following family advice.	Based on Mean	1.906	3	267	.129
	Based on Median	.833	3	267	.477
	Based on Median and with adjusted df	.833	3	264	.477
	Based on trimmed mean	1.912	3	267	.128

Table 55

ANOVA- Question 13, School FRL

		Sum of Squares	df	Mean Square	F	Sig.
Q13 Students' choice to take the traditional course over the CiHS option are following family advice.	Between Groups	4.218	3	1.406	4.610	.004
	Within Groups	81.421	267	.305		
	Total	85.638	270			

Table 56

Multiple Comparisons- Question 13, School FRL

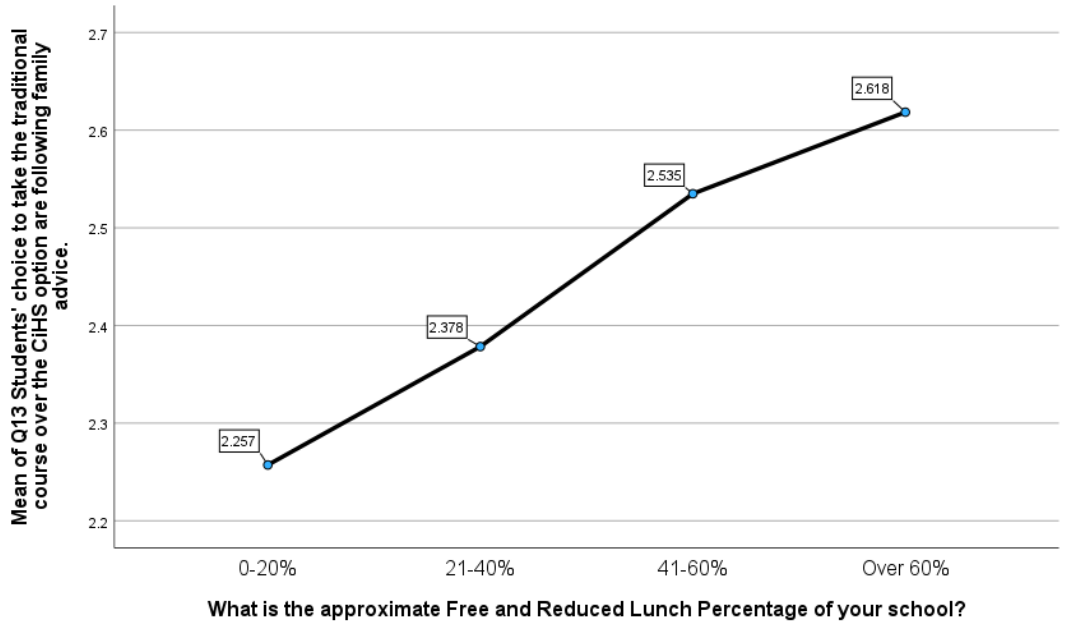
Tukey HSD

Dependent Variable	(I) What is the approximate Free and Reduced Lunch Percentage of your school?	(J) What is the approximate Free and Reduced Lunch Percentage of your school?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Q13 Students' choice to take the traditional course over the CiHS option are following family advice.	0-20%	21-40%	-.121	.113	.708	-.41	.17
		41-60%	-.278	.111	.061	-.56	.01
		Over 60%	-.361*	.113	.008	-.65	-.07
	21-40%	0-20%	.121	.113	.708	-.17	.41
		41-60%	-.157	.088	.282	-.38	.07
		Over 60%	-.240*	.090	.041	-.47	-.01
	41-60%	0-20%	.278	.111	.061	-.01	.56
		21-40%	.157	.088	.282	-.07	.38
		Over 60%	-.084	.087	.772	-.31	.14
	Over 60%	0-20%	.361*	.113	.008	.07	.65
		21-40%	.240*	.090	.041	.01	.47
		41-60%	.084	.087	.772	-.14	.31

*. The mean difference is significant at the 0.05 level.

Figure 9

Visual Comparison of the Means for Question 13 with Respondents' School FRL



Question 14 - Students are more likely to follow peers' advice on CiHS course selection than the advice of school staff.

School personnel agreed with this statement at 66.4% (Table 15). There was no significant difference between the means of school personnel (Appendix H), years in current position (Appendix I), school size (Appendix J), school FRL (Appendix K), and gender of school personnel (Appendix L) in response to Question 14.

Question 15 - Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.

School personnel agreed with this statement at 76.5% (Table 15). There was no significant difference between the means of school size (Appendix J) and gender of school personnel (Appendix L) in response to Question 15.

The researcher used a one-way ANOVA to evaluate the null hypothesis that there is no difference between school personnel in response to Question 15 (N=277). The independent

variable of school personnel included teachers (M=2.00, n=85), counselors (M=2.11, n=97), and administrators (M=2.25, n=96) (Table 57). The calculations found the assumption of normality to be tenable for all groups. The Levene test calculated the assumption of homogeneity to be tenable (Table 58). The one-way ANOVA indicated statistical significance, $F(2, 276)=4.221$, $p=0.016$ (Table 59). Thus, there was significant data to reject the null hypothesis and conclude a significant difference in Question 15 among school personnel groups. The researcher used the Tukey HSD test (Table 60) to conduct post hoc comparisons, which revealed significant differences between the mean scores of teachers and administrators at $p<0.05$. The counselor group did not have a significant difference from other groups in Question 15 at $p<0.05$. Figure 10 provides a visual comparison of the means for Question 15 for school personnel. The school personnel group of teachers had a significantly higher level of agreement with Question 15 than school administrators.

Table 57

Descriptives- Question 15, School Personnel

						95% Confidence Interval for Mean	
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	Teacher	85	2.00	.617	.067	1.87	2.13
	Counselor	97	2.11	.610	.062	1.99	2.24
	Administrator	95	2.26	.605	.062	2.14	2.39
	Total	277	2.13	.618	.037	2.06	2.20

Table 58

Tests of Homogeneity of Variances- Question 15, School Personnel

	Levene Statistic	df1	df2	Sig.
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	2.320	2	274	.100
	.129	2	274	.879
	.129	2	273	.879
	2.159	2	274	.117

Table 59

ANOVA- Question 15, School Personnel

		Sum of Squares	df	Mean Square	F	Sig.
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	Between Groups	3.148	2	1.574	4.221	.016
	Within Groups	102.174	274	.373		
	Total	105.321	276			

Table 60

Multiple Comparisons- Question 15, School Personnel

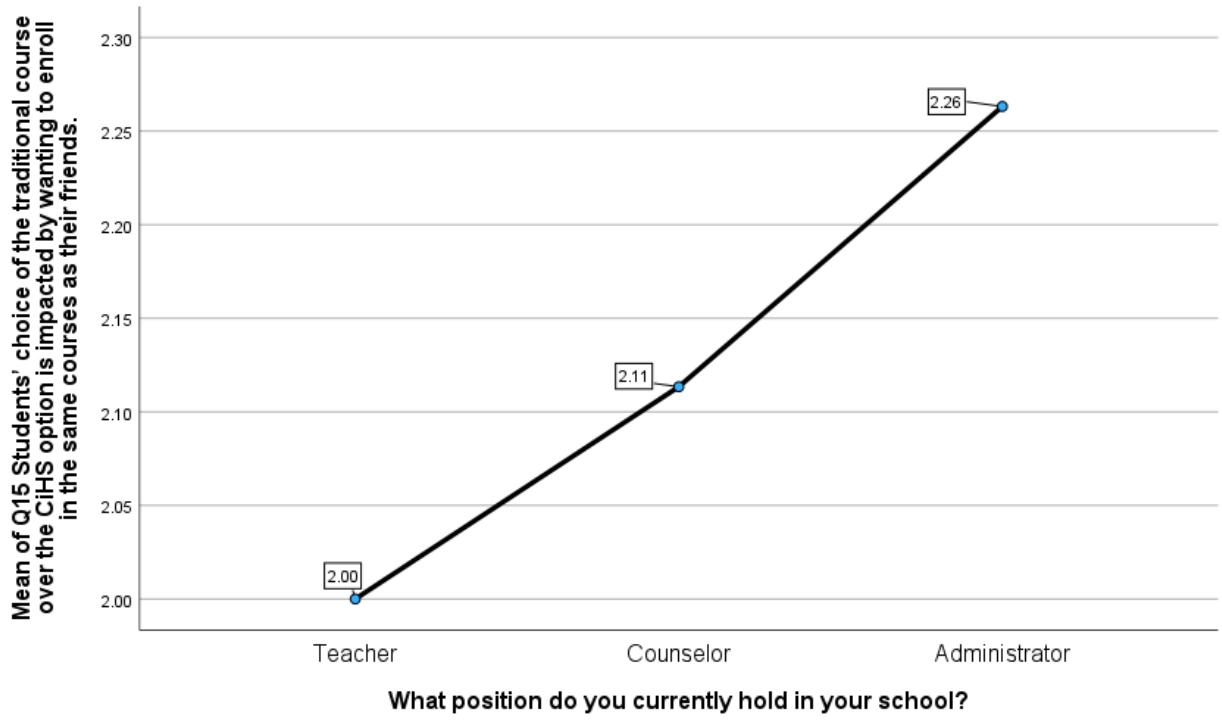
Tukey HSD

Dependent Variable	(I) What position do you currently hold in your school?	(J) What position do you currently hold in your school?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	Teacher	Counselor	-.113	.091	.425	-.33	.10
		Administrator	-.263*	.091	.012	-.48	-.05
	Counselor	Teacher	.113	.091	.425	-.10	.33
		Administrator	-.150	.088	.207	-.36	.06
	Administrator	Teacher	.263*	.091	.012	.05	.48
		Counselor	.150	.088	.207	-.06	.36

*. The mean difference is significant at the 0.05 level.

Figure 10

Visual Comparison of the Means for Question 15 for Respondents' Position in School



The researcher used a one-way ANOVA to evaluate the null hypothesis that there is no difference between years of experience in current position in response to Question 15 (N=277). The independent variable of years in current position included 0-5 years (M=2173, n=89), 6-10 years (M=2.11, n=75), 11-15 years (M=2.34, n=38), and 16+ years (M=2.13, n=75) (Table 61). The calculations found the assumption of normality to be tenable for all groups. The Levene test calculated the assumption of homogeneity of variances to be tenable (Table 62). The one-way ANOVA indicated statistical significance, $F(3, 273)=2.806$, $p=0.040$ (Table 63). Thus, there was significant data to reject the null hypothesis and conclude a significant difference in Question 15 with years in current position. The researcher used the Tukey HSD test (Table 64) to conduct post hoc comparisons, which revealed significant differences between the mean scores of 11-15 years in current position and 16+ years at $p<0.05$. No other years in current position groups

surveyed had a significant difference from other groups at $p<0.05$. Figure 11 provides a visual comparison of the means for Question 15 within years in current position. The school personnel with 16+ years in current position had a significantly higher level of agreement with Question 15 than school personnel with 11-15 years in position.

Table 61

Descriptives- Question 15, Years in Current Position

						95% Confidence Interval for Mean	
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	0-5 years	89	2.17	.626	.066	2.04	2.30
	6-10 years	75	2.11	.628	.072	1.96	2.25
	11-15 years	38	2.34	.582	.094	2.15	2.53
	16+ years	75	2.00	.593	.068	1.86	2.14
	Total	277	2.13	.618	.037	2.06	2.20

Table 62

Tests of Homogeneity of Variances- Question 15, Years in Current Position

		Levene Statistic	df1	df2	Sig.
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	Based on Mean	1.454	3	273	.227
	Based on Median	.391	3	273	.759
	Based on Median and with adjusted df	.391	3	270	.759
	Based on trimmed mean	1.495	3	273	.216

Table 63

ANOVA- Question 15, Years in Current Position

		Sum of Squares	df	Mean Square	F	Sig.
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	Between Groups	3.150	3	1.050	2.806	.040
	Within Groups	102.171	273	.374		
	Total	105.321	276			

Table 64

Multiple Comparisons- Question 15, Years in Current Position

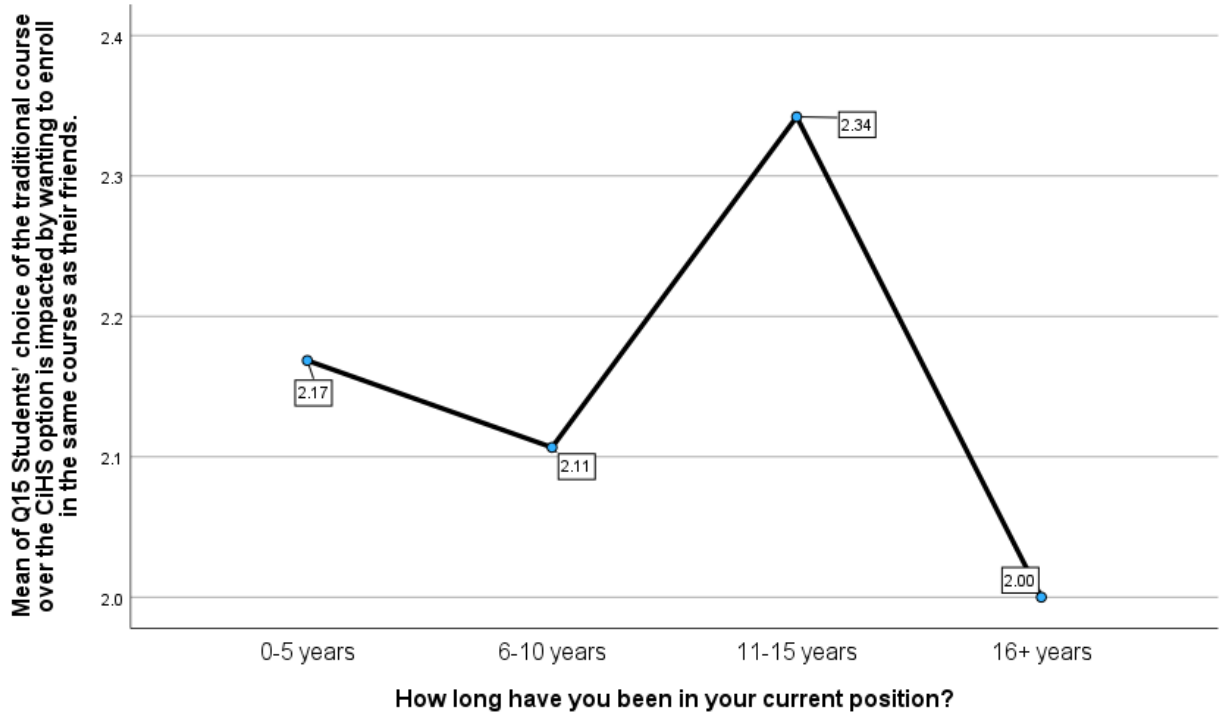
Tukey HSD

Dependent Variable	(I) How long have you been in your current position?	(J) How long have you been in your current position?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	0-5 years	6-10 years	.062	.096	.917	-.19	.31
		11-15 years	-.174	.119	.461	-.48	.13
		16+ years	.169	.096	.296	-.08	.42
	6-10 years	0-5 years	-.062	.096	.917	-.31	.19
		11-15 years	-.235	.122	.217	-.55	.08
		16+ years	.107	.100	.709	-.15	.36
	11-15 years	0-5 years	.174	.119	.461	-.13	.48
		6-10 years	.235	.122	.217	-.08	.55
		16+ years	.342*	.122	.027	.03	.66
	16+ years	0-5 years	-.169	.096	.296	-.42	.08
		6-10 years	-.107	.100	.709	-.36	.15
		11-15 years	-.342*	.122	.027	-.66	-.03

*. The mean difference is significant at the 0.05 level.

Figure 11

Visual Comparison of the Means for Question 15 with Respondents' Years in Current Position



The researcher used a one-way ANOVA to evaluate the null hypothesis that there is no difference between school FRL in response to Question 15 (N=273). The independent variable of school FRL included 0-20% (M=2.14, n=35), 21-40% (M=2.05, n=74), 41-60% (M=2.29, n=86), and over 60% (M=1.99, n=78) (Table 65). The calculations found the assumption of normality to be tenable for all groups. The Levene test calculated the assumption of homogeneity of variances to be tenable (Table 66). The ANOVA indicated statistical significance, $F(3, 269)=3.911$, $p=.009$ (Table 67). Thus, there was significant data to reject the null hypothesis and conclude a significant difference in Question 15 with the respondent's school FRL. The researcher used the Tukey HSD test (Table 68) to conduct post hoc comparisons, which revealed significant differences between the mean scores of FRL 41-60% and over 60% FRL at $p<0.05$. No other respondents' school FRL groups surveyed had a significant difference from other groups at

p<0.05. Figure 12 provides a visual comparison of the means for Question 15 for school FRL. The school personnel from schools with 60%+ FRL students had a significantly higher level of agreement with Question 15 than school personnel from schools 41-60% FRL.

Table 65

Descriptives- Question 15, School FRL

						95% Confidence Interval for Mean	
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	0-20%	35	2.14	.648	.110	1.92	2.37
	21-40%	74	2.05	.660	.077	1.90	2.21
	41-60%	86	2.29	.506	.055	2.18	2.40
	Over 60%	78	1.99	.614	.069	1.85	2.13
	Total	273	2.12	.609	.037	2.05	2.19

Table 66

Tests of Homogeneity of Variances- Question 15, School FRL

		Levene Statistic	df1	df2	Sig.
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	Based on Mean	.365	3	269	.778
	Based on Median	.454	3	269	.714
	Based on Median and with adjusted df	.454	3	267	.714
	Based on trimmed mean	.261	3	269	.854

Table 67

ANOVA- Question 15, School FRL

		Sum of Squares	df	Mean Square	F	Sig.
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	Between Groups	4.222	3	1.407	3.911	.009
	Within Groups	96.789	269	.360		
	Total	101.011	272			

Table 68

Multiple Comparisons-Question 15, School FRL

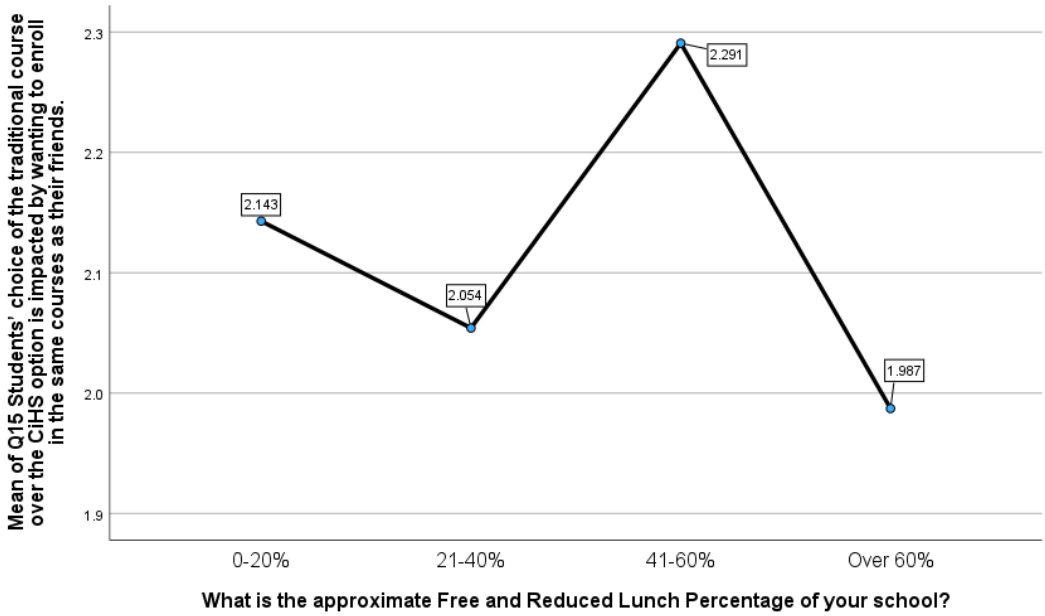
Tukey HSD

Dependent Variable	(I) What is the approximate Free and Reduced Lunch Percentage of your school?	(J) What is the approximate Free and Reduced Lunch Percentage of your school?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	0-20%	21-40%	.089	.123	.888	-.23	.41
		41-60%	-.148	.120	.609	-.46	.16
		Over 60%	.156	.122	.579	-.16	.47
	21-40%	0-20%	-.089	.123	.888	-.41	.23
		41-60%	-.237	.095	.064	-.48	.01
		Over 60%	.067	.097	.902	-.18	.32
	41-60%	0-20%	.148	.120	.609	-.16	.46
		21-40%	.237	.095	.064	-.01	.48
		Over 60%	.304*	.094	.007	.06	.55
	Over 60%	0-20%	-.156	.122	.579	-.47	.16
		21-40%	-.067	.097	.902	-.32	.18
		41-60%	-.304*	.094	.007	-.55	-.06

*. The mean difference is significant at the 0.05 level.

Figure 12

Visual Comparison of the Means for Question 15 with Respondents' School FRL



Mixed Methods Data Analysis

Through evaluation of the quantitative survey administered to school personnel and examination of qualitative data from the focus group interviews data, overlaps emerged. The survey asked school personnel respondents about student knowledge, registration, and understanding of CiHS courses in Questions 1 and 10. Question 1 stated, "Students know what CiHS courses are available to them and how to register for them" and Question 10, "Students' choice to take the traditional course over the CiHS option is because they do not understand the differences between the course options." School personnel agreed with Question 1 at 90.3% that students are indeed familiar with CiHS and how to register. However, in Question 10, only 48.6% agreed that students understand the differences between traditional courses and CiHS (Table 15). Additionally, during focus group interviews with students, the researcher asked students to discuss their familiarity with CiHS and from what sources they received information

about CiHS. The researcher received 28 responses, with 25 indicating they were familiar with CiHS (Figure 13). Student interviews also included follow-up on who they learned about CiHS from. The researcher coded and themed the interview data. The students identified the themes of teacher, family, counselor, and peers (Figure 14). Students most frequently identified the classroom teacher. Student responses in these themes included:

1. I heard about one class from a teacher who was also teaching that class. And so, she told me about it and gave me some extra information about it.
2. I know a little bit about it, we offer like a history course, I heard it from the counselor.
3. My freshman English teacher was big into it and he told me about it.
4. Yeah, I hear about it all the time. I've never like looked into it myself though. Because I've never taken any or signed up for anything but I am aware of it and a lot of my friends do it. I first heard about it through friends doing it and I never heard about it from like teachers. I was kind of shocked that they were doing it.

The results from survey Question 1 align with students' response data from focus group interviews regarding familiarity of CiHS programs. However, the school personnel response to Question 10 suggests that familiarity may not align with understanding the difference between traditional courses and CiHS courses.

Figure 13

Student Interview Responses to Familiarity with CiHS

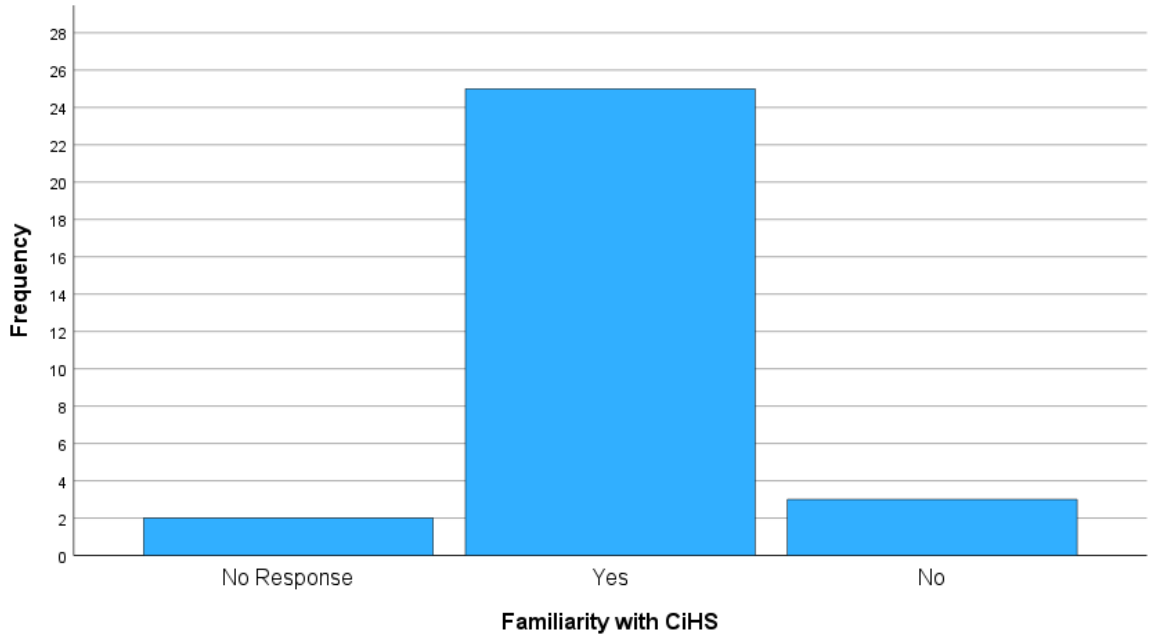
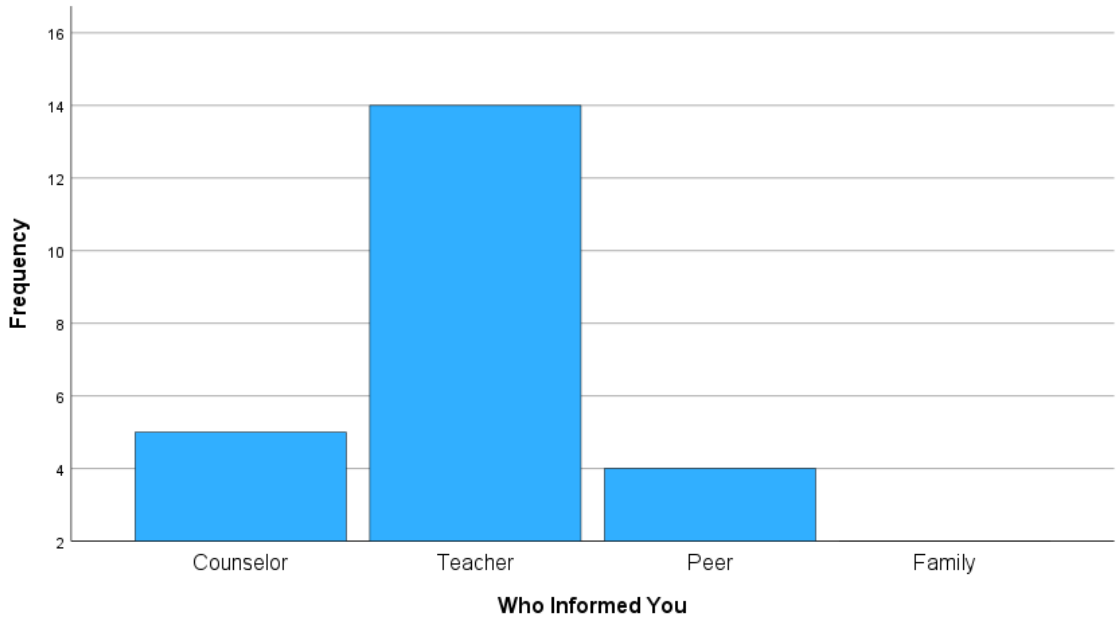


Figure 14

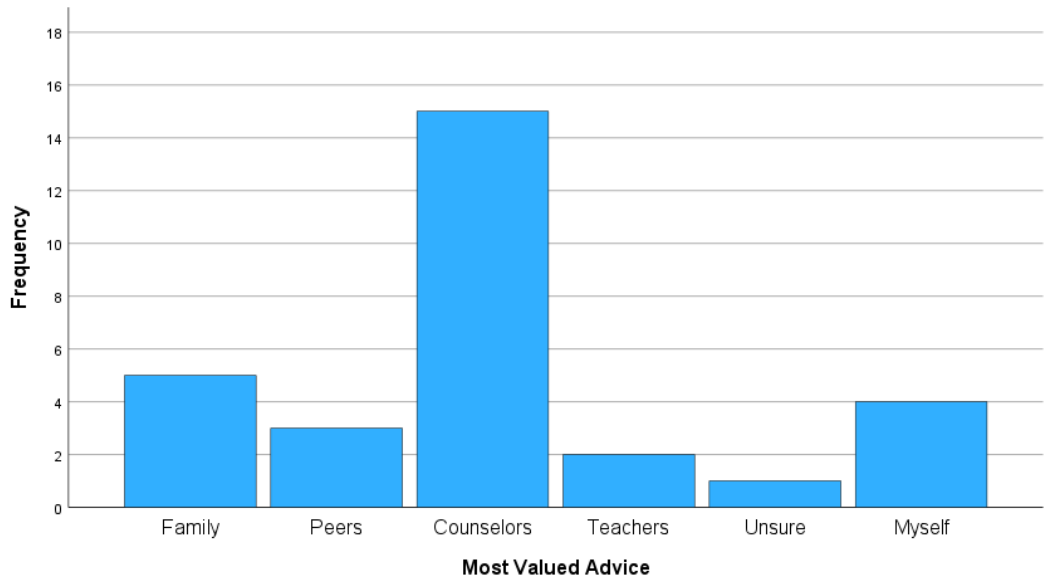
Student Interview Responses to Who Informed You About CiHS



The quantitative survey administered to school personnel and the examination of qualitative data from the focus group interview data produced overlaps in data themes around influence. Several questions in the survey asked school personnel respondents about who in student's lives influenced course choices. The focus group interviews included a question that asked students to rate in order their most influential to least influential advice provider on course taking. The researcher coded the student interview data and identified themes: family, peer, teacher, counselor, myself (Figure 15).

Figure 15

Student Interview Responses, Students' Most Influential Advice on Course-taking



Several survey questions dealt directly with peer influence in some capacity. In survey Question 2, "Students are more likely to follow peer advice on CiHS course selection than the advice of family," school personnel agreed with this statement at 80.0% (Table 15). Additionally, in Question 12, "Students' choice to take the traditional course over the CiHS option is impacted by peers' advice," school personnel agreed with this statement at 81.7%

(Table 15). Question 14, “Students are more likely to follow peers' advice on CiHS course selection than the advice of school staff,” school personnel agreed with this statement at 66.4% (Table 15). Finally, Question 15, “Students’ choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends,” school personnel agreed with this statement at 76.5% (Table 15).

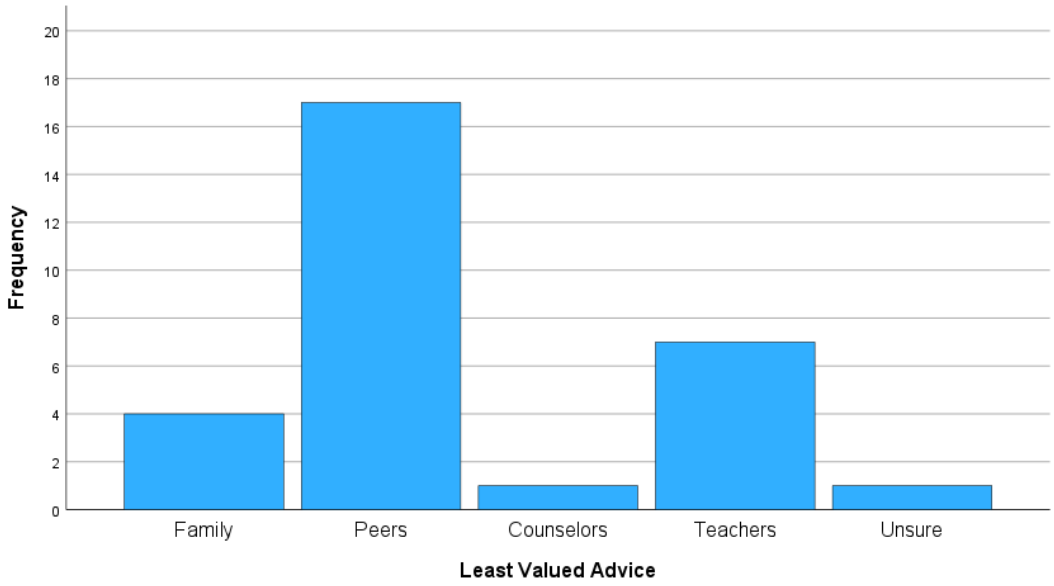
Survey data from school personnel suggested a strong connection to peer influence on course-taking behaviors, with each question producing a mean below 2.5 (Appendix H) and percent agreements between 66.4% and 81.7%. In contrast, student interview data identified peers as most influential in only 3 of 30 students (Figure 15). Additionally, 17 of 30 students rated peers as least influential (Figure 16). Students’ voice highlighted a clear message that peers were not influential in the group surveyed. Student voice in this theme included:

1. I'd say, my peers have the least influence since they haven't finished high school either, and they might want to do different career paths than me. They don't have as much influence.
2. Probably my friends just because like we're all our own individual person. My friends want to go off and do something different than I do. It's like if we have a class together that's like cool but whatever you want to do later in life is not the same as what I want to do later in life.
3. That would be freshman year, friends kind of influenced you more just because you're like you don't know what's going on. As you go farther into high school and some more serious stuff you get into and friends opinions become less important. Freshman year, you're just starting high school and it's like, you know, you're like flustered and you don't know what you're doing in class.

4. Least are my friends because they don't want the same career.

Figure 16

Student Interview Responses, Students' Least Influential Advice on Course-taking



A single question in the survey assessed school personnel's perspective on family advice. For Question 13, "Students' choice to take the traditional course over the CiHS option are following family advice," school personnel agreed with this statement at 51.6% (Table 15). Students in general spoke well of family advice. When students shared about who was most influential in helping them make decisions about CiHS courses, 5 of 30 students identified family as most influential, the second highest identified group (Figure 14). However, 4 of 30 students identified family as least influential (Figure 15). Though student responses when discussing family as least influential were not negative in tone:

1. My least would be my family but that's only because I don't have anyone that went to college. So, when I'm deciding that stuff, I kind of just do it on my own.

2. My parents, neither of them graduated from college, so they don't really know much about it.

Additionally, school personnel were asked to compare family to school staff in Question 3, “Students are more likely to follow family advice on CiHS course selection than the advice of school staff.” School personnel agreed with this statement at 52.50% (Table 15). The student response through interviews and the survey data collected both reflect a moderate influence of family advice.

The survey assessed staff advice in Question 9, which asked, “Students that choose the traditional course over the CiHS option are following the advice of school staff (advising of a teacher, counselor, or administrator).” School personnel agreed with this statement at 39.0% (Table 15). Additionally, the survey assessed the perspective of school personnel on whether students are more influenced by staff advice or peers in Question 14. This question asked, “Students are more likely to follow peers' advice on CiHS course selection than the advice of school staff.” School personnel agreed with this statement at 66.4% (Table 15). In response to both questions, school personnel did not agree that students are most influenced by school staff. However, 15 of 30 students identified counselors as providing their most valued advice, while 2 of 30 students identified teachers as providing their most valued advice (Figure 14). Student voice highlighted a clear message that counselors, in particular, are a valuable source of advice based on student groups surveyed. Student comments in this theme included:

1. I agree with that, like the counselors because they know what class is the best. They know, Oh, it's too hard for you or what not. Yeah, I'd have to say counselors because they can see your previous years and what you struggled and succeeded in; they can determine if you probably succeed in this class or do bad in that class.

2. Probably counselors, I feel like with family or like teachers, they have like a way of kind of pushing you in one direction whereas counselors just kind of give you someone to talk to and figure out. I feel like they give you good advice without telling you which way to go. So that really allows you to decide for yourself and feel comfortable making a decision for yourself.

Summary of Mixed Methods Results

A synthesis of mixed methods data revealed intriguing insights into student perceptions and decision-making regarding CiHS programs. Surveys conducted among school personnel and interviews with students converged on the observation that students exhibit a notable familiarity with these programs. However, an intriguing disparity emerged when considering the influence of peers on course selection. While school personnel data leaned towards the idea of strong peer influence, student interviews painted a contrasting picture, suggesting minimal peer sway in their decision-making process. Moreover, while school personnel data indicated moderate agreement regarding the impact of staff input on course choices, student perspectives strongly aligned with the notion that staff guidance significantly influences their decisions.

Chapter Five: Discussion

Introduction

This study utilized a concurrent mixed methods approach to explore the course-taking behavior of students in regard to the state of Washington's CiHS dual credit program. Chapter 1 presented the research questions and overview of the research objectives:

RQ1: What factors do school personnel perceive that influence students to choose a standard high school general education course over the equivalent dual credit option?

RQ2: How do school personnel perceptions differ on the behavioral intentions of students when choosing not to take dual credit courses?

RQ3: What factors do students express that influence them to choose a standard high school general education course over the equivalent dual credit option?

RQ4: How do students' experiences and motivations differ from school personnel perceptions on student course selection behaviors?

Educational researchers have explored dual credit programs like CiHS to assess their impact on student post-secondary enrollment, participation, and retention. Chapter 2 explored in detail the current state of dual credit programs in America. The comprehensive literature review included an extensive overview of dual credit as it relates to race, socioeconomics, gender, specific courses, college readiness, and other relevant issues facing high school dual credit programs.

Chapter 3 described the study's mixed methods design and methodology. The design enabled analysis and evaluation of qualitative and quantitative data. School personnel from across the state of Washington and students from each region of the state provided feedback and information on factors that influence student choice with CiHS courses. School personnel

completed a Likert survey on factors that influence student choice when deciding between a traditional high school course and CiHS. Additionally, the survey included a single open-ended question that allowed respondents to identify what they believe to be the primary reason students select a traditional course over the CiHS option when available. Student focus groups from western, central, and eastern Washington engaged in semi-structured interviews related to factors that influence student course choices. Student interview data provided student voice on the topic of CiHS course selection.

The results described in Chapter 4 include a description of the participants, survey results, demographic breakdowns, population comparisons, and interview themes. Results are broken down by survey question and the data is visualized in tables and charts. The research synthesized quantitative and qualitative data where possible to combine student voice with school personnel perspectives.

This chapter provides a summary of results with a discussion focused on the primary research questions. Additionally, the chapter includes an integration that combines quantitative and qualitative data to better understand factors that influence student course selection. Finally, the researcher evaluated the implications of the study data on the current state of CiHS and dual credit in the state of Washington.

Summary of the Results

This concurrent mixed method study explored factors that influence student course selection when selecting a traditional high school course over a CiHS course option. The following section summarizes the key results aligned with the study's primary research questions.

Research Question 1

The first research question addressed school personnel perceptions on the factors that influence students to choose a standard high school course over the equivalent CiHS course. The research survey of school personnel respondents concluded with open-ended response that explored what they see as the primary reason a student chooses the traditional high school course over the CiHS option. The themes produced by school personnel are listed with their corresponding frequency in Table 10 of Chapter 4. School personnel identified the primary reason for course selection as course workload at 51.6%. In the coding of this theme, responses referenced time commitment, difficulty of content, homework concerns, GPA effects, and academic stress, to name a few. The concept of school workload varies based on individual student factors such as academic ability, learning preferences, extracurricular commitments, and personal circumstances. While some students thrive under challenging academic demands, others experience stress, anxiety, and burnout when faced with excessive workload (Trautwein et al., 2020). Students' perceptions of workload are influenced by factors such as the complexity of assignments, time constraints, teacher expectations, and peer comparisons (Trautwein et al., 2012).

The survey asked three questions that directly pertained to course workload-related themes. School personnel identified course workload as the primary reason for traditional course selection over CiHS in open-ended responses, yet of the three survey questions that referenced workload themes, only one rated in the top third on agreement in the survey. Respondents' response to workload themes in the survey registered in agreement, however, the level of agreement was stronger in other areas surveyed. School personnel perceived course workload as the primary deterrent to students' CiHS choice in qualitative response, as they believed heavy

workloads may dissuade students from selecting these courses. This perspective reflects a concern for balancing academic rigor with students' capacity to manage their workload effectively. However, data from the survey indicated other factors with higher agreement, suggesting school personnel recognize that course choice is multi-faceted, acknowledging its complexity and considering various factors such as students' social setting, interests, abilities, academic goals, and future aspirations.

School personnel generated student interests as the second most identified theme for choosing a traditional course over the CiHS option at 21.6% (Table 9). Course selection is a pivotal component of students' educational journeys, allowing them to tailor their academic experiences to align with their interests, goals, and aspirations. Student interests and passions play a significant role in shaping course selection decisions, influencing not only academic performance but also overall engagement and motivation. Students' career aspirations and future goals can influence their choice of courses, as they consider the relevance of specific courses to their desired career paths (Watt et al., 2019).

The school personnel survey asked a single question about student interest; in Question 6, “Students’ choice to take the traditional course over the CiHS option is based on lack of interest in course content for the CiHS option,” resulted in 42% agreement (Table 15). School personnel identified student interests as the second most prominent primary reason in the qualitative response, however, the survey agreement results were in the bottom third, with more school personnel disagreeing with student interests’ impact on choice. Student interests could be a more complicated topic as there are multiple ways in which student interests impact course selection, given that both individual and contextual factors can contribute to students' choices. This data suggests that school personnel believe students to be more influenced by external factors in

course selection. Research supports the significant influence of external factors on students' academic choices. For instance, a study by Johnson and Smith (2020) found that peer pressure played a substantial role in shaping high school students' course selections, with students often opting for courses favored by their peers to fit in socially. Additionally, parent expectations emerged as a crucial influencer in students' decision-making processes, as highlighted by Jones et al. (2021), who observed that students tended to align their course choices with their parents' aspirations for their academic and career paths. Furthermore, Brown and Lee (2019) demonstrated that students from lower-income families may be more likely to prioritize courses perceived to lead to stable employment opportunities. External factors such as peer influence, parental expectations, and socioeconomic status have been shown to impact student course selections.

The direct question to school personnel on the primary reason students choose a traditional course over the CiHS option produced a total of six themes, with only three themes receiving more than 10% frequency. The theme of school advising resulted in a 10.3% response rate (Table 9). School counseling is often synonymous with school advising. School counselors play a crucial role in supporting students' development and decision-making processes during the formative years of school. School counselors provide academic support, guidance, and resources to help students set academic goals, plan coursework, and navigate challenges such as academic stress, procrastination, test anxiety, and more (Sink et al., 2012; Whiston et al., 2017). Additionally, teachers and school administrators provide guidance, feedback, and support to help students make decisions related to their academic goals, course selection, and study habits (Johnson & Cosans, 2020; MacKinnon & Scales, 2020). The survey had two questions directly related to school advising; in both questions (Questions 9 & 10), the results indicated school

personnel do not see school personnel advice as a major influencer in course choice. Furthermore, in Question 14, school personnel's response required a comparison of two groups' advice, "Students are more likely to follow peers' advice on CiHS course selection than the advice of school staff," which resulted in 66% agreement. The low identification of school advising in open responses, combined with low agreement in survey responses, indicated a moderate to low influence of school staff on course choice as viewed by school personnel. However, this is counter to current research on school personnel advising. Research indicates students often value the advice and guidance provided by school personnel when making academic decisions, perceiving teachers and counselors as trusted sources of information regarding course selection and academic pathways (Garcia & Martinez, 2022; Johnson et al., 2023).

The final three themes identified by school personnel were peer influence, course access, and course teacher at 7.0%, 5.2%, and 4.2% respectively (Table 9). Of these three themes, only course teacher was not addressed in the school personnel survey. Research suggests that students consider various factors when selecting courses, and that can include teacher preferences, among other factors. Some students may base their course choices on the reputation or teaching style of specific instructors; though this factor is just one of many that can influence their decisions.

The theme of course access had a response frequency of 5.2% from school personnel and survey results indicated that access is not a large concern. Additionally, two survey questions inquired about the presence of prerequisites from the high school or the partner college being a barrier to access, which resulted in the lowest agreement of all questions. The results indicated that course access did not pose a pressing issue for school personnel.

The theme of peer influence did not indicate high frequency in open responses from school personnel, at only 7% (Table 9), however, peer influence responses from Questions 12 and 15 of the school personnel survey indicated strong agreement with peer influence as a casual effect. The strength of agreement of these questions ranked in the top third of the questions asked and suggests a strong sense of peer influence in course choice. Additionally, Questions 2 and 14 asked respondents to compare peer advice to family advice and to staff advice, which resulted in strong agreement that students follow peer advice over family or staff advice. Of note in Question 2, not a single respondent answered with strongly disagree, the only question in the survey where this occurred. The survey suggests that school personnel see peer influence as a pervasive force that significantly shapes students' decision-making processes. The discrepancy between indicating course workload as the primary influence on student course choice in open response and peer influence agreement as highest in survey responses could stem from school personnel's desire to highlight the importance of maintaining rigor and ensuring students are adequately prepared for CiHS coursework. However, when responding to the survey, school personnel may recall instances where they observed students being more directly influenced by their peers' choices, which can be a more salient and observable factor in day-to-day interactions. Further research could delve into these perceptions to better understand the underlying factors driving school personnel's perspectives on student course choices.

Peer pressure, both direct and indirect, can exert a significant influence on decision-making (Barry et al., 2020; Dishion & Tipsord, 2011). This perception is rooted in the understanding that students are highly influenced by their social networks and peer interactions. Teachers and counselors may observe students discussing course options with their peers, seeking advice, or conforming to peer norms when making decisions. Research conducted by

Dijkstra et al. (2020) highlights the significant role peers play in shaping academic aspirations and choices. Teen students often look to their peers for validation and acceptance, leading them to emulate behaviors and preferences observed within their social circles (Bayer et al., 2019). Moreover, studies have shown that peer influence can affect academic performance directly through social comparison processes and indirectly through the adoption of peers' study habits and attitudes towards school (Wang et al., 2018).

The results of this study indicate school personnel perception on the factors that impact course-taking decisions in regards to CiHS courses focus primarily on the factors of course workload, student interests, and peer influence. Course workload factors emerged in both open-ended responses and survey results. Course workload factors such as GPA impacts, time management, course difficulty, and homework concerns showed strong agreement through open response and survey agreements. Student interest produced similar agreements from school personnel and emerged as the second most frequent theme in open response. Finally, peer influence questions produced the strongest agreement in the school personnel survey, however, resulted in only 7% of the school personnel theme response.

Research Question 2

The second research question explored how school personnel perceptions differ on the behavioral intentions of students when choosing not to take CiHS courses. The evaluation of this research question assessed the perspectives of school counselors, CiHS teachers, and school administrators. In addition, the researcher collected data from respondents on years in their current role, school size, school FRL, and the respondents' gender, which allowed for further synthesis of the data collected.

School personnel responded to an open-ended question in regard to what they see as the primary reason a student chooses the traditional high school course over the CiHS option. The themes produced from school personnel included course workload, student interest, school advising, peer influence, course access, and course teacher. The only difference of note in theme identification by school personnel grouping was that of school administrators. While the results still maintained a similar ranking of themes of course workload and student interests at 73% with each personnel group, administrators' responses were 10-15% higher in student interests and less in workload than their counterparts. School administrators also indicated a significantly higher level of agreement on Question 1 of the survey than that of school counselors. Question 1 asked respondents' level of agreement on students' knowledge and access to CiHS. The level of agreement was at 90.3% for all groups combined, however, the mean for administrators equaled 1.64 on the question, while counselors were at 1.93 (Table 16). An additional difference in school personnel data occurred in Question 15. For this question teachers had a significantly higher level of agreement than that of school administrators on students' choice of the traditional high school course over the CiHS option being impacted by the desire to enroll in the same course as their friends. School counselors and teachers are often more intimately involved in students' daily academic lives, allowing them to develop a deeper understanding of student interests and choices compared to school administrators. Counselors play a pivotal role in cultivating trusting relationships with students, providing a conducive environment for students to express their interests and aspirations freely (Martinez & Garcia, 2020). Similarly, Johnson et al. (2021) found that teachers, through regular interactions with students in the classroom, gain insights into their academic preferences and strengths, enabling them to offer personalized guidance and support. In contrast, school administrators have less direct contact with students on

a day-to-day basis, limiting their ability to discern individual student interests and choices. While administrators contribute valuable insights from a broader organizational perspective, counselors' and teachers' close interactions with students afford them a more nuanced understanding of student preferences and motivations. This could explain the discrepancy between school administrators' responses and those of counselors and teachers.

Survey respondents provided several factors about themselves and their schools that allowed for deeper comparisons. Examining the survey data for school personnel's years in their current position resulted in four questions with significant differences between categories. The categories assessed included 0-5 years, 6-10 years, 11-15 years, and 16+ years in their current position. Two of the questions identified with significant differences in years in position dealt with peer influence. Question 12 referenced choice impacted by peer advice and Question 15 referenced choice impacted by wanting to enroll in courses with peers. In both cases, school personnel with 16+ years in their current position had a significantly higher level of agreement than personnel with 11-15 years in their position, and had the highest level of agreement amongst all age groups. As staff members accumulate more experience, they develop a deeper understanding of the social dynamics within the school environment, including the extent to which peer influence shapes students' decisions. Over time, school personnel may observe recurring patterns of peer influence and its effects on student behavior and choices. Additionally, with increased experience, staff members may have had more opportunities to witness instances where peer influence played a significant role in shaping student decisions. However, absence of difference between other experience groups requires further exploration on how experience impacts school personnel perspectives with peer influence.

School personnel's years in current position also resulted in significant differences in Questions 3 and 4. Question 3 asked if students are more likely to follow family advice over staff advice on course choices. School personnel with 11-15 years in their position had a significantly higher level of disagreement than personnel with 0-5 years and 6-10 years in their position (Table 28). Of all four groups, the 11-15 years group had a mean above 2.5, the only group in disagreement on the mean. The 11-15 years group is the only group with an N value below 70, at N=38, which could explain part of the score variances. Finally, Question 4, "Our school has prerequisites to CiHS courses that keep some students from registering for the CiHS courses," resulted in a significant difference with school personnel of 6-10 years with a higher level of disagreement than 0-5 years in their position. Both means were high at 3.11 and 2.79, respectively. All respondents' data indicated a strong disagreement in regards to this question, indicating that prerequisites are not a barrier to access. Specifically, 0-5 years' experience indicated the lowest disagreement with this question. The difference in the school personnel with only 0-5 years in their role could be a result lack of systems understanding within their school CiHS program and course offerings.

The survey respondents identified their school size as 0-499, 500-999, 1000-1499, or 1500+. Using school personnel's school size as the divisor, the researcher examined a significant difference in two of the 15 questions. In Question 5, the respondents were asked to provide their level of agreement on whether students' perception of course difficulty impacts their choice. Interestingly, the means from respondents for Question 5 climbed as school size increased. The highest agreement was with small schools and the lowest agreement with the largest schools. School personnel from small schools (0-499) had a significantly higher level of agreement than respondents from the larger schools of 1000-1499 and 1500+; in addition, personnel from

schools 500-999 had a significantly higher level of agreement than respondents from schools 1500+. Research by Brown and Smith (2020) suggests that in smaller school settings, teachers and counselors have more opportunities for one-on-one interactions with students, allowing them to gain deeper insights into students' perceptions and concerns regarding course difficulty. Additionally, in smaller schools, staff members may have a better understanding of the unique academic challenges faced by individual students, enabling them to provide tailored guidance and support.

Evaluation of data related to school size also identified a significant difference in response to Question 8, which asked for level of agreement on whether partner university prerequisites are a barrier to student access to CiHS. The largest school size (1500+) personnel identified the highest level of disagreement in this question, which is significantly different than the responses from school personnel in schools of 500-999 and 1000-1499. The largest schools disagreeing with pre-requisite barriers is not surprising as they have the most course offerings and eligible teachers to instruct the courses. Additionally, all schools sizes response to the question indicated disagreement, suggesting university prerequisites are not generally a barrier to access.

Evaluation of the survey responses for school personnel based on school FRL produced significant differences in Questions 10, 13, and 15. For Question 10, course choice based on lack of understanding in course options, school personnel from schools with FRL 41-60% had a higher level of disagreement than that of personnel from schools over 60% FRL. The mean of 2.64 for FRL 41-60% leaned toward disagreement, while the mean of 2.30 for FRL over 60% leaned toward agreement with the question (Table 45). Interestingly, in the evaluation of this question for FRL, the lowest and highest FRL schools’ means leaned toward agreement, while

21-40% and 41-60% leaned toward disagreement. One possible reason for this disparity could be school resources and supports. Schools with low school FRL status typically require the least amount of support and resources due to family income and demographics. Schools with the highest school FRL often receive the highest allocation of student support and resources. Research by Martinez and Johnson (2019) suggests that students in schools with higher FRL may have limited access to external sources of information and support, resulting in a greater reliance on school personnel for academic guidance. Schools that fall into the middle range of FRL may lack the necessary support services to reach all students with academic supports.

On Question 13 of the survey, respondents evaluated the impact of family advice on CiHS course-taking. Results identified a significant difference between school personnel from schools with an FRL over 60% and that of schools with 0-20% and 21-40% FRL. Personnel from schools with over 60% FRL had a higher level of disagreement than schools with 0-20% FRL and 21-40%. It is not surprising that a school with the highest FRL would produce the most disagreement on this question. The FRL percentage in schools serves as a proxy measure for socioeconomic status and can significantly influence staff perceptions, attitudes, and practices (Robson & O'Neal-Scheiss, 2020). The final question that produced significant differences between school FRL dealt with whether students choose courses in order to be with friends. In Question 15, school personnel from schools with over 60% FRL had a higher level of agreement with this question than personnel from schools with 41-60% FRL. School personnel perceptions, attitudes, and practices are influenced by the socioeconomic composition of the student body, and it can have implications for instructional practices, student support, and school climate (Lee & Villarreal, 2022).

Analysis of school personnel survey data also explored differences based on personnel's gender. Independent t-tests resulted in two questions with significant differences. In Question 1, school personnel responded to whether students know what CiHS is available and how to register. Male respondents had a significantly higher level of agreement than females on this question. Additionally, Question 6 asked personnel to respond to whether the lack of CiHS choice is based on students' lack of interest in the course content. In this response, male personnel had a significantly higher level of disagreement than female personnel. Research studies on how school personnel gender influences staff perceptions of students are relatively limited. Research by Ramadhan et al. (2019) found that teachers' perceptions of students' math abilities were influenced by gender stereotypes. The study found that boys often are perceived as more naturally talented in math than girls. This stereotype can impact the expectations and support provided to students, potentially affecting outcomes. Additionally, research performed by Rubie-Davies et al. (2015) found that male and female teachers may adopt different interaction styles and communication patterns with students, which can influence perceptions and student engagement. School personnel differences by gender are not well known and showed little impact in this study.

Research Question 3

The third research question explored what factors students express that influence them to choose a standard high school general education course over the equivalent CiHS option. Students interviewed across that state of Washington ranged from 10th grade to 12th grade, all possessed a 3.0 GPA or higher, and had chosen a traditional high school course over a CiHS option. The student respondents were asked to identify their primary reason for choosing a traditional course over the CiHS option. The themes produced for their course choice included

students’ interest at 47%, course workload at 43%, course access at 7%, and course teacher at 3% (Table 8).

School workload assigned to a student is a significant factor influencing students' academic experience. Students in this study expressed concerns with course difficult and homework demands. While work in school is necessary, poorly managed workload can have detrimental effects on students' well-being, motivation, and academic performance (Trautwein et al., 2020). Additionally, students in this study identified concerns with GPA reduction, time spent on homework, stress to perform, and wanting a course that would increase GPA. Student GPA is crucial in high school for post-secondary education as it serves as a key indicator of academic achievement and readiness for college or university. Admissions officers often use GPA as a primary factor in evaluating applicants' academic performance and potential success in higher education. Numerous colleges and universities use GPA alone to determine financial awards. Research by Smith and Johnson (2020) confirmed the significance of GPA in college admissions, highlighting its role in predicting students' academic readiness and likelihood of success in post-secondary institutions. However, others argue the rigor of the courses taken in high school holds greater importance than GPA for post-secondary education as it reflects students' academic preparation and ability to handle challenging coursework. Research by Garcia and Martinez (2019) emphasized that admissions officers often prioritize the rigor of students' high school curriculum over their GPA, as it demonstrates their willingness to engage in rigorous academic pursuits and readiness for the demands of college-level coursework. Students in this research clearly indicated the impacts of workload as a large factor in choosing traditional high school courses over the CiHS option.

Additionally, students' personal interests and hobbies often inform their course selection decisions, as they seek opportunities to explore subjects that connect with their passions. Students in this study communicated choosing classes that fit their interests and selecting courses that aligned with their career pursuits, and several communicated that college after high school was not the goal. Student choice based on their interests is an example of self-determination theory. This theory explains that humans have three basic psychological needs: autonomy, competence, and relatedness. These needs drive intrinsic motivation and optimal functioning, emphasizing the importance of individuals' choices, sense of capability, and social connections in fostering well-being and growth (Ryan & Deci, 2017). This study's findings from student voice strongly support the idea of self-determination, 47% of students in this study communicated that their interests impact their choice of a traditional high school course over the CiHS option. High school students possess the capacity to make course choices in their best interests, as they are equipped with the autonomy to align their academic pursuits with their interests and career goals.

Research Question 4

The fourth research question examined how students' experiences and motivations differ from school personnel's perception of student course selection behaviors. Qualitative analysis of both the school personnel and the student focus groups revealed similarities and differences. Both groups identified the themes of student interests, course workload, course access, and course teacher. School personnel data identified two additional themes of school advising and peer influence that were not present in student data. In both groups, the majority of respondents identified either student interests or course workload as the primary reason students select the traditional high school course over the CiHS option.

School personnel produced student advising as a theme in their open response on primary reason for choosing a traditional high school course over the CiHS option, however, students did not. Additionally, the survey had two questions dealing with school advising and in both cases school personnel did not agree that students are most influenced by school staff. However, when students interviewed on the topic of who provided them the most valued advice on course decisions, 17 of 30 students identified school personnel as providing their most valued advice. Student voice highlighted a clear message that counselors, in particular, are a valued source of course advice. School personnel play a pivotal role in supporting students in course selection by providing personalized guidance tailored to students' academic abilities and interests. School personnel have significant influence in helping students navigate the complexities of course selection, ensuring alignment with their educational and career goals. School personnel serve as advocates for students, advocating for equitable access to educational opportunities and addressing any barriers that may hinder their academic success (Martinez & Garcia, 2020).

School personnel also identified peer influence in open response as a primary reason for course choice. Additionally, the survey data from school personnel suggested a strong connection to peer influence on course taking behaviors. In contrast, student interview data identified peers as most influential for only 3 of 30 students, with 17 of 30 students rating peers as least influential. Student voice highlighted a clear message that peers were not influential in the course decision-making process. The results of this study from the staff perspective strongly support the idea of peer influence, while student voice data strongly supports that student course decisions are not impacted by peers.

The influence of peers on course decisions among high school students is a topic of ongoing debate. Proponents argue that peers exert a significant influence on course selections, as

students may be swayed by the choices and preferences of their friends or social circles (Johnson & Smith., 2020; Laursen & Veenstra, 2021; Wentzel et al., 2021). A study by Johnson and Smith (2020) supports this idea and highlights the role of peer pressure in shaping students' academic decisions regarding course selection and activities. Conversely, others contend that while peers may have some influence, other factors such as students' individual interests, academic goals, and guidance from school staff play more substantial roles in course selection (Blake, 2020; Brown & Garcia, 2022; Mulhern, 2020). Students are likely to make course decisions based on a combination of factors, including peer influence, but also considering personal motivations and aspirations (Brown & Garcia, 2022). Thus, while peer influence may indeed play a role in course decisions, its impact may vary depending on individual circumstances and the broader context of students' academic situation.

School personnel's and student's responses produced a theme of course access in the qualitative data. The school personnel identified course access as a barrier in 5.2% of the responses. Similarly, only 2 of 30 (6.7%) students identified course access as a barrier to CiHS. Students and school personnel mentioned scheduling conflicts, no available seats in the course, and prerequisites. Additionally, several questions addressed course access in the school personnel survey. In each case the school personnel overwhelming aligned with students understanding what is available and that access is not a barrier for student choice of CiHS courses. Many high schools have established collaborations with nearby colleges, offering students opportunities to enroll in CiHS. It is anticipated that by 2025 CiHS will be the largest dual credit program in the state of Washington in regards to student participation (OSPI, n.d.).

The final theme identified by both school personnel and students in qualitative data dealt with course teacher. Students' choice of teacher can be influenced by who teaches the course due

to the significant impact teachers have on the learning experience. Teacher effectiveness plays a crucial role in student outcomes, affecting factors such as academic achievement and engagement. Students are more likely to select courses taught by teachers whom they perceive as knowledgeable, supportive, and engaging. Additionally, students may have preferences based on teaching style, rapport with the instructor, or prior positive experiences (Kraft & Papay, 2019). Thus, the choice of teacher can greatly impact students' motivation, enjoyment of the subject matter, and overall success in the course.

Conclusion

Participation and completion of dual credit coursework is identified as a predictor of postsecondary success (An, 2015; Grubb et al., 2017; Moreno et al., 2021; Villarreal, 2017). As a result, 97% of Washington State high schools offer some form of dual credit opportunity, with 64.5% of all students engaged in at least one dual credit course in 2022-23 school year (OSPI, n.d.). College in the High School (CiHS) made up 15.7% of the dual credit in Washington and will likely surpass AP as the largest dual credit program in Washington in 2024 (OSPI, n.d.).

In this study, the researcher sought to identify what factors influence student course-taking behavior in relationship to CiHS courses and if there are barriers to CiHS access. Course workload emerged from both school personnel and students as a reason why students choose a traditional high school course over a CiHS option. Course workload is a complex idea that encompasses a breadth of factors. Workload can consist of course content, time management, GPA implications, psychological well-being, student effort, outside school responsibilities, and more (Huang & Cornwell, 2020; Trautwein et al., 2020). School workload plays a significant role in shaping students' academic decision-making and educational experiences. By understanding how students perceive and respond to workload demands, educators can

implement strategies to support students in managing workload effectively and promoting positive academic outcomes. Course workload is often perceived as the most obvious or reasonable barrier preventing students from choosing rigorous courses, as heavier academic demands may deter students from opting for more challenging coursework.

The findings also support the impact of students' interests on course selection behavior. Student data clearly supported the concept of student autonomy and choosing courses that support their interests and passions. Additionally, school personnel identified student interest as a key factor in course selection. Students' personal interests often inform their course selection decisions as they seek courses to explore subjects that connect with their personal pathway. Students' career aspirations and future goals can influence their choice of courses, as they consider the relevance of specific courses to their desired career paths. Student interests play a pivotal role in course selection decisions, shaping students' academic experiences and trajectories. By understanding the multiple influences that factor into students' choices, educators, counselors, and administrators can design interventions and CiHS programs that support students' exploration and pursuit of courses aligned with their interests and that provide dual credit opportunities.

While the qualitative findings clearly produced the themes of workload and student interests from school personnel, three of the top five survey agreements among school personnel pertained to the influence of peers in course decision-making. Interestingly, students did not identify peers as a theme. When students were asked to identify where they receive their most influential advice, only two students identified peers. Similarly, when asked which advice is least influential, they predominantly identified peers. In many educational settings, school staff members often perceive that peers play a significant role in influencing students' course choices.

Research on peer influence suggests it operates through various mechanisms, including conformity, social comparison, and peer pressure. Students may conform to peer norms to avoid social rejection or to gain approval, even if it means compromising their preferences or values. This study's findings suggest school staff perceive peer influence as significant. The results of the school personnel survey clearly indicated a fixed mindset on peer influence for student course selection. School personnel agree with the social learning theory or social cognitive theory. This theory, proposed by Albert Bandura, suggests that individuals learn from observing, imitating, and modeling the behavior of others within their social environment, particularly those they perceive as similar or influential (Bandura, 1977). School personnel have a strong belief that students are influenced by peers.

The study also found years in their position of school personnel impacted personnel's perception of peer influence on choosing a traditional course over the CiHS option. School staff members with more years of experience in education may have accumulated greater expertise in understanding student behavior, learning styles, and developmental needs. Conversely, research also suggests that long-standing stereotypes and biases may influence the perceptions and expectations of educators, particularly toward students from marginalized or underrepresented groups (Gershenson et al., 2016). Educators with more years in education may be more susceptible to the influence of these stereotypes, impacting their interactions with students.

However, student perspectives outlined in this study do not align with the social learning theory. While peer influence can undoubtedly shape some course choices, students may also prioritize personal interests, academic goals, and future aspirations when making decisions about their education. Moreover, research suggests that students value autonomy in their course selection process, seeking opportunities for self-expression and individual growth (Lauermann &

Karabenick, 2011; Vasalampi et al., 2020). This study's student data emphasized the importance of personal choice and self-directed decision-making in shaping student course choices. The study's results indicated a disconnect between school personnel's perception and student voice as it relates to peer influence. Student data collected did not produce any codes or themes related to peer influence in choosing courses. The theory of self-determination emphasizes individuals' intrinsic motivation, autonomy, and competence in decision-making processes (Ryan & Deci, 2017). According to self-determination theory, people have innate psychological needs for autonomy, competence, and relatedness. Within the context of young people making decisions, self-determination theory suggests that students have the capacity to make choices based on their own preferences, interests, and goals, rather than being solely influenced by external factors such as peer pressure. The results of this study suggest a juxtaposition between social cognitive theory and self-determination theory as it relates to perceptions of the adults in the school system and the students they serve. The findings of this study support the notion that high school students are capable of making important course choices that impact their future. High school students are capable of weighing options, understanding consequences, and making informed decisions about their future.

The study did not identify much difference in school personnel position groups on their perspective of the primary reason students choose a traditional high school course over the CiHS option. School counselors, CiHS teachers, and school administrators identified course workload and student interests as the primary reasons in qualitative response. However, school administrators identified student interests at a higher rate than the other groups and equivalently less for workload. Administrators' perceptions of students favored more toward student interest than teachers and counselors. Administrator's perceptions can be shaped by disciplinary

incidents, attendance records, and academic data, as well as interactions with teachers, counselors, and parents. School administrators oversee the overall functioning of the school, including policies, procedures, and organizational culture which is a different perspective than those that they supervise.

The survey identified a significant difference between personnel groups in two questions. The first was in student familiarity with CiHS courses; administrators were in stronger agreement than counselors. Secondly, teachers had a higher level of agreement than administrators on students taking courses with their peers. School teachers, counselors, and administrators each bring unique perspectives, responsibilities, and expertise to their roles, shaping their perceptions and interactions with students. Administrators' broader scope of responsibilities can shape their perspectives on student needs, educational priorities, and school improvement initiatives. Their perspectives may be influenced by considerations such as school accountability measures, district mandates, and community expectations. In contrast, teachers and counselors may focus more on individual student needs and classroom dynamics, leading to potential differences in perspectives on educational practices and priorities (Hargreaves & Fullan, 2012; Shen & Gao, 2021).

Administrators are the most removed from the classroom and direct student contact, which could suggest a less-informed perspective on the daily workload and interests of students. While school administrators oversee daily school functions, school counselors serve as advocates for students' social, emotional, and academic well-being, providing counseling, guidance, and support services. Counselors' perceptions of students are informed by their interactions in counseling sessions, assessments, and interactions with teachers, parents, and administrators. This would suggest counselors are more aligned with students' knowledge of school systems.

The results of this study indicated that administrators are more inclined to believe that students understand their interests and what courses are available. The results indicated that administrators believe students act on those interests for CiHS course selection. However, those closest to students daily, teachers and counselors, acknowledged student interests as a factor but not as vigorously. Data suggested that counselors and teachers agreed with the influence of student interests in CiHS course selection, but saw workload playing a more significant influence. Counselors and Teachers are closer to students on a daily basis and are more likely to understand the factors that impact student choice. Student voice highlighted a clear message that counselors, in particular, are a valued source of course advice. High school counselors are essential for providing students with personalized support, academic guidance, and career exploration opportunities, which are crucial for academic success and preparing students for post-secondary pathways.

The size of a school is a fundamental aspect of its organizational structure, with implications for staff members' experiences, interactions, and professional practices. While research has documented the effects of school size on student outcomes, less attention has been paid to how school size influences staff perceptions and practices. This research disaggregated survey results of staff perceptions on students choosing a traditional high school course over the CiHS option by respondents' schools. The results showed small school personnel had a significantly higher level of agreement than larger school personnel on whether course difficulty impacts course choice. The perception of workload impact as a factor of school size produced agreement that decreased as school size increased. The larger the high school, the more challenges it faces to maintain a student-centered focus. Larger high schools may prioritize efficiency and standardization of practices, similar to industrial or business settings. This could

manifest in the implementation of more standardized curriculum, formal assessment protocols, and performance metrics to ensure accountability and effectiveness that can change how staff see course barriers. This could indicate that larger schools have more robust support services, such as counselors and academic advisors, who can assist students in navigating course selections and managing workload.

Additionally, the survey asked for level of agreement on whether partner university prerequisites are a barrier to student access to CiHS. The largest school size respondents had the highest level of disagreement with this question and were significantly different than small school respondents. In larger schools with more extensive course offerings and diverse student populations, the school personnel may perceive that students have greater flexibility in selecting courses based on their interests or may have more CiHS offerings based on school size. When courses contain prerequisites, it can shrink the eligible students that can enroll, larger schools would have more students that could meet course prerequisites. Larger high schools typically offer more dual credit courses and possess a broader range of resources compared to their smaller counterparts, facilitating a more extensive selection of educational offerings and support services that could prepare students for access. Additional data from survey respondents on the number of CiHS courses offered in their school would be valuable data to address this question.

Evaluation of FRL data produced a few differences in response to the survey questions. Of notable interest, school personnel from schools with FRL over 60% had a significantly higher level of disagreement with the impact of family advice on choosing a traditional high school course over the CiHS option than schools with 0-20% and 21-40%. Unfortunately, this data supports the idea that school personnel may perceive students from lower-income families as having different educational priorities compared to their peers from higher-income homes.

Personnel may believe that students' course choices reflect their aspirations for post-secondary education. Current research suggests that school FRL can shape school personnel perceptions on how students engage with their academics and their post-secondary goals (Egalite et al., 2018; Robson & O'Neal-Scheiss, 2020).

Recommendations for Further Research

This study possessed a strong focus on the perspectives of school personnel with regard to reasons why students choose the traditional course over the CiHS option. The research presented both quantitative and qualitative data from school personnel. The research presented in this study on students only included student qualitative data. High school students could be a target population for a repeat of the quantitative survey used in this study. A side-by-side comparison of perceptions would provide valuable insight into how school personnel and student perceptions align or diverge.

Further consideration should be given to expanding the population of student respondents. The difficulty in engaging students in surveys comes from informed consent. Student participation in interviews provided a better path for obtaining permissions. The current study obtained a diverse sampling of students from the six schools assessed for focus group interviews. However, if the number of schools studied were doubled or tripled, the additional student data would amplify student voice and potentially better inform the study's research questions.

School personnel's perception of the research survey produced some intriguing differences based on the demographics of the respondents and the types of school demographics of the respondents. Further research consideration should be given to exploring how the type of school impacts school staff perceptions along a variety of school initiatives including dual credit.

The research found significant differences among several survey questions for school size and school FRL. Additionally, the number of years of school personnel in their current position and their gender produced differences in respondents' dual credit perceptions, which are two areas of education demographics with very little primary research. Additional school demographics such as school location, school district, English language learners, and student mobility should be considered.

The current study focused on the CiHS dual credit program in the state of Washington. Of the respondents, 97% also indicated they had Running Start dual credit, 84 % had AP courses, 80% had tech prep/CTE dual credit, and 1% had IB or Cambridge. Each of these dual credit programs is unique in what and how they offer courses. Similar research on barriers to access, student motivations to choose the alternate path, and student perception of choice would be valuable research to school, district, and state leaders providing and funding dual credit. Additionally, most states have programs similar to CiHS and replicating similar work in those states would expand our knowledge on why college ready students choose a traditional high school course when a dual credit option is available.

Finally, high schools and university partners would benefit from continued monitoring of course completers in post-secondary education programs. Universities should engage in research comparing CiHS completers with general admittance students. A longitudinal study tracking students from high school to post-secondary enrollment, second-year enrollment, and finally, degree completion would provide program validity. Additionally, universities should engage in comparing current university students enrolled in courses equivalent to CiHS courses with those in the high school CiHS courses, investigating whether course performance correlates to similar collegiate success as their counterparts.

Implications for Professional Practice

The state of Washington's economy relies heavily on industries such as technology, aerospace, healthcare, and advanced manufacturing, which often require employees with postsecondary education and specialized skills. According to the Washington State Employment Security Department (WSESD, 2024), occupations requiring a bachelor's degree or higher are projected to grow faster than average, indicating continued demand for highly educated workers. Jobs in the state of Washington are expected to require higher levels of education and specialized skills. The Washington Roundtable Credential Report (2024) highlights the growing misalignment between workforce credentials and employer demand, underscoring the importance of producing graduates with the necessary skills and qualifications to meet future workforce needs. Washington employers are projecting that 70% of available employment in Washington will require employees who possess a postsecondary credential, degree, apprenticeship, or industry certificate (Washington Roundtable, 2024). In response to these employment demands, the state of Washington has placed emphasis on high school dual credit programs to facilitate smoother transitions from high school to college and credentials.

This study's findings identified workload factors and student interests as the top barriers for students in accessing CiHS programs. State educational systems and high schools should seek solutions to target these areas to support CiHS participation and success. To address workload factors, educational systems should allocate resources to provide additional academic support services for students enrolled in dual credit courses. These supports could include tutoring, study groups, or access to online resources that help students manage their workload and succeed academically. Additionally, high school teachers involved in CiHS programs should receive specialized training and support to effectively deliver college-level coursework and support

students with workload concerns. Furthermore, recognizing that workload concerns can impact students' mental health and well-being, educational systems should invest in mental health resources and support services. This could include counseling services and stress management workshops. Finally, offering a weighted GPA for CiHS courses would provide an incentive for students to enroll in these courses. Weighted GPAs typically give more weight to advanced or honors-level courses; students would be more motivated to take CiHS courses to boost their GPA, improve their academic standing, all while protecting negative impacts to GPA with the additional grade cushion.

Student interests play a significant role in CiHS course selection. Educational systems and high schools should ensure that students have access to comprehensive information about CiHS options, including course offerings, eligibility criteria, and potential benefits. Counselors and advisors play a crucial role in helping students explore their options, understand the implications of participating in CiHS programs, and make informed decisions about their academic pathways. School districts, in collaboration with university partners, should explore ways to expand course offerings so that students can engage in college credit accumulation through CiHS while also exploring courses that may have personal interest. Involving parents in the decision-making process could also support students interested in CiHS courses. Schools can host informational sessions or workshops for parents to learn about the benefits of CiHS programs and address any concerns students and parents may have, which could lead to a better understanding of the benefits of credits acquired while still in high school.

Student voice is essential for understanding student motivations and behaviors in high schools because it provides valuable insights into the lived experiences, perspectives, and needs of students. Students are the primary stakeholders in the educational system, and their

experiences shape the effectiveness of teaching and learning. By listening to student voice, school personnel gain firsthand insights into students' perspectives, including their academic interests, aspirations, challenges, and concerns. The findings in this study clearly show that what school personnel perceive of students does not always align with what students express. Students can provide valuable feedback on the factors that impact their learning experiences, including dual credit courses, school climate, social dynamics, and access to resources. By listening to student voice, schools can identify and address barriers to learning for all students.

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Appendix A

CiHS Survey – Given via Qualtrics

Consent – If no, done

Does Your School offer College in the High School Dual Credit Courses: Yes/No

If no - done

School Position: Administrator, Counselor, Teacher

Number of years in your current position: 0-5, 6-10, 11-15, 15+

Gender: M – F - O

School Size: 0-499, 500-999, 1,000-1,499, 1500+

Approximate Student FRL: 0-20%, 21-40%, 41-60%, 61-80%, 81%+

Other than CiHS, what Dual Credit Programs does your school provide (Mark all that apply):

- Advanced Placement (AP)
- Cambridge
- International Baccalaureate (IB)
- Running Start (RS)
- Tech Prep (CTE Articulations)
- Other:_____

SD-Strongly Disagree D-Disagree A-Agree SA-Strongly Agree

No.	Questions	SD	D	A	SA
1	Students know what CiHS courses are available to them and how to register for them				
2	Students are more likely to follow peer advice on CiHS course selection than the advice of family				
3	Students are more likely to follow family advice on CiHS course selection than the advice of school staff				
4	Our school has prerequisites to CiHS courses that keep some students from registering for the CiHS courses				
5	Students' choice to take the traditional course over the CiHS option is based on the perception that the CiHS course is more difficult				
6	Students' choice to take the traditional course over the CiHS option is based on lack of interest in course content for the CiHS option				
7	Students' choice to take the traditional course over the CiHS option is based on grade considerations, specifically the potential impact on their GPA				
8	Our partner university for CiHS has prerequisites to the CiHS courses that keep some students from registering for the course				
9	Students that choose the traditional course over the CiHS option are following the advice of school staff (advising of a teacher, counselor, or administrator)				
10	Students' choice to take the traditional course over the CiHS option is because they do not understand the differences between the course options				
11	Students' choice to take the traditional course over the CiHS option is based on time concerns or workload				
12	Students' choice to take the traditional course over the CiHS option is impacted by peers advice				
13	Students' choice to take the traditional course over the CiHS option are following family advice				

14	Students are more likely to follow peers' advice on CiHS course selection than the advice of school staff				
15	Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends				

Open Ended-Free Response

16	Please describe what you see as the primary reason why students select the traditional high school course over the CiHS course option

Appendix B

Pilot Survey Feedback Form

Were the directions clear on the survey and how to properly mark your answers?

___Yes _____No

If No, please explain what you found unclear_____

_____

_____

_____

If No, What recommendations od you have to increase clarity?_____

_____

_____

_____

_____

Do you feel the survey provided adequate options to provide your perception on what factors influence student course decisions with CiHS? _____Yes _____No

If No, please elaborate:_____

_____

_____

_____

_____

_____

Appendix C

Site Permission Request Letter

(sent via email)

[redacted]
Association of Washington School Principals (AWSP)
1021 8th Ave SE
Olympia, WA 98501

Hello Dr. [redacted],

My name is Brent Osborn and I am a doctoral student in the educational leadership at Northwest Nazarene University (NNU). I am researching factors that influence student course selection in relationship with college in the high school courses in Washington State.

I would like to survey high school principals across the state engaged in leading dual credit in their schools. I would like to discuss with you the possibility of your organization, AWSP, pushing my survey request out to your members via your engagement portal.

Please see the attached approved Institutional Review Board (IRB) documentation. Please contact me with any questions that you might have and I look forward to speaking with you soon.

Thank you,

Brent Osborn
Cell (509) 342-0569
brentosborn@nnu.edu
Doctor of Education Student
Department of Education
Northwest Nazarene University

Brent Osborn
Principal
Lakeside High School
bosborn@9mile.org

Appendix D

Site Permission Letter

September 29, 2022

Northwest Nazarene University
Attention: HRRC Committee
Helstrom Business Center 1st Floor
623 S. University Boulevard
Nampa, ID 83686

RE: Research Proposal Site Access for Mr. Brent Osborn

Dear HRRC Members:

This letter is to inform the HRRC that the Association of Washington School Principals has reviewed the proposed dissertation research plan including subjects, assessment procedures, proposed data and collection procedures, data analysis, and purpose of the study. Mr. Osborn has permission to conduct his research study using the communication of AWSP. The authorization dates for this research study are June 15, 2023-June 15, 2024.

Respectfully,

[redacted]
Executive Director
AWSP

Appendix E

Site Specific Authorization to Conduct Research

August 1, 2023

Dear NNU Institutional Review Board:

The purpose of this letter is to inform you that I give Brent Osborn permission to conduct the research titled COURSE SELECTION OF DUAL CREDIT IN THE HIGH SCHOOL: FACTORS INFLUENCING STUDENT PARTICIPATION at Curtis High School.

I understand that Mr. Brent Osborn in partnership with school personnel will receive consent for all participants. Any data collected by Mr. Brent Osborn will be kept confidential and will be stored securely.

Sincerely,

[redacted]

[redacted]
Principal
[redacted] High School

Appendix F

Focus Group Interview Protocol

COURSE SELECTION OF DUAL CREDIT IN THE HIGH SCHOOL: FACTORS INFLUENCING STUDENT PARTICIPATION

Focus Group Date:

Location:

Interviewer: Brent Osborn

Focus Group Pseudonyms:

Introduction

Thank you for agreeing to participate in this focus group on course selection surrounding College in the High School options. I am a doctoral student at Northwest Nazarene University in the Educational Doctorate Leadership program. This focus group is a part of a research dissertation. During this interview I will ask a series of questions for discussion and I will ask each of you to answer them honestly based on your experience in school. Based on the group's responses to questions there might be additional follow-up questions. The interview will take no longer than 60 minutes.

With your permission, I would like to record this interview to ensure I correctly capture your comments. The focus group will be transcribed verbatim and used for my research study. To protect your identities, everyone will be assigned a pseudonym name and the recording will be securely stored on a password-protected computer. Please keep what you hear today confidential. What is shared in this room, stays in this room. Your participation in this interview is voluntary. You may refrain from answering a question without consequence. You may withdraw from the interview at any time and it will not be held against you. If this occurs, all data associated with your answers will be removed from the study.

I will moderate today's discussion. I would like for you to respond to the questions I pose by sharing your honest experiences. Know that your insights will be held to the highest level of confidentiality and fidelity.

Do you have any questions before we begin?

Research Questions

What factors do students express that influence them to choose a standard high school general education course over the equivalent dual credit option?

How do students' lived experiences differ from school personnel perceptions on student course selection behavioral intentions?

Questions:

1. Are you familiar with the dual credit program college in the high school and you aware of college in the high school courses offered in your school?

2. How do you hear about college in the high school opportunities in your school?

3. You are in this group today because you have opted to not take a college in the high school course when the option was available. What would you say is your primary reason for taking the traditional high school course over the CiHS option?

4. Are there other reasons that also contributed to you not taking CiHS?

5. From what you know about CiHS courses, what do you see as the possible benefits of taking those courses?

6. What do you see as possible negatives or consequences to taking CiHS courses?

7. In choosing what courses to take, who's advice do you value the most?

8. Do you plan on attending community college or university after high school?

9. Which group for you plays the biggest role in influencing your courses choices – peers/friends, family, teachers, or counselors?

Appendix G

Complete Survey Results

	Strongly Agree	Agree	Disagree	Strongly Disagree
Q1 Students know what CiHS courses are available to them and how to register for them.	87	165	23	4
Q2 Students are more likely to follow peer advice on CiHS course selection than the advice of family.	52	168	55	0
Q3 Students are more likely to follow family advice on CiHS course selection than the advice of school staff.	12	133	125	6
Q4 Our school has prerequisites to CiHS courses that keep some students from registering for the CiHS courses.	11	56	142	70
Q5 Students' choice to take the traditional course over the CiHS option is based on the perception that the CiHS course is more difficult.	51	155	67	5
Q6 Students' choice to take the traditional course over the CiHS option is based on lack of interest in course content for the CiHS option.	7	110	144	15
Q7 Students' choice to take the traditional course over the CiHS option is based on grade considerations, specifically the potential impact on their GPA.	32	132	109	6
Q8 Our partner university for CiHS has prerequisites to the CiHS courses that keep some students from registering for the course.	14	76	151	37
Q9 Students that choose the traditional course over the CiHS option are following the advice of school staff (advising of a teacher, counselor, or administrator).	19	89	153	16
Q10 Students' choice to take the traditional course over the CiHS option is because they do not understand the differences between the course options.	20	114	130	12
Q11 Students' choice to take the traditional course over the CiHS option is based on time concerns or workload.	50	182	43	2
Q12 Students' choice to take the traditional course over the CiHS option is impacted by peers advice.	44	179	49	1
Q13 Students' choice to take the traditional course over the CiHS option are following family advice.	5	137	129	4
Q14 Students are more likely to follow peers' advice on CiHS course selection than the advice of school staff.	27	157	91	2
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	33	179	61	4

Appendix H

School Personnel Survey Data for all Questions

Table H1

Descriptives Statistics-School Personnel Responses Data

						95% Confidence Interval for Mean	
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
Q1 Students know what CiHS courses are available to them and how to register for them.	Teacher	86	1.84	.648	.070	1.70	1.98
	Counselor	97	1.93	.665	.068	1.79	2.06
	Administrator	96	1.64	.583	.059	1.52	1.75
	Total	279	1.80	.642	.038	1.72	1.88
Q2 Students are more likely to follow peer advice on CiHS course selection than the advice of family.	Teacher	82	1.96	.675	.075	1.82	2.11
	Counselor	97	2.01	.604	.061	1.89	2.13
	Administrator	96	2.05	.605	.062	1.93	2.17
	Total	275	2.01	.625	.038	1.94	2.09
Q3 Students are more likely to follow family advice on CiHS course selection than the advice of school staff.	Teacher	83	2.42	.566	.062	2.30	2.55
	Counselor	97	2.49	.597	.061	2.37	2.62
	Administrator	96	2.44	.678	.069	2.30	2.57
	Total	276	2.45	.616	.037	2.38	2.53
Q4 Our school has prerequisites to CiHS courses that keep some students from registering for the CiHS courses.	Teacher	86	2.98	.782	.084	2.81	3.14
	Counselor	97	2.89	.815	.083	2.72	3.05
	Administrator	96	3.05	.745	.076	2.90	3.20
	Total	279	2.97	.781	.047	2.88	3.06
Q5 Students' choice to take the traditional course over the CiHS option is based on the perception that the CiHS course is more difficult.	Teacher	86	2.05	.766	.083	1.88	2.21
	Counselor	96	2.13	.715	.073	1.98	2.27
	Administrator	96	2.10	.624	.064	1.98	2.23
	Total	278	2.09	.700	.042	2.01	2.18
Q6 Students' choice to take the traditional course over the CiHS option is based on lack of interest in course content for the CiHS option.	Teacher	83	2.66	.703	.077	2.51	2.82
	Counselor	97	2.54	.560	.057	2.42	2.65
	Administrator	96	2.63	.637	.065	2.50	2.75
	Total	276	2.61	.632	.038	2.53	2.68
Q7 Students' choice to take the traditional course over the CiHS option is based on grade considerations, specifically the potential impact on their GPA.	Teacher	86	2.33	.774	.083	2.16	2.49
	Counselor	97	2.34	.660	.067	2.21	2.47
	Administrator	96	2.29	.679	.069	2.15	2.43
	Total	279	2.32	.701	.042	2.24	2.40
Q8 Our partner university for CiHS has prerequisites to the CiHS courses that keep some students from registering for the course.	Teacher	86	2.85	.775	.084	2.68	3.01
	Counselor	96	2.73	.747	.076	2.58	2.88
	Administrator	96	2.71	.710	.072	2.56	2.85
	Total	278	2.76	.743	.045	2.67	2.85
Q9 Students that choose the traditional course over the CiHS option are following the advice of school staff (advising of a teacher, counselor, or administrator).	Teacher	85	2.60	.621	.067	2.47	2.73
	Counselor	97	2.60	.745	.076	2.45	2.75
	Administrator	95	2.60	.735	.075	2.45	2.75
	Total	277	2.60	.703	.042	2.52	2.68
Q10 Students' choice to take the traditional course over the CiHS option is because they do not understand the differences between the course options.	Teacher	85	2.42	.746	.081	2.26	2.58
	Counselor	97	2.54	.693	.070	2.40	2.68
	Administrator	94	2.49	.652	.067	2.36	2.62
	Total	276	2.49	.695	.042	2.40	2.57

Q11 Students' choice to take the traditional course over the CiHS option is based on time concerns or workload.	Teacher	86	1.98	.613	.066	1.85	2.11
	Counselor	97	2.00	.645	.066	1.87	2.13
	Administrator	94	1.99	.558	.058	1.88	2.10
	Total	277	1.99	.605	.036	1.92	2.06
Q12 Students' choice to take the traditional course over the CiHS option is impacted by peers advice.	Teacher	84	1.94	.608	.066	1.81	2.07
	Counselor	96	2.06	.595	.061	1.94	2.18
	Administrator	93	2.06	.586	.061	1.94	2.19
	Total	273	2.03	.597	.036	1.95	2.10
Q13 Students' choice to take the traditional course over the CiHS option are following family advice.	Teacher	85	2.55	.567	.062	2.43	2.68
	Counselor	97	2.44	.558	.057	2.33	2.56
	Administrator	93	2.45	.562	.058	2.34	2.57
	Total	275	2.48	.562	.034	2.41	2.55
Q14 Students are more likely to follow peers' advice on CiHS course selection than the advice of school staff.	Teacher	85	2.15	.646	.070	2.01	2.29
	Counselor	97	2.30	.632	.064	2.17	2.43
	Administrator	95	2.27	.609	.063	2.15	2.40
	Total	277	2.25	.629	.038	2.17	2.32
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	Teacher	85	2.00	.617	.067	1.87	2.13
	Counselor	97	2.11	.610	.062	1.99	2.24
	Administrator	95	2.26	.605	.062	2.14	2.39
	Total	277	2.13	.618	.037	2.06	2.20

Table H2

Statistics- Descriptive Statistics for school Personnel Survey Mean, Median, Mode

	N			Std. Error of			Std.	
	Valid	Missing	Mean	Mean	Median	Mode	Deviation	Range
Q1 Students know what CiHS courses are available to them and how to register for them.	279	0	1.80	.038	2.00	2	.642	3
Q2 Students are more likely to follow peer advice on CiHS course selection than the advice of family.	275	4	2.01	.038	2.00	2	.625	2
Q3 Students are more likely to follow family advice on CiHS course selection than the advice of school staff.	276	3	2.45	.037	2.00	2	.616	3
Q4 Our school has prerequisites to CiHS courses that keep some students from registering for the CiHS courses.	279	0	2.97	.047	3.00	3	.781	3
Q5 Students' choice to take the traditional course over the CiHS option is based on the perception that the CiHS course is more difficult.	278	1	2.09	.042	2.00	2	.700	3
Q6 Students' choice to take the traditional course over the CiHS option is based on lack of interest in course content for the CiHS option.	276	3	2.61	.038	3.00	3	.632	3

Q7 Students' choice to take the traditional course over the CiHS option is based on grade considerations, specifically the potential impact on their GPA.	279	0	2.32	.042	2.00	2	.701	3
Q8 Our partner university for CiHS has prerequisites to the CiHS courses that keep some students from registering for the course.	278	1	2.76	.045	3.00	3	.743	3
Q9 Students that choose the traditional course over the CiHS option are following the advice of school staff (advising of a teacher, counselor, or administrator).	277	2	2.60	.042	3.00	3	.703	3
Q10 Students' choice to take the traditional course over the CiHS option is because they do not understand the differences between the course options.	276	3	2.49	.042	3.00	3	.695	3
Q11 Students' choice to take the traditional course over the CiHS option is based on time concerns or workload.	277	2	1.99	.036	2.00	2	.605	3
Q12 Students' choice to take the traditional course over the CiHS option is impacted by peers advice.	273	6	2.03	.036	2.00	2	.597	3
Q13 Students' choice to take the traditional course over the CiHS option are following family advice.	275	4	2.48	.034	2.00	2	.562	3
Q14 Students are more likely to follow peers' advice on CiHS course selection than the advice of school staff.	277	2	2.25	.038	2.00	2	.629	3
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	277	2	2.13	.037	2.00	2	.618	3

Table H3

ANOVA-Comparison of School Personnel Groups

		Sum of Squares	df	Mean Square	F	Sig.
Q1 Students know what CiHS courses are available to them and how to register for them.	Between Groups	4.304	2	2.152	5.378	.005
	Within Groups	110.455	276	.400		
	Total	114.760	278			
Q2 Students are more likely to follow peer advice on CiHS course selection than the advice of family.	Between Groups	.348	2	.174	.444	.642
	Within Groups	106.620	272	.392		
	Total	106.967	274			
Q3 Students are more likely to follow family advice on CiHS course selection than the advice of school staff.	Between Groups	.274	2	.137	.360	.698
	Within Groups	104.113	273	.381		
	Total	104.388	275			
Q4 Our school has prerequisites to CiHS courses that keep some students from registering for the CiHS courses.	Between Groups	1.325	2	.662	1.085	.339
	Within Groups	168.446	276	.610		
	Total	169.771	278			
Q5 Students' choice to take the traditional course over the CiHS option is based on the perception that the CiHS course is more difficult.	Between Groups	.296	2	.148	.301	.740
	Within Groups	135.272	275	.492		
	Total	135.568	277			
Q6 Students' choice to take the traditional course over the CiHS option is based on lack of interest in course content for the CiHS option.	Between Groups	.775	2	.387	.969	.381
	Within Groups	109.178	273	.400		
	Total	109.953	275			
Q7 Students' choice to take the traditional course over the CiHS option is based on grade considerations, specifically the potential impact on their GPA.	Between Groups	.119	2	.060	.120	.887
	Within Groups	136.490	276	.495		
	Total	136.609	278			
Q8 Our partner university for CiHS has prerequisites to the CiHS courses that keep some students from registering for the course.	Between Groups	1.026	2	.513	.929	.396
	Within Groups	151.827	275	.552		
	Total	152.853	277			
Q9 Students that choose the traditional course over the CiHS option are following the advice of school staff (advising of a teacher, counselor, or administrator).	Between Groups	.000	2	.000	.000	1.000
	Within Groups	136.520	274	.498		
	Total	136.520	276			
Q10 Students' choice to take the traditional course over the CiHS option is because they do not understand the differences between the course options.	Between Groups	.576	2	.288	.594	.553
	Within Groups	132.366	273	.485		
	Total	132.942	275			
Q11 Students' choice to take the traditional course over the CiHS option is based on time concerns or workload.	Between Groups	.025	2	.012	.033	.967
	Within Groups	100.943	274	.368		
	Total	100.968	276			
Q12 Students' choice to take the traditional course over the CiHS option is impacted by peers advice.	Between Groups	.880	2	.440	1.239	.291
	Within Groups	95.940	270	.355		
	Total	96.821	272			
Q13 Students' choice to take the traditional course over the CiHS option are following family advice.	Between Groups	.658	2	.329	1.041	.355
	Within Groups	85.982	272	.316		
	Total	86.640	274			
Q14 Students are more likely to follow peers' advice on CiHS course selection than the advice of school staff.	Between Groups	1.081	2	.540	1.368	.256
	Within Groups	108.226	274	.395		
	Total	109.307	276			
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	Between Groups	3.148	2	1.574	4.221	.016
	Within Groups	102.174	274	.373		
	Total	105.321	276			

Appendix I

Survey Data Statistics all Questions - Years in Current Position

Table I1

Descriptives- Years in Current Position Response Data

						95% Confidence Interval for Mean	
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
Q1 Students know what CiHS courses are available to them and how to register for them.	0-5 years	91	1.73	.559	.059	1.61	1.84
	6-10 years	75	1.88	.716	.083	1.72	2.04
	11-15 years	38	1.84	.547	.089	1.66	2.02
	16+ years	75	1.79	.703	.081	1.62	1.95
	Total	279	1.80	.642	.038	1.72	1.88
Q2 Students are more likely to follow peer advice on CiHS course selection than the advice of family.	0-5 years	89	1.99	.593	.063	1.86	2.11
	6-10 years	75	1.99	.626	.072	1.84	2.13
	11-15 years	37	2.22	.630	.104	2.01	2.43
	16+ years	74	1.96	.650	.076	1.81	2.11
	Total	275	2.01	.625	.038	1.94	2.09
Q3 Students are more likely to follow family advice on CiHS course selection than the advice of school staff.	0-5 years	89	2.42	.560	.059	2.30	2.53
	6-10 years	75	2.37	.673	.078	2.22	2.53
	11-15 years	37	2.73	.608	.100	2.53	2.93
	16+ years	75	2.44	.598	.069	2.30	2.58
	Total	276	2.45	.616	.037	2.38	2.53
Q4 Our school has prerequisites to CiHS courses that keep some students from registering for the CiHS courses.	0-5 years	91	2.79	.738	.077	2.64	2.94
	6-10 years	75	3.11	.764	.088	2.93	3.28
	11-15 years	38	3.08	.749	.122	2.83	3.33
	16+ years	75	3.00	.838	.097	2.81	3.19
	Total	279	2.97	.781	.047	2.88	3.06
Q5 Students' choice to take the traditional course over the CiHS option is based on the perception that the CiHS course is more difficult.	0-5 years	90	2.03	.608	.064	1.91	2.16
	6-10 years	75	2.07	.704	.081	1.90	2.23
	11-15 years	38	2.24	.714	.116	2.00	2.47
	16+ years	75	2.12	.788	.091	1.94	2.30
	Total	278	2.09	.700	.042	2.01	2.18
Q6 Students' choice to take the traditional course over the CiHS option is based on lack of interest in course content for the CiHS option.	0-5 years	90	2.71	.585	.062	2.59	2.83
	6-10 years	75	2.56	.702	.081	2.40	2.72
	11-15 years	38	2.61	.595	.096	2.41	2.80
	16+ years	73	2.52	.626	.073	2.37	2.67
	Total	276	2.61	.632	.038	2.53	2.68
Q7 Students' choice to take the traditional course over the CiHS option is based on grade considerations, specifically the potential impact on their GPA.	0-5 years	91	2.36	.691	.072	2.22	2.51
	6-10 years	75	2.28	.763	.088	2.10	2.46
	11-15 years	38	2.32	.620	.101	2.11	2.52
	16+ years	75	2.31	.697	.080	2.15	2.47
	Total	279	2.32	.701	.042	2.24	2.40
Q8 Our partner university for CiHS has prerequisites to the CiHS courses that keep some students from registering for the course.	0-5 years	90	2.72	.719	.076	2.57	2.87
	6-10 years	75	2.75	.790	.091	2.56	2.93
	11-15 years	38	2.71	.565	.092	2.52	2.90
	16+ years	75	2.84	.806	.093	2.65	3.03
	Total	278	2.76	.743	.045	2.67	2.85
Q9 Students that choose the traditional course over the CiHS option are following the advice of school staff (advising of a teacher, counselor, or administrator).	0-5 years	89	2.61	.763	.081	2.45	2.77
	6-10 years	75	2.51	.685	.079	2.35	2.66
	11-15 years	38	2.58	.599	.097	2.38	2.78
	16+ years	75	2.69	.697	.080	2.53	2.85
	Total	277	2.60	.703	.042	2.52	2.68
	0-5 years	88	2.47	.642	.068	2.33	2.60

Q10 Students' choice to take the traditional course over the CiHS option is because they do not understand the differences between the course options.	6-10 years	75	2.51	.742	.086	2.34	2.68
	11-15 years	38	2.47	.687	.111	2.25	2.70
	16+ years	75	2.49	.724	.084	2.33	2.66
	Total	276	2.49	.695	.042	2.40	2.57
Q11 Students' choice to take the traditional course over the CiHS option is based on time concerns or workload.	0-5 years	89	1.99	.648	.069	1.85	2.13
	6-10 years	75	1.99	.581	.067	1.85	2.12
	11-15 years	38	2.05	.462	.075	1.90	2.20
	16+ years	75	1.96	.646	.075	1.81	2.11
	Total	277	1.99	.605	.036	1.92	2.06
Q12 Students' choice to take the traditional course over the CiHS option is impacted by peers advice.	0-5 years	87	2.03	.599	.064	1.91	2.16
	6-10 years	74	2.00	.573	.067	1.87	2.13
	11-15 years	38	2.26	.554	.090	2.08	2.45
	16+ years	74	1.92	.614	.071	1.78	2.06
	Total	273	2.03	.597	.036	1.95	2.10
Q13 Students' choice to take the traditional course over the CiHS option are following family advice.	0-5 years	88	2.51	.587	.063	2.39	2.64
	6-10 years	74	2.36	.563	.065	2.23	2.50
	11-15 years	38	2.50	.558	.090	2.32	2.68
	16+ years	75	2.55	.527	.061	2.43	2.67
	Total	275	2.48	.562	.034	2.41	2.55
Q14 Students are more likely to follow peers' advice on CiHS course selection than the advice of school staff.	0-5 years	89	2.33	.636	.067	2.19	2.46
	6-10 years	75	2.19	.651	.075	2.04	2.34
	11-15 years	38	2.37	.541	.088	2.19	2.55
	16+ years	75	2.15	.630	.073	2.00	2.29
	Total	277	2.25	.629	.038	2.17	2.32
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	0-5 years	89	2.17	.626	.066	2.04	2.30
	6-10 years	75	2.11	.628	.072	1.96	2.25
	11-15 years	38	2.34	.582	.094	2.15	2.53
	16+ years	75	2.00	.593	.068	1.86	2.14
	Total	277	2.13	.618	.037	2.06	2.20

Table I2

ANOVA – Years in Current Position Comparisons

		Sum of Squares	df	Mean Square	F	Sig.
Q1 Students know what CiHS courses are available to them and how to register for them.	Between Groups	1.069	3	.356	.862	.461
	Within Groups	113.691	275	.413		
	Total	114.760	278			
Q2 Students are more likely to follow peer advice on CiHS course selection than the advice of family.	Between Groups	1.843	3	.614	1.584	.194
	Within Groups	105.124	271	.388		
	Total	106.967	274			
Q3 Students are more likely to follow family advice on CiHS course selection than the advice of school staff.	Between Groups	3.446	3	1.149	3.095	.027
	Within Groups	100.942	272	.371		
	Total	104.388	275			
Q4 Our school has prerequisites to CiHS courses that keep some students from registering for the CiHS courses.	Between Groups	4.828	3	1.609	2.683	.047
	Within Groups	164.943	275	.600		
	Total	169.771	278			
Q5 Students' choice to take the traditional course over the CiHS option is based on the perception that the CiHS course is more difficult.	Between Groups	1.213	3	.404	.825	.481
	Within Groups	134.355	274	.490		
	Total	135.568	277			
Q6 Students' choice to take the traditional course over the CiHS option is based on lack of interest in course content for the CiHS option.	Between Groups	1.686	3	.562	1.412	.240
	Within Groups	108.267	272	.398		
	Total	109.953	275			

Q7 Students' choice to take the traditional course over the CiHS option is based on grade considerations, specifically the potential impact on their GPA.	Between Groups	.299	3	.100	.201	.896
	Within Groups	136.310	275	.496		
	Total	136.609	278			
Q8 Our partner university for CiHS has prerequisites to the CiHS courses that keep some students from registering for the course.	Between Groups	.715	3	.238	.429	.732
	Within Groups	152.138	274	.555		
	Total	152.853	277			
Q9 Students that choose the traditional course over the CiHS option are following the advice of school staff (advising of a teacher, counselor, or administrator).	Between Groups	1.327	3	.442	.893	.445
	Within Groups	135.192	273	.495		
	Total	136.520	276			
Q10 Students' choice to take the traditional course over the CiHS option is because they do not understand the differences between the course options.	Between Groups	.077	3	.026	.053	.984
	Within Groups	132.865	272	.488		
	Total	132.942	275			
Q11 Students' choice to take the traditional course over the CiHS option is based on time concerns or workload.	Between Groups	.217	3	.072	.196	.899
	Within Groups	100.750	273	.369		
	Total	100.968	276			
Q12 Students' choice to take the traditional course over the CiHS option is impacted by peers advice.	Between Groups	3.042	3	1.014	2.909	.035
	Within Groups	93.778	269	.349		
	Total	96.821	272			
Q13 Students' choice to take the traditional course over the CiHS option are following family advice.	Between Groups	1.416	3	.472	1.501	.215
	Within Groups	85.224	271	.314		
	Total	86.640	274			
Q14 Students are more likely to follow peers' advice on CiHS course selection than the advice of school staff.	Between Groups	2.141	3	.714	1.818	.144
	Within Groups	107.166	273	.393		
	Total	109.307	276			
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	Between Groups	3.150	3	1.050	2.806	.040
	Within Groups	102.171	273	.374		
	Total	105.321	276			

Appendix J

Survey Data Statistics all Questions – School Size

Table J1

Descriptives-School Size Response Data

						95% Confidence Interval for Mean	
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
Q1 Students know what CiHS courses are available to them and how to register for them.	0-499 students	57	1.67	.664	.088	1.49	1.84
	500-999 students	63	1.68	.591	.074	1.53	1.83
	1000-1499 students	70	1.83	.680	.081	1.67	1.99
	Over 1500 students	88	1.94	.613	.065	1.81	2.07
	Total	278	1.80	.644	.039	1.72	1.87
Q2 Students are more likely to follow peer advice on CiHS course selection than the advice of family.	0-499 students	55	2.07	.663	.089	1.89	2.25
	500-999 students	62	1.84	.682	.087	1.67	2.01
	1000-1499 students	69	2.00	.594	.072	1.86	2.14
	Over 1500 students	88	2.10	.568	.061	1.98	2.22
	Total	274	2.01	.626	.038	1.94	2.09
Q3 Students are more likely to follow family advice on CiHS course selection than the advice of school staff.	0-499 students	55	2.44	.631	.085	2.27	2.61
	500-999 students	62	2.45	.619	.079	2.29	2.61
	1000-1499 students	70	2.39	.597	.071	2.24	2.53
	Over 1500 students	88	2.51	.625	.067	2.38	2.64
	Total	275	2.45	.616	.037	2.38	2.52
Q4 Our school has prerequisites to CiHS courses that keep some students from registering for the CiHS courses.	0-499 students	57	2.98	.767	.102	2.78	3.19
	500-999 students	63	3.00	.741	.093	2.81	3.19
	1000-1499 students	70	2.84	.911	.109	2.63	3.06
	Over 1500 students	88	3.05	.710	.076	2.90	3.20
	Total	278	2.97	.783	.047	2.88	3.06
Q5 Students' choice to take the traditional course over the CiHS option is based on the perception that the CiHS course is more difficult.	0-499 students	57	1.86	.581	.077	1.71	2.01
	500-999 students	63	1.97	.695	.088	1.79	2.14
	1000-1499 students	69	2.19	.753	.091	2.01	2.37
	Over 1500 students	88	2.26	.686	.073	2.12	2.41
	Total	277	2.09	.701	.042	2.01	2.18
Q6 Students' choice to take the traditional course over the CiHS option is based on lack of interest in course content for the CiHS option.	0-499 students	57	2.56	.627	.083	2.39	2.73
	500-999 students	61	2.67	.676	.087	2.50	2.85
	1000-1499 students	69	2.67	.634	.076	2.51	2.82
	Over 1500 students	88	2.53	.606	.065	2.41	2.66
	Total	275	2.60	.633	.038	2.53	2.68
Q7 Students' choice to take the traditional course over the CiHS option is based on grade considerations, specifically the potential impact on their GPA.	0-499 students	57	2.44	.708	.094	2.25	2.63
	500-999 students	63	2.25	.671	.085	2.08	2.42
	1000-1499 students	70	2.17	.722	.086	2.00	2.34
	Over 1500 students	88	2.40	.687	.073	2.25	2.54
	Total	278	2.32	.701	.042	2.23	2.40
Q8 Our partner university for CiHS has prerequisites to the CiHS courses that keep some students from registering for the course.	0-499 students	57	2.81	.581	.077	2.65	2.96
	500-999 students	62	2.61	.710	.090	2.43	2.79
	1000-1499 students	70	2.54	.829	.099	2.35	2.74
	Over 1500 students	88	3.00	.727	.078	2.85	3.15
	Total	277	2.76	.744	.045	2.67	2.85
	0-499 students	57	2.70	.680	.090	2.52	2.88

Q9 Students that choose the traditional course over the CiHS option are following the advice of school staff (advising of a teacher, counselor, or administrator).	500-999 students	62	2.50	.741	.094	2.31	2.69
	1000-1499 students	70	2.49	.756	.090	2.31	2.67
	Over 1500 students	87	2.69	.634	.068	2.55	2.82
	Total	276	2.60	.704	.042	2.51	2.68
Q10 Students' choice to take the traditional course over the CiHS option is because they do not understand the differences between the course options.	0-499 students	56	2.55	.630	.084	2.38	2.72
	500-999 students	62	2.52	.741	.094	2.33	2.70
	1000-1499 students	70	2.56	.694	.083	2.39	2.72
	Over 1500 students	87	2.37	.701	.075	2.22	2.52
	Total	275	2.49	.696	.042	2.40	2.57
Q11 Students' choice to take the traditional course over the CiHS option is based on time concerns or workload.	0-499 students	56	1.93	.599	.080	1.77	2.09
	500-999 students	63	1.98	.609	.077	1.83	2.14
	1000-1499 students	70	1.97	.589	.070	1.83	2.11
	Over 1500 students	87	2.05	.627	.067	1.91	2.18
	Total	276	1.99	.606	.036	1.92	2.06
Q12 Students' choice to take the traditional course over the CiHS option is impacted by peers advice.	0-499 students	56	2.00	.603	.081	1.84	2.16
	500-999 students	61	2.05	.644	.082	1.88	2.21
	1000-1499 students	68	2.00	.599	.073	1.86	2.14
	Over 1500 students	87	2.05	.569	.061	1.92	2.17
	Total	272	2.03	.598	.036	1.95	2.10
Q13 Students' choice to take the traditional course over the CiHS option are following family advice.	0-499 students	56	2.48	.504	.067	2.35	2.62
	500-999 students	62	2.48	.593	.075	2.33	2.63
	1000-1499 students	69	2.52	.532	.064	2.39	2.65
	Over 1500 students	87	2.45	.605	.065	2.32	2.58
	Total	274	2.48	.563	.034	2.41	2.55
Q14 Students are more likely to follow peers' advice on CiHS course selection than the advice of school staff.	0-499 students	56	2.30	.658	.088	2.13	2.48
	500-999 students	62	2.15	.674	.086	1.97	2.32
	1000-1499 students	70	2.33	.631	.075	2.18	2.48
	Over 1500 students	88	2.22	.576	.061	2.09	2.34
	Total	276	2.25	.630	.038	2.17	2.32
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	0-499 students	56	2.11	.652	.087	1.93	2.28
	500-999 students	62	2.03	.626	.080	1.87	2.19
	1000-1499 students	70	2.19	.621	.074	2.04	2.33
	Over 1500 students	88	2.16	.585	.062	2.04	2.28
	Total	276	2.13	.617	.037	2.05	2.20

Table J2

ANOVA- School Size Response Data

		Sum of Squares	df	Mean Square	F	Sig.
Q1 Students know what CiHS courses are available to them and how to register for them.	Between Groups	3.743	3	1.248	3.081	.028
	Within Groups	110.976	274	.405		
	Total	114.719	277			
Q2 Students are more likely to follow peer advice on CiHS course selection than the advice of family.	Between Groups	2.791	3	.930	2.412	.067
	Within Groups	104.176	270	.386		
	Total	106.967	273			
Q3 Students are more likely to follow family advice on CiHS course selection than the advice of school staff.	Between Groups	.631	3	.210	.551	.648
	Within Groups	103.456	271	.382		
	Total	104.087	274			
Q4 Our school has prerequisites to CiHS courses that keep some students from registering for the CiHS courses.	Between Groups	1.698	3	.566	.923	.430
	Within Groups	168.072	274	.613		
	Total	169.770	277			
Q5 Students' choice to take the traditional course over the CiHS option is based on the perception that the CiHS course is more difficult.	Between Groups	7.207	3	2.402	5.109	.002
	Within Groups	128.353	273	.470		
	Total	135.560	276			
Q6 Students' choice to take the traditional course over the CiHS option is based on lack of interest in course content for the CiHS option.	Between Groups	1.088	3	.363	.904	.440
	Within Groups	108.709	271	.401		
	Total	109.796	274			
Q7 Students' choice to take the traditional course over the CiHS option is based on grade considerations, specifically the potential impact on their GPA.	Between Groups	3.150	3	1.050	2.163	.093
	Within Groups	132.994	274	.485		
	Total	136.144	277			
Q8 Our partner university for CiHS has prerequisites to the CiHS courses that keep some students from registering for the course.	Between Groups	9.836	3	3.279	6.261	<.001
	Within Groups	142.958	273	.524		
	Total	152.794	276			
Q9 Students that choose the traditional course over the CiHS option are following the advice of school staff (advising of a teacher, counselor, or administrator).	Between Groups	2.822	3	.941	1.916	.127
	Within Groups	133.536	272	.491		
	Total	136.359	275			
Q10 Students' choice to take the traditional course over the CiHS option is because they do not understand the differences between the course options.	Between Groups	1.881	3	.627	1.299	.275
	Within Groups	130.824	271	.483		
	Total	132.705	274			
Q11 Students' choice to take the traditional course over the CiHS option is based on time concerns or workload.	Between Groups	.510	3	.170	.460	.710
	Within Groups	100.457	272	.369		
	Total	100.967	275			
Q12 Students' choice to take the traditional course over the CiHS option is impacted by peers advice.	Between Groups	.151	3	.050	.140	.936
	Within Groups	96.669	268	.361		
	Total	96.820	271			
Q13 Students' choice to take the traditional course over the CiHS option are following family advice.	Between Groups	.208	3	.069	.217	.884
	Within Groups	86.201	270	.319		
	Total	86.409	273			
Q14 Students are more likely to follow peers' advice on CiHS course selection than the advice of school staff.	Between Groups	1.373	3	.458	1.154	.328
	Within Groups	107.873	272	.397		
	Total	109.246	275			
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	Between Groups	.911	3	.304	.796	.497
	Within Groups	103.651	272	.381		
	Total	104.562	275			

Appendix K

Survey Data Statistics all Questions – School FRL

Table K1

Descriptives- School FRL

						95% Confidence Interval for Mean	
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
Q1 Students know what CiHS courses are available to them and how to register for them.	0-20%	35	1.77	.490	.083	1.60	1.94
	21-40%	74	1.91	.686	.080	1.75	2.06
	41-60%	86	1.70	.670	.072	1.55	1.84
	Over 60%	79	1.81	.642	.072	1.67	1.95
	Total	274	1.80	.648	.039	1.72	1.87
Q2 Students are more likely to follow peer advice on CiHS course selection than the advice of family.	0-20%	35	2.03	.664	.112	1.80	2.26
	21-40%	74	2.14	.626	.073	1.99	2.28
	41-60%	86	2.02	.668	.072	1.88	2.17
	Over 60%	79	1.87	.540	.061	1.75	1.99
	Total	274	2.01	.626	.038	1.94	2.09
Q3 Students are more likely to follow family advice on CiHS course selection than the advice of school staff.	0-20%	35	2.37	.598	.101	2.17	2.58
	21-40%	74	2.42	.597	.069	2.28	2.56
	41-60%	86	2.45	.607	.065	2.32	2.58
	Over 60%	79	2.52	.658	.074	2.37	2.67
	Total	274	2.45	.617	.037	2.38	2.53
Q4 Our school has prerequisites to CiHS courses that keep some students from registering for the CiHS courses.	0-20%	35	3.00	.840	.142	2.71	3.29
	21-40%	74	3.00	.721	.084	2.83	3.17
	41-60%	86	2.93	.809	.087	2.76	3.10
	Over 60%	79	3.01	.759	.085	2.84	3.18
	Total	274	2.98	.772	.047	2.89	3.07
Q5 Students' choice to take the traditional course over the CiHS option is based on the perception that the CiHS course is more difficult.	0-20%	35	2.14	.879	.149	1.84	2.44
	21-40%	74	2.12	.661	.077	1.97	2.27
	41-60%	85	2.09	.648	.070	1.95	2.23
	Over 60%	79	2.00	.698	.079	1.84	2.16
	Total	273	2.08	.697	.042	2.00	2.16
Q6 Students' choice to take the traditional course over the CiHS option is based on lack of interest in course content for the CiHS option.	0-20%	34	2.65	.597	.102	2.44	2.86
	21-40%	74	2.59	.660	.077	2.44	2.75
	41-60%	86	2.62	.617	.067	2.48	2.75
	Over 60%	79	2.58	.633	.071	2.44	2.72
	Total	273	2.60	.628	.038	2.53	2.68
Q7 Students' choice to take the traditional course over the CiHS option is based on grade considerations, specifically the potential impact on their GPA.	0-20%	35	2.11	.676	.114	1.88	2.35
	21-40%	74	2.26	.703	.082	2.09	2.42
	41-60%	86	2.35	.699	.075	2.20	2.50
	Over 60%	79	2.42	.709	.080	2.26	2.58
	Total	274	2.31	.703	.042	2.23	2.40
Q8 Our partner university for CiHS has prerequisites to the CiHS courses that keep some students from registering for the course.	0-20%	35	2.89	.796	.135	2.61	3.16
	21-40%	74	2.68	.724	.084	2.51	2.84
	41-60%	85	2.65	.751	.081	2.49	2.81
	Over 60%	79	2.91	.683	.077	2.76	3.06
	Total	273	2.76	.736	.045	2.67	2.85

Q9 Students that choose the traditional course over the CiHS option are following the advice of school staff (advising of a teacher, counselor, or administrator).	0-20%	35	2.69	.583	.098	2.49	2.89
	21-40%	74	2.62	.716	.083	2.46	2.79
	41-60%	86	2.56	.679	.073	2.41	2.70
	Over 60%	78	2.60	.779	.088	2.43	2.78
	Total	273	2.60	.705	.043	2.52	2.69
Q10 Students' choice to take the traditional course over the CiHS option is because they do not understand the differences between the course options.	0-20%	35	2.43	.739	.125	2.17	2.68
	21-40%	74	2.53	.667	.078	2.37	2.68
	41-60%	86	2.64	.649	.070	2.50	2.78
	Over 60%	77	2.30	.727	.083	2.13	2.46
	Total	272	2.49	.698	.042	2.40	2.57
Q11 Students' choice to take the traditional course over the CiHS option is based on time concerns or workload.	0-20%	35	2.00	.594	.100	1.80	2.20
	21-40%	74	2.05	.571	.066	1.92	2.19
	41-60%	86	1.93	.590	.064	1.80	2.06
	Over 60%	77	1.96	.658	.075	1.81	2.11
	Total	272	1.98	.604	.037	1.91	2.05
Q12 Students' choice to take the traditional course over the CiHS option is impacted by peers advice.	0-20%	34	2.00	.550	.094	1.81	2.19
	21-40%	74	2.08	.636	.074	1.93	2.23
	41-60%	85	2.07	.552	.060	1.95	2.19
	Over 60%	76	1.92	.627	.072	1.78	2.06
	Total	269	2.02	.598	.036	1.95	2.09
Q13 Students' choice to take the traditional course over the CiHS option are following family advice.	0-20%	35	2.26	.561	.095	2.06	2.45
	21-40%	74	2.38	.488	.057	2.27	2.49
	41-60%	86	2.53	.568	.061	2.41	2.66
	Over 60%	76	2.62	.588	.067	2.48	2.75
	Total	271	2.48	.563	.034	2.41	2.55
Q14 Students are more likely to follow peers' advice on CiHS course selection than the advice of school staff.	0-20%	35	2.11	.583	.098	1.91	2.31
	21-40%	74	2.24	.679	.079	2.09	2.40
	41-60%	86	2.35	.569	.061	2.23	2.47
	Over 60%	78	2.18	.639	.072	2.04	2.32
	Total	273	2.24	.624	.038	2.17	2.32
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	0-20%	35	2.14	.648	.110	1.92	2.37
	21-40%	74	2.05	.660	.077	1.90	2.21
	41-60%	86	2.29	.506	.055	2.18	2.40
	Over 60%	78	1.99	.614	.069	1.85	2.13
	Total	273	2.12	.609	.037	2.05	2.19

Table K2
ANOVA-School FRL

		Sum of Squares	df	Mean Square	F	Sig.
Q1 Students know what CiHS courses are available to them and how to register for them.	Between Groups	1.754	3	.585	1.399	.243
	Within Groups	112.801	270	.418		
	Total	114.555	273			
Q2 Students are more likely to follow peer advice on CiHS course selection than the advice of family.	Between Groups	2.659	3	.886	2.295	.078
	Within Groups	104.308	270	.386		
	Total	106.967	273			
Q3 Students are more likely to follow family advice on CiHS course selection than the advice of school staff.	Between Groups	.663	3	.221	.578	.630
	Within Groups	103.220	270	.382		
	Total	103.883	273			
Q4 Our school has prerequisites to CiHS courses that keep some students from registering for the CiHS courses.	Between Groups	.340	3	.113	.188	.904
	Within Groups	162.569	270	.602		
	Total	162.909	273			
Q5 Students' choice to take the traditional course over the CiHS option is based on the perception that the CiHS course is more difficult.	Between Groups	.789	3	.263	.538	.656
	Within Groups	131.438	269	.489		
	Total	132.227	272			
Q6 Students' choice to take the traditional course over the CiHS option is based on lack of interest in course content for the CiHS option.	Between Groups	.120	3	.040	.100	.960
	Within Groups	107.155	269	.398		
	Total	107.275	272			
Q7 Students' choice to take the traditional course over the CiHS option is based on grade considerations, specifically the potential impact on their GPA.	Between Groups	2.593	3	.864	1.762	.155
	Within Groups	132.415	270	.490		
	Total	135.007	273			
Q8 Our partner university for CiHS has prerequisites to the CiHS courses that keep some students from registering for the course.	Between Groups	3.973	3	1.324	2.482	.061
	Within Groups	143.551	269	.534		
	Total	147.524	272			
Q9 Students that choose the traditional course over the CiHS option are following the advice of school staff (advising of a teacher, counselor, or administrator).	Between Groups	.438	3	.146	.291	.832
	Within Groups	134.837	269	.501		
	Total	135.275	272			
Q10 Students' choice to take the traditional course over the CiHS option is because they do not understand the differences between the course options.	Between Groups	4.968	3	1.656	3.496	.016
	Within Groups	126.973	268	.474		
	Total	131.941	271			
Q11 Students' choice to take the traditional course over the CiHS option is based on time concerns or workload.	Between Groups	.660	3	.220	.600	.616
	Within Groups	98.248	268	.367		
	Total	98.908	271			
Q12 Students' choice to take the traditional course over the CiHS option is impacted by peers advice.	Between Groups	1.250	3	.417	1.167	.323
	Within Groups	94.616	265	.357		
	Total	95.866	268			
Q13 Students' choice to take the traditional course over the CiHS option are following family advice.	Between Groups	4.218	3	1.406	4.610	.004
	Within Groups	81.421	267	.305		
	Total	85.638	270			
Q14 Students are more likely to follow peers' advice on CiHS course selection than the advice of school staff.	Between Groups	1.857	3	.619	1.599	.190
	Within Groups	104.187	269	.387		
	Total	106.044	272			
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	Between Groups	4.222	3	1.407	3.911	.009
	Within Groups	96.789	269	.360		
	Total	101.011	272			

Appendix L

Survey Data Statistics all Questions – School Personnel Gender

Table L1

Group Statistics- Gender of School Personnel

	Gender Identification	N	Mean	Std. Deviation	Std. Error Mean
Q1 Students know what CiHS courses are available to them and how to register for them.	Male	126	1.67	.591	.053
	Female	152	1.91	.665	.054
Q2 Students are more likely to follow peer advice on CiHS course selection than the advice of family.	Male	124	2.02	.631	.057
	Female	150	2.00	.624	.051
Q3 Students are more likely to follow family advice on CiHS course selection than the advice of school staff.	Male	124	2.44	.616	.055
	Female	151	2.46	.619	.050
Q4 Our school has prerequisites to CiHS courses that keep some students from registering for the CiHS courses.	Male	126	2.93	.821	.073
	Female	152	3.01	.750	.061
Q5 Students' choice to take the traditional course over the CiHS option is based on the perception that the CiHS course is more difficult.	Male	125	2.12	.643	.057
	Female	152	2.07	.743	.060
Q6 Students' choice to take the traditional course over the CiHS option is based on lack of interest in course content for the CiHS option.	Male	125	2.70	.609	.055
	Female	150	2.53	.642	.052
Q7 Students' choice to take the traditional course over the CiHS option is based on grade considerations, specifically the potential impact on their GPA.	Male	126	2.30	.684	.061
	Female	152	2.34	.718	.058
Q8 Our partner university for CiHS has prerequisites to the CiHS courses that keep some students from registering for the course.	Male	125	2.71	.771	.069
	Female	152	2.80	.722	.059
Q9 Students that choose the traditional course over the CiHS option are following the advice of school staff (advising of a teacher, counselor, or administrator).	Male	126	2.60	.658	.059
	Female	150	2.61	.732	.060
Q10 Students' choice to take the traditional course over the CiHS option is because they do not understand the differences between the course options.	Male	126	2.52	.723	.064
	Female	149	2.45	.672	.055
Q11 Students' choice to take the traditional course over the CiHS option is based on time concerns or workload.	Male	126	2.02	.536	.048
	Female	150	1.96	.654	.053
Q12 Students' choice to take the traditional course over the CiHS option is impacted by peers advice.	Male	123	2.02	.600	.054
	Female	149	2.03	.597	.049
	Male	125	2.49	.548	.049

Q13 Students' choice to take the traditional course over the CiHS option are following family advice.	Female	149	2.48	.576	.047
Q14 Students are more likely to follow peers' advice on CiHS course selection than the advice of school staff.	Male	126	2.27	.625	.056
	Female	150	2.22	.633	.052
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	Male	126	2.20	.633	.056
	Female	150	2.07	.603	.049

Table L2

Independent Samples Test- Gender of School Personnel

		Levene's Test for Equality of Variances		t-test for Equality of Means			
						Significance	
		F	Sig.	t	df	One-Sided p	Two-Sided p
Q1 Students know what CiHS courses are available to them and how to register for them.	Equal variances assumed	2.827	.094	-3.062	276	.001	.002
	Equal variances not assumed			-3.096	274.622	.001	.002
Q2 Students are more likely to follow peer advice on CiHS course selection than the advice of family.	Equal variances assumed	.147	.702	.318	272	.375	.751
	Equal variances not assumed			.318	261.324	.376	.751
Q3 Students are more likely to follow family advice on CiHS course selection than the advice of school staff.	Equal variances assumed	.075	.784	-.268	273	.395	.789
	Equal variances not assumed			-.268	263.310	.395	.789
Q4 Our school has prerequisites to CiHS courses that keep some students from registering for the CiHS courses.	Equal variances assumed	1.724	.190	-.827	276	.205	.409
	Equal variances not assumed			-.820	256.213	.207	.413
Q5 Students' choice to take the traditional course over the CiHS option is based on the perception that the CiHS course is more difficult.	Equal variances assumed	1.257	.263	.642	275	.261	.521
	Equal variances not assumed			.651	274.283	.258	.516
Q6 Students' choice to take the traditional course over the CiHS option is based on lack of interest in course content for the CiHS option.	Equal variances assumed	3.101	.079	2.334	273	.010	.020
	Equal variances not assumed			2.345	268.374	.010	.020
	Equal variances assumed	.325	.569	-.401	276	.344	.689

Q7 Students' choice to take the traditional course over the CiHS option is based on grade considerations, specifically the potential impact on their GPA.	Equal variances not assumed			-.402	270.673	.344	.688
Q8 Our partner university for CiHS has prerequisites to the CiHS courses that keep some students from registering for the course.	Equal variances assumed	2.354	.126	-.935	275	.175	.350
	Equal variances not assumed			-.929	257.442	.177	.354
Q9 Students that choose the traditional course over the CiHS option are following the advice of school staff (advising of a teacher, counselor, or administrator).	Equal variances assumed	1.540	.216	-.041	274	.484	.967
	Equal variances not assumed			-.042	272.698	.483	.967
Q10 Students' choice to take the traditional course over the CiHS option is because they do not understand the differences between the course options.	Equal variances assumed	.761	.384	.880	273	.190	.380
	Equal variances not assumed			.875	257.992	.191	.383
Q11 Students' choice to take the traditional course over the CiHS option is based on time concerns or workload.	Equal variances assumed	4.784	.030	.766	274	.222	.444
	Equal variances not assumed			.780	273.851	.218	.436
Q12 Students' choice to take the traditional course over the CiHS option is impacted by peers advice.	Equal variances assumed	.005	.942	-.237	270	.406	.813
	Equal variances not assumed			-.237	259.862	.406	.813
Q13 Students' choice to take the traditional course over the CiHS option are following family advice.	Equal variances assumed	.491	.484	.168	272	.433	.867
	Equal variances not assumed			.169	267.752	.433	.866
Q14 Students are more likely to follow peers' advice on CiHS course selection than the advice of school staff.	Equal variances assumed	.001	.972	.655	274	.256	.513
	Equal variances not assumed			.656	266.976	.256	.512
Q15 Students' choice of the traditional course over the CiHS option is impacted by wanting to enroll in the same courses as their friends.	Equal variances assumed	2.557	.111	1.678	274	.047	.094
	Equal variances not assumed			1.671	261.047	.048	.096