

UNIVERSITY OF OKLAHOMA

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**DIVERSIFYING HIGH SCHOOL EXPERIENCES:  
A QUALITATIVE INQUIRY OF HOW STUDENTS CHOOSE AN EDUCATIONAL  
PATHWAY**

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**DIVERSIFYING HIGH SCHOOL EXPERIENCES: A QUALITATIVE INQUIRY OF  
HOW STUDENTS CHOOSE AN EDUCATIONAL PATHWAY**

A DISSERTATION APPROVED FOR THE  
DEPARTMENT OF EDUCATIONAL LEADERSHIP AND POLICY STUDIES

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## **Dedication**

This work is dedicated to my loving and incredible husband, my two magnificent children, my selfless mother, and to everyone who has big dreams.

You can do all things through Christ who gives you strength.

-Philippians 4:13

## **Acknowledgement**

I would like to start by acknowledging my Lord and Savior, Jesus Christ, for providing me with all of these incredible opportunities and getting me to where I am today. I would like to thank my husband and children. Mark, you have been by my side since we were 17 years old. You have watched and supported me as I have stumbled, fallen, and succeeded. You have seen me at every phase of life and are one of the only people who understands the magnitude of this accomplishment. I cannot thank you enough for doing this life with me and never letting me give up on my dreams. I love you more than life. Kash and Kensli, I am extremely lucky to be your mom. You both have been so flexible with my wild schedule and have never once complained, instead you both beg to go to class or work with me. I love you both to Heaven and back. To my mom, thank you for always pushing me to follow my dreams and to never give up. Thank you for all that you have sacrificed over the years to provide us with an amazing life. I love you a million Whoppers. To my stepdad, thank you for taking some late night and weekend shifts so that I could stay up writing or attend classes. But most importantly, thank you for being a father figure when you did not have to be. Thank you to my Gal Pals, family, friends, and co-workers who have walked this journey with me. Finally, I would like to thank Daniel Hamlin, Tim Ford, Curt Adams, and Aiyana Henry for all their guidance and support and for assisting me in reaching my goals. Each one of you has played a vital role in my educational journey and I am forever grateful to each one of you. Thank you all for always providing an ear to listen, a shoulder to cry on, or words that were always uplifting and truthful because without all the love and support you have shown me over the years, I would not be where I am today.

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## **Abstract**

To modernize high school education, some scholars have proposed reshaping traditional high school curriculum to create new options that are tailored to students' distinct needs. Some research suggests that offering high school students different curricular pathways can increase motivation and lead to enhanced student outcomes, but others argue that high school students can face substantial barriers to making informed decisions when choosing a pathway. Few empirical studies examine how high school students decide on a pathway in schools that offer such options. The purpose of this qualitative study was to examine how high school graduates ( $n = 22$ ) described choosing educational pathways in high school. Interviews were conducted with recent graduates who completed one of the three following non-traditional educational pathways: Concurrent Enrollment, Career and Technical Education, or Early College High School programs. From the analysis of these interviews, major influences related to pathway selection were resources for students to obtain information about pathways, finances influencing one's choice, choices based on personal preferences, the effect of peers on one's educational pathway, and the role of family in decision-making processes. This qualitative work advances the literature by offering a deeper understanding of how students decide on their educational pathways in an era of growing curricular choice at the high school level.

Key words: educational pathways, Early College High School, Concurrent Enrollment, Career and Technical Education, student choice

## Chapter 1: Introduction

According to the Organization for Economic Cooperation and Development (OECD), American high school students currently rank 18th out of 81 nations in reading, mathematics, and science (PISA, 2022). American students' post-secondary outcomes are also lagging top performing OECD countries in many areas. In an international analysis, Ravitch and Cortest (2009) examined the top nine performing education systems and reported that there were few factors in common to offer a definitive reason as to why these nations had such successful education systems, but that several of these countries offer different education pathways as students progress through school. In a comprehensive study, the authors of the High Report showed that 47% of "American high school graduates complete *neither* a college- [or a] career-ready course of study" (Santelises, 2016). Prominent scholar Darling-Hammond (2015) also argues that American high schools do not prepare students for future careers. She writes that 70% of American jobs require advanced knowledge and skill sets compared to only required 5% of jobs requiring advanced knowledge and skills when our current school system was formed (Darling-Hammond, 2015). This problem is compounded by the advancements in technologies that is eliminating certain careers while providing new opportunities in careers that require specialized knowledge (Darling-Hammond, 2015).

Other nations seem to be creating school systems that are more responsive to dynamic 21<sup>st</sup> Century economies and the need for higher levels of college and career readiness. For example, Germany is well known for having different tracks in high school. Hauptschule (Mittelschule) is vocational training while Realschule is a general high school curriculum. Gymnasium is the highest academic track that helps prepare students for university.

Gesamtschule is a track that students take if they are still unsure how they want to proceed and allows for students to change to another track later on (Guill et, al., 2017). The Netherlands also separates its education systems into tracks (Ravitch & Cortese, 2009). Once students have completed their primary education in the Netherlands, students have a choice of which track they would like to pursue for their secondary education from three different options: pre-vocational (four years), general education (five years), and pre-university education (six years) (Ravitch & Cortese, 2009). Singapore is another high performing country that is focused on putting students in positions to follow their interests to encourage learning by offering multiple “bands” that students can enter, but students are not restricted in what classes they take and are able to take classes in other bands if they are interested (NCEE, n.d.). While students do get to choose their path based on their interest in the Netherlands and Singapore, other countries, such as Germany, are more tracking based and focus more on the student’s ability as well as some input from their parents and teachers.

According to researchers, educational pathways, which have also been referred to as learning pathways, describe the academic programs, specific classes, and different learning opportunities that deviate from general high school plans (Learning Pathway, 2013). These pathways can offer students learning opportunities tailored to their post-secondary interests (*Learning Pathway*, 2013). However, the proliferation of the education pathways is not without criticism. One concern is that the growth of pathways may inadvertently foster tracking (sometimes referred to as “streaming”) by assigning students not based on individual interests but instead according to other background factors, such as academic ability, race, family income, and special education status (Hallinan, 1997). Tracking has remained a controversial topic as

many researchers are divided on the outcomes and causes of tracking in school systems (Karlson, 2015; Korthals & Dronkers, 2016; Kulik and Kulik, 1982).

Common educational pathways include, but are not limited to, Early College High School (ECHS), Concurrent Enrollment (CE), Career and Technical Education (CTE), and Advanced Placement (AP). The Bill and Melinda Gates Foundation began a program called the Early College High School Initiative (ECHSI), now known as Early College High School (ECHS), in 2002 (Berger et al., 2013). The purpose of this initiative was to help afford underserved students the opportunity to go to college (Berger et al., 2013). While ECHS does not guarantee that students will attend a 4-year college, it allows students to be able to graduate high school with an associate degree without charging the family (Berger et al., 2013). Dual credit serves as an alternative to Advanced Placement (AP) courses, enabling students to earn credit for their coursework without the requirement of passing a standardized test at the conclusion of the class and typically transfers smoothly to other colleges and universities (Partridge et al., 2021). AP allows high school students to begin college-level coursework, enabling them to earn credit or advanced placement in college coursework before they even graduate high school (College Board, n.d.). Career Technical Education (CTE) equips students with valuable knowledge and skills necessary for success in both college and their future careers by focusing on practical skills and real-world applications within specific career paths (CareerTech, 2018). There is little empirical research on how and why students choose their own educational pathways in K-12, however, there is research on the outcomes of students who choose Early College High School (ECHS), Concurrent Enrollment (CE), and Career and Technical Education (CTE). Although the literature provides a limited understanding of how student choice unfolds, some studies have provided insight into the outcomes of concurrent enrollment (Partridge et al., 2021; Rivera et al.,

2019; Witkowski & Clayton, 2020), CTE (Alonzo, 2011; Atchison et al., 2021; Closs, 2010; Conneely & Hyslop, 2018; Cushing et al., 2019; Edgerton, 2022; Haniford, 2008; Holman et al., 2017; Kwong, 2010; Landl, 2018; Perry, 2019; Smith, 2012; Turpen et al., 2021), and ECHS (Atchison et al., 2021; Berger et al., 2013; Edmunds et al., 2017; Hall, 2013; Nodine, 2011; Song & Zeiser, 2019).

There are certain hypothetical mechanisms that may be underlying the outcomes of students who have the option of selecting an educational pathway. Choice of an educational pathway has the potential to be beneficial when it generates feelings of competence and autonomy in students (Ryan & Deci, 2000b). Many researchers have found that when students have a choice in their academics, they are more likely to have heightened motivation in the classroom (Assor et al., 2002; Deci et al., 1991; Katz & Assor, 2006; Ryan & Deci, 2000a; Stipek, 1996). An experimental study recently reported a strong causal relationship between autonomy and student success (Lerma & Kreinovich, 2015). Other studies have found that gender played a role in autonomy as male students, on average, have a higher autonomy learning score than female students (Henri et al., 2018). According to Ryan and Deci (2000a, 2000b), students must have their needs for autonomy met to be able to have positive social development and growth. The amount of autonomy given to students in the classroom is most dependent on teachers (Merrill & Gonser, 2021).

In theory, having autonomy allows one to have greater control over what is going to happen (Ryan & Deci, 2000b). Allowing students to have choices in the classroom is one of several ways to increase their motivation (Merrill & Gonser, 2021). When students are intrinsically motivated, they are interested in the topic at hand and are invested in the outcome of their choices (Ryan & Deci, 2000b). When student choice is allowed in the classroom, it allows

students to become critical thinkers (Merrill & Gonser, 2021). Students must weigh the pros and cons of each option to determine which choice is the best one for them (Merrill & Gonser, 2021). When providing choices in the classroom, Stipek (1996) says that this does not have to be difficult decisions; these can be as simple as choosing due dates or allowing students to choose a place to sit to work. Beymer and Thomas (2015) argue that when students have too much choice it can have negative consequences. This can be prevented by knowing your students and their needs.

### **Previous Empirical Literature**

While there is little research that has been done on how students choose their educational pathways, there is a substantial amount of literature on tracking and student choice as it pertains to how students in higher education chose a major and also school selections (both high school and college). Slavin (1990) and Hallinan (1997) came to similar conclusions about tracking suggesting that higher tracked students were more successful, and that tracking could be damaging to low-income and Black and Hispanic students. In the literature, students who had choice in their education options were found to be influenced by family or friends (Alexander et al., 1964; Kusumawati, 2019; Le et al., 2020; Holland, 2011; Martinez 2013; Sojkin et al., 2011), school safety (Hamlin, 2017; Hamlin & Li, 2021), past or future finances (Bottia et al., 2020; Le et al., 2020; Sojkin et al., 2011), and gender (Bottia et al., 2020; Godwin et al., 2017; Hegna, 2014; Jacobs et al., 2002; Mann et al., 2020; Piepenburg & Fervers, 2021; Pinxten et al., 2012; Sojkin et al., 2011; Van der Vleuten et al., 2016; Van Langen et al., 2006, 2008; Wang et al., 2016; Zhang et al., 2021). Several studies on students' decision-making about certain educational options provided insight on how student's may be making choices based off their family and friends (Alexander et al., 1964; Kusumawati et al., 2019), their socioeconomic status, both past

and future (Bottia et al., 2020; Sojkin et al., 2011), and their perceived gender (Bottia et al., 2020; Godwin et al., 2017; Hegna, 2014; Jacobs et al., 2002; Mann et al., 2020; Piepenburg & Fervers, 2021; Pinxten et al., 2012; Sojkin et al., 2011; Van der Vleuten et al., 2016; Van Langen et al., 2006, 2008; Wang et al., 2016; Zhang et al., 2021). Yet, little research has been done on the factors underlying students decision-making processes when selecting an educational pathway in high school. This gap in the current literature is that researchers, practitioners, lawmakers, and parents do not fully understand how high school students are deciding on an educational pathway and if there is a connection between how students make decisions about educational topics and educational pathways. Given the expansion of these pathways, it is important that everyone involved understands the long-term ramifications of choosing a certain pathway.

### **Study Purpose**

This study aims to address a gap in the literature on student's choosing an educational pathway in high school by investigating how high school graduates ( $n=22$ ) describe their decision-making processes when choosing a high school pathway. The following research question was addressed in this study:

**Research Question:** *How do high school graduates describe their decision-making processes when choosing an educational pathway in high school?*

The rationale for obtaining post high school students' perspective was to allow for those participants to share their full high school experience from beginning to end. It also provides insight on how schools have grown over the years when it comes to educational pathway opportunities. The findings from this study have the potential to allow educators and families to gain a deeper insight into why and how high school students make educational pathway

decisions. This allows for educators and families to self-reflect and determine how they can improve to provide the best support for high school students so that they are meeting their needs and fostering students' autonomy.

To participate in this study, participants must be above 18 years of age, have completed one of the three education pathways, CE, CTE, or ECHS, in high school, and must have graduated high school. All schools in Oklahoma that offer all three education pathways were sent an email asking if they had any graduates who would be willing to participate in the study. The email that was sent can be found in Appendix A. The participants were then sent a survey link with questions that were derived from Self Determination Theory, Family Identity Theory, and Complexity Theory as well as findings from studies completed on tracking, educational pathways, and education choice. Snowball sampling was used to obtain participants. Participants filled out the Qualtrics survey providing their name, email, where they attended high school, what pathway they took in high school, and if they would be willing to participate in a one-on-one interview. The literature and interviews produced inductive codes, which were then sorted into categories, and themes were then derived from those categories which is located in Appendix C.

This research has the potential to uncover new insights into the impact of student choice in education. Additionally, it adds to the existing body of literature by offering a glimpse into how a small group of students articulate their decision-making process when it comes to choosing their high school educational path. The findings of this study could lead to increased attendance and reduced disciplinary issues, as students are more likely to engage in activities that genuinely interest them. This could also result in a shift in budget allocation for high schools, potentially leading to increased funding for specific programs. Furthermore, the study suggests



that students would be better equipped for their post-graduation plans, potentially leading to cost savings on college or Career Tech programs, which is particularly significant given the rising tuition costs for post-high school education. This holds particular relevance in Oklahoma, where various local and federal programs and laws are in place to support students in their educational journeys.

In Chapter Two, literature that is currently published on the topic is discussed and argued at length. The literature brings to light the outcomes from several different studies that highlight how educational pathways affect students. In chapter three, the conceptual framework for three different theories is laid out, including how they are connected to education pathways. These theories were used to create questions for the survey and the interviews. Chapter four is the methods section that explains in detail who the participants are and how the study was conducted. This section includes tables about the participating school's characteristics, participating student's demographics, and inductive codes and themes as well as direct quotes from the participants. Chapter five is the findings section which provides details about the results from the survey and the interview. The final chapter, chapter six, is the discussion. The discussion provides an overview of the whole study. It also provides different ideas of how to better understand educational pathways and the future work that can be done with this topic. It also lists out the limitations of this study in hopes that future studies can eliminate these errors.

## **Chapter 2: Literature Review**

The literature review section is broken down into three subsections: tracking, educational pathways (CE, CTE, and ECHS), and educational choice. Tracking is a method of assigning students to instructional groups based on their abilities (Hallinan, 1997). Tracking has been debated in the education community, with some arguing it increases educational effectiveness

(Karlson, 2015; Korthals & Dronkers, 2016; Kulik & Kulik, 1982; Loveless, 1998; Ruhose & Schwerdt, 2016) and allows teachers to gear lessons to students' abilities, while others argue it provides unequal learning opportunities (Hallinan, 1997; Mayer et al., 2018; Noguera, 2009; Oakes, 2005; Slavin, 1990). Ladson-Billings (2022) explored effective teaching among African American children highlighting the need for cultural relevant teaching and validating and identifying student's needs. Tomlinson (2017) would concur in meeting the needs of students by differentiating ones instruction based on content (information students need to learn), process (the way the information is taught), product (the outcome of one's learning based on summative or formative assessments), and learning environment (surroundings in which one is learning).

Educational pathways should align to student's interest and prepare them for their future (What are pathways, n.d.). CTE is a pathway that allows for students to be able to continue their education without attending college (Holeman et al, 2017), CE provides students the option to take college classes in high school to prepare them for college (Rivera et al., 2019), and ECHS was created by the Gates Foundation to assist students from underserved demographics with an opportunity to earn more than just a high school degree (Berger et al., 2013).

There were several different factors that help to explain why students made the choices they did, such as family (Kusumawati et al., 2019), friends (Alexander et al., 1964; Holland, 2011), financial status, both past and future (Bottia et al., 2020; Sojkin et al., 2011), and gender (Bottia et al., 2020; Godwin et al., 2017; Hegna, 2014; Jacobs et al., 2002; Mann et al., 2020; Piepenburg & Fervers, 2021; Pinxten et al., 2012; Sojkin et al., 2011; Van der Vleuten et al., 2016; Van Langen et al., 2006, 2008; Wang et al., 2016; Zhang et al., 2021).

## **The History and Development of Tracking**

Tracking is defined as assigning students to instructional groups based on their abilities (Hallinan, 1997). Tracking and ability grouping are common and can be used interchangeably, but tracking is used more in high school and ability grouping is used more in elementary school settings, particularly in reading (Loveless, 1998). Tracking is a debated topic in the education community. Those who support tracking might argue that it increases educational effectiveness for students and allows teachers to be able to gear their lessons to the abilities of those in the classroom, while those who oppose it profess that tracking provides unequal learning opportunities (Hallinan, 1997). Oakes (2005) would agree with Hallinan (1997) that tracking may contribute to inequality in education among marginalized groups which perpetuates ongoing social inequality as students grow up and pursue future opportunities. Which is parallel to Noguera (2009) as he alludes to how schools follow similar social inequalities to surrounding communities.

The research in tracking has two different approaches, comparing achievement gains of students who are in tracking groups versus students who are ungrouped, called heterogeneous placement, and comparing achievements between students who are placed into high and low groups, or homogenous placement (Slavin, 1990). When diving into the research, there are widely different viewpoints and outcomes on how tracking might be beneficial or harmful to students.

Tracking can take place within or between schools and can be sorted by students or courses (Lucas, 1999). Chmielewski et al. (2013) takes it a step further and states that there are three kinds of tracking and examines between-school tracking (where students attend a certain school based off their abilities), within-school tracking (where students are placed in different

tracks based on abilities, but attend the same school), and course-by-course tracking (students are tracked based off their abilities on specific subjects) using the 2003 PISA math scores to carry out their study. The findings suggested that only in course-by-course tracking do high track students have higher self-concept and low track students have lower self-concept (Chmielewski et al., 2013). The inverse was seen for between-school and within-school tracking as high-track students had lower self-concept and low-track students had higher self-concept (Chmielewski et al., 2013). This supports the idea that when students are grouped by course, they observe this grouping every day and having that constant reminder reinforces the status of their track (Chmielewski et al., 2013). Whereas students in the within-school and between-school tracking only see this difference immediately after being placed in the track, so students' self-concept declines over time as they no longer engage with students who are at different levels of achievement (Chmielewski et al., 2013).

Nearly one hundred years ago, Guy Whipple attempted a small-scale investigation of tracking when he examined a gifted and talented classroom that contained 13 boys and 17 girls in the fifth and sixth grades in Urbana, Illinois (Whipple, 1936). After his study, many researchers began to investigate this topic and create studies of their own (Whipple, 1936). By the late 1930s, The National Society for the Study of Education published a yearbook about grouping students that contained about eight comprehensive reviews (Whipple, 1936). One of these reviews contained 108 reports of experimental studies and 140 references (Billett, 1932). Many researchers have continued to study tracking and ability grouping to try to make sense of the data to help further our education system.

A longitudinal survey of students from middle and secondary schools looked at their achievement and tracking starting in 1986 (Hallinan, 1997). Slavin (1990) also studied the

effects of grouping secondary students based on their achievement using a meta-analysis of six randomized experiments. The results from Hallinan (1997) reported that students who were in a higher track received a better education compared to students in the basic track, but no school showed to be more successful at all tracks, even though one school came very close, which suggests that tracking may not be effective. Karlson (2015) would disagree with Hallinan, as she explored tracking in high schools where she applied a difference-in-differences approach using the National Educational Longitudinal study in 1988. She saw that students who were placed in advanced or honors classes in high school showed positive effects on adolescents' expectations, even more so if the student was placed in these higher courses across all subjects (Karlson, 2015). Slavin's (1990) findings are similar to Hallinan, suggesting that tracking can be damaging to a student's education, especially to minorities and low-income students. Ruhose and Schwerdt (2016), however, would disagree with Hallinan and Slavin as they saw evidence that pointed to early tracking not having any effects on natives and migrant students. Hanushek & Wößmann (2006) compared the differences of tracked and non-tracked primary and secondary schools using two different international tests, PISA and TIMSS (Trends in International Mathematics and Science Study), and analysis of the data suggested that the impact of early tracking across subjects is variable but overall indicated that early tracking increases inequality when examining achievement.

Korthals and Dronkers (2016) noted that tracking might alleviate the association between parental background and student performance and reduces the inequality of opportunities between students of different backgrounds. This aligns with the study done by Dustmann (2004), who used micro data to provide an analysis about parents' education and professional careers and

he made the claim that a parent's education level and socioeconomic status can play a role in the child's future and what they believe is an acceptable career.

Loveless (1998) used data to display that there is little to no evidence of improvement in one's education when students are placed on different pathways and given the same curriculum. However, when the curriculum was altered for the students in each of those pathways, the outcome revealed higher student achievement, especially among students in the higher tracks (Loveless, 1998). Mayer et al. (2018) also uncovered similar results after examining the rules that are applied to students on higher and lower tracks and observing twenty-six teachers in the spring of 2012. They divulged that teachers were less supportive of students in the lower tracks versus those who were placed in the higher tracks (Mayer et al., 2018).

Loveless (1998) discussed how ability grouping begins in elementary school when teachers place students in groups based on their academic level in math and reading. In this situation, teachers target a skill, and students get little to no choice of which group they are in (Loveless, 1998). Kulik and Kulik (1982) would also agree that tracking may be effective. Kulik and Kulik (1982) performed a meta-analysis of 52 studies on ability grouping in secondary schools and revealed that, when used appropriately, ability grouping may have a positive effect on achievement and student attitude. Loveless (1998) would agree with Kulik and Kulik about the positive effects. Loveless (1998) revealed that in middle and high school, many educational pathways become available so students can choose a track that best fits their educational needs. Although there seemed to be an overall small effect on achievement among all the studies, the study outcome unveiled that grouping high ability students led to a significant increase in achievement (Kulik & Kulik, 1982). When looking at groups of average and below average students, there was no effect on achievement, which contradicts many opponents of grouping

who claim that grouping hurts these at-risk groups (Kulik & Kulik, 1982). Another significant possible outcome was that grouping had a positive effect on student attitude towards different subjects, school, and themselves (Kulik & Kulik, 1982). This result spanned all groups of students but was most prominent when looking at students' attitude on subjects, with smaller effects that were more inconsistent on students' attitudes about school and self (Kulik & Kulik, 1982). Korthals and Dronkers (2016) examined tracking and schools who took students' prior performances into account. Korthals and Dronkers (2016) revealed that when schools sometimes took student performance into account before being placed in specific subjects, such as math, reading, and science, students' performance was negative in these classes. However, if schools considered a student's prior performance before placing them into specific classes, then the relationship was positive and significant (Korthals & Dronkers, 2016). Overall, Korthals and Dronkers (2016) resolved that it is more positive for students' performance in math and science when schools have more tracks in their education system and when schools take into account their previous performance.

Critics of tracking such as Oakes (2005) might argue that tracking or ability grouping could negatively affects students of color and students of low socioeconomic background but Loveless (1998) would disagree and say that it actually promotes achievement and that no one group, no matter their track, will miss out on any gains. Even more so, the National Educational Longitudinal Study (NELS) explains that there is already a fully formed achievement difference between white students and African American students by the end of eighth grade, and that the achievement gap reaches its greatest separation after elementary and middle school and remains unchanged in high school (Loveless, 1998).

## **Educational Pathways**

Educational pathways can be defined as “an intentional educational structure within a school system which includes a rigorous academic course of study, authentic contextual learning experiences, caring adults to provide guidance and advising, and social, emotional and learning support designed to prepare student[s] for college and career” (What are pathways, n.d.). Great School Partnership is a nonprofit that supports schools working to redesign their education system to improve learning for all students (What are pathways, n.d.). One example of their work is with the New England states. While each school differs due to different needs, there are three common features: “pathways should be intentional and coordinated, pathways should be aligned to student interests and support[ed] by guidance from adults, and pathways should lead to college, career, and citizenship readiness” (What are pathways, n.d.).

The pathways that will be addressed in this dissertation are Career Technical Education (CTE) also known as CareerTech, Concurrent Enrollment (CE)/Dual Credit (DC), and Early College High School (ECHS or EC). There is another educational pathway that has been popular in previous years that will not be discussed, Advanced Placement (AP), which was created by the College Board to offer high school students the opportunity to earn credits at a university level. Prominent flaws with AP courses are that the students must achieve a certain score on the standardized test at the end of the year to earn college credit for each class (The Princeton Review, n.d.), and each high school determines who can take AP courses with some requiring a student to take a placement test or a prerequisite course (College Board, n.d.). Meaning, high schools can track students into these classes based on their performance in prerequisite classes or passing a placement exam.



### ***Career and Technical Education (CTE)***

Career and Technical Education (CTE) programs are found across the United States in both high school and postsecondary partnerships (Conneely & Hyslop, 2018). A basic state grant from the Carl D. Perkins Career and Technical Educational Act was revamped in 2018 under the Strengthening Career and Technical Education, Perkins V (U.S. Department of Education, 2022). Allowing this pathway for our high school students assists the United States in strengthening its global competitiveness as well as helps to bolster the workforce by allowing students to not only stay in school, but also to do better (Conneely & Hyslop, 2018). Many American high school students communicated that they want to continue their education, but they do not want to attend college (Holman et al., 2017). Additionally, two leading causes for why students drop out of high school are a lack of interest and a lack of support (Bloomfield et al., 2013). Many researchers have laid out different levels of effectiveness of CTE programs for students' success (Alonzo, 2011; Haniford, 2008; Kwong, 2010; Smith, 2012). Smith (2012) indicated rigorous curriculum is essential for success. Haniford (2008) reported that CTE instructors claimed that students need to make real life connections related to their career goals while only 45% of college prep teachers believed this to be vital. Kwong (2010) detailed that when students were enrolled in academics geared towards a career, they tended to perform better on standardized math tests, had higher grade point averages, and felt more like family than students who were not. Alonzo (2001) noted that CTE programs have a positive impact on graduation rates. Research had some suggestive evidence that when students have a variety of options for CTE courses, it would increase grades on report cards and decrease high school dropout (Closs, 2010).

A variety of federal funding sources are available to support career pathways, including the Perkins V and the Every Student Succeeds Act (ESSA) which support CTE pathways. As

part of the Strengthening Career and Technical Education for the 21st Century Act (Perkins V), almost \$1.4 billion is allocated to states every year to encourage learners to explore, choose, and pursue career and technical education (CTE) pathways leading to valuable credentials (Edgerton, 2022). The program focuses on supporting academic knowledge, providing skills for both secondary and postsecondary education who takes up the CTE program (Edgerton, 2022). In addition to modernizing workforce development, it aims to streamline existing education programs pertinent to employment (Cushing et al., 2019; Landl, 2018; Perry, 2019).

### ***Dual Enrollment (DE)/Dual Credit (DC)/Concurrent Enrollment (CE)***

Dual enrollment (DE) is defined as a high school student who takes a college course for both high school and college credit (Partridge et al., 2021). Dual enrollment goes by several names that can be used interchangeably, dual credit, concurrent enrollment (CE), or joint enrollment (Partridge et al., 2021). Dual credit is an alternative option to Advanced Placement (AP) and allows students to obtain credit for the course without needing to pass a standardized test at the end of the class and generally transfers to other colleges and universities easily (Partridge et al., 2021). School leaders view DE programs as a way to improve college readiness (Rivera et al., 2019).

A study using more than 24,000 students from 944 high schools found that participants of differing demographics in DE reported higher levels of engagement and felt a sense of school belonging (Rivera et al., 2019). Another study done in Colorado conducted interviews and 14 of the 15 participants shared that they overwhelmingly supported DE (Witkowsky & Clayton, 2020). All in all, DE appears to be an access point for students from all demographics, first generation, low income, etc., to attend higher education (Witkowsky & Clayton, 2020). Yet, it

was reported that students from higher income backgrounds had more access to the DE programs than low-income students (Atchison et al., 2021).

Studies reported findings that 99.45% of students who received a tuition waiver for CE graduated high school (Turpen et al., 2021). In addition, the same study showed that 99.1% of a sample of students who attended an Oklahoma public college or university after being a CE student in high school were high school graduates (Turpen et al., 2021). In the most recent academic year, more than 14,000 students were enrolled in CE courses and CE enrollment has nearly doubled within the last decade (Turpen et al., 2021). Nearly 133,000 credit hours have been completed by CE students (Turpen et al., 2021). Out of 10,368 associate degree graduates, 2,514 were prior CE students (Turpen et al., 2021). Out of 17,765 bachelor's degree graduates, 4,600 were prior CE students (Turpen et al., 2021).

### ***Early College High School (ECHS) or (EC)***

While DE allows students to enroll in college courses, Early College High School or Early College allows students to earn up to 60 college credits and gives them the potential to graduate high school with an associate's degree (Atchison et al., 2021). Students begin by choosing an associate degree that their program offers. Then, students take two years of preparatory courses before beginning college courses in their junior and senior years. Students have some flexibility in choosing which classes meet the requirements needed to earn the degree. Admission into an Early College High School is dependent on the ECHS program since each program works independently from one another, typically though students must apply to the program between 8th and 10th grade (OKcollegestart, n.d.).

In 2002, the Early College High School Initiative (ECHSI) was established by the Gate's Foundation (Berger et al., 2013). Between 2002 and 2011 more than 240 ECs opened around the

nation with the purpose of assisting students who were underserved in high schools (Atchison et al., 2021). A lottery-based randomized experiment was done to study the impact of Early College High School from 2005 to 2011 (Berger et al., 2013). The study reported that 86% of Early College High School students graduated from high school, 80% enrolled in colleges or universities, 20% of students earned a college degree by the time they graduated high school (Berger et al., 2013). In contrast, Atchison et al. (2021) wrote that students who attended ECHS were significantly less likely to attend college compared to students who did not attend ECHS (10.2% vs 28.8%). Within this same sample, ECHS students were significantly more likely than students who did not attend an ECHS to complete a bachelor's degree (25% vs. 20%) or an associate's degree (13.6% vs. 6.2) (Atchison et al., 2021).

Some studies have suggested that there have been positive impacts of Early College High School (Edmunds et al., 2017; Song & Zeiser, 2019). Texas and North Carolina have been the largest participants in the Early College High School programs and have some of the most developed high school education and higher education programs in the country (Hall, 2013; Nodine, 2011). A study done by Nodine found positive effects when one third of the Early College High School students had enough credits to graduate with an associate's degree while they were still in high school (Nodine, 2011). A reported negative of EC is that the program is not always reaching those it was intended to reach (Atchison et al., 2021). Studies have relayed that ECHS has positive outcomes and has been able to improve achievement and assist students who are underrepresented that choose to go to college (Calhoun et al., 2019). While the ECHS was created to help students who are from low socioeconomic backgrounds who may not have the opportunity to go to a post-secondary program, the pathway has gained a lot of attraction from all walks of life (Atchison et al., 2021).

For most schools, there is little to no cost for students for the Early College High School (ECHS) (Leonard, 2013a). However, this is not true for all states and school districts in the United States. The American Institutes for Research (AIR) composed a second report to a study done by Atchison et al. (2021) where they compared the cost of ECHS to traditional high school pathways and reported that students who completed ECHS exceeded the per-student cost compared to traditional high school but when compared to the traditional college pathway, there was significant savings (Atchison et al., 2021). To put it into perspective, per this study, the average cost of ECHS was \$955 more per year compared to students who were in the traditional high school pathway (\$3,400 for all four years) but the tuition and fees in 2017-2018 were about \$3,600 for one year at a community college and \$8,300 for one year at a four-year, in-state university (Atchison et al., 2021).

**Table 1**

*Differences between Tracking and Education Pathways which provides a definition for each as well as benefits and drawbacks that were obtained from the literature.*

|                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Tracking:</b> assigning students to instructional groups based on their abilities (Hallinan, 1997)                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Educational Pathways:</b> “an intentional educational structure within a school system which includes a rigorous academic course of study, authentic contextual learning experiences, caring adults to provide guidance and advising, and social, emotional and learning support designed to prepare student[s] for college and career” (What are pathways, n.d.)                  |                                                                                                                                                         |
| <b>Benefits:</b> <ul style="list-style-type: none"> <li>Increases educational effectiveness (Hallinan, 1997)</li> <li>Allows teachers to gear lessons towards one's abilities (Hallinan, 1997)</li> <li>Most effective when prior performance is considered (Korthals &amp; Dronkers, 2016)</li> </ul> | <b>Drawbacks:</b> <ul style="list-style-type: none"> <li>Unequal learning opportunities (Hallinan, 1997; Oakes, 2005)</li> <li>Most effective for students in higher tracks (Carlson, 2015; Kulik &amp; Kulik, 1982; Loveless, 1998; Mayer et al., 2018;) and less effective for students in lower tracks (Mayer et al., 2018)</li> <li>Negative effects on at risk students (Noguera, 2009; Oakes, 2005; Slavin, 1990)</li> </ul> | <b>Benefits:</b> <ul style="list-style-type: none"> <li>Aligns with student interest and leads to college and career readiness (Rivera et al., 2019; What are pathways, n.d.)</li> <li>Improves student retention and performance (Alonzo, 2011; Bloomfield et al., 2013; Berger et al., 2013; Closs, 2010; Haniford, 2008; Kwong, 2010; Smith, 2012; Turpen et al., 2021)</li> </ul> | <b>Drawbacks:</b> <ul style="list-style-type: none"> <li>Programs do not always reach those it was intended to reach (Atchison et al., 2021)</li> </ul> |

## **Education Choice**

While there is little research on student choice as it pertains to educational pathways, there are a decent number of articles that discuss student choice as it relates to how students choose schools, classes, majors, colleges, and other relevant educational choices (Hamlin & Li, 2021).

### ***Factors informing student choice for higher education***

Student choice for higher education is similar to how students were making choices in high school. While there were several different findings to explain why students made the choices they did, gender and socioeconomic status did not waver. Young adults making a crucial decision may influence one's friendships, career plans, and families (Galotti & Mark, 1994).

Peterson (2006) surveyed 2,500 college juniors and seniors at random and by the deadline of the survey 795 (32%) surveys were returned, findings suggest that 47% of students changed their major in college. Peterson's (2006) regression analysis revealed that students' intrinsic, extrinsic, and experiential reasons led to over half of college students changing their major, however intrinsic factors were reported to be the most important factor of the three. A quantitative study conducted in Poland examined the factors behind the choice of Polish students who pursued a tertiary education, or post-secondary education, and reported that five factors that influenced this decision: family influence, student-type of life, family financial support, higher chances of getting a job, and professional advancement (Sojkin et al., 2011). Many of these decisions, family support, financials, and better life outcomes, were also echoed in Martinez's (2013) qualitative study when she examined Latina/o families. The 84 questions from Sojkin et al. (2011) were sent to 2,350 recipients with only 1,420 survey responses being usable and revealed that 50% of the respondents come from families who have country level income, 19%

came from below, and 27% came from above country income levels. Females showed a statistically significant difference in four of the five factors compared to the male respondents (Sojkin et al., 2011).

Gender was a factor when examining educational choice and there has been gender segregation for some time in education which has affected the different educational opportunities (Godwin et al., 2017; Van der Vleuten et al., 2016). Males were more likely to choose a science or math track versus females who tend to choose a non-science track (Godwin et al., 2017; Pinxten et al., 2012; Van Langen et al., 2006, 2008). Godwin et al.'s (2017) quantitative study noted that women are two times less likely to choose an engineering major compared to males. Jacobs et al. (2002) conjectured that gender played a role in education but not as a whole, it was different based on subject. While girl's perception has been an issue, the direction for boys was more troubling because when boys felt as though they were unsuccessful in their academics or did not place an emphasis on their studies, they were more likely to quit school (Jacobs et al., 2002). Pinxten et al.'s (2012) multilevel analysis inferred that boys choose more mathematics and science focused pathways compared to females. Female students were less likely to choose IT majors over the opposite sex even though the female participants were just as competitive in their classes as their counter parts (Zhang et al., 2021).

Hegna (2014) would agree that gender plays a role in not only choosing but changing their educational pathways. Hegna (2014) conducted a study that examined a longitudinal data set of students who were born in 1992 that attended public schools in Oslo, where she collected that gender was not the only factor, but so were family socioeconomic status (SES) and academic grades, in changing their academic ambitions. Low socioeconomic (LSEC) students are not as likely to attend college and much less likely to choose a STEM major compared to those who fall



in a higher socioeconomic class and the study supports that attending a two-year college could assist students in choosing a STEM major no matter their socioeconomic background (Bottia et al., 2020).

Alexander et al. (1964) conducted a study involving 1,401 male high school seniors in 30 different high schools in North Carolina. They observed that male students who are of a ‘given status level’ were more likely to plan to attend college if their friends had the same plan (Alexander et al., 1964). When this plan was reciprocated between the friends, the relationship was even stronger (Alexander et al., 1964). Their findings propose that the communication between male high school seniors and their friends affects not only their plans for college but also their attendance (Alexander et al., 1964). Holland’s (2010) data echoes Alexander et al.’s (1964) study by shedding light on how powerful an influence peers can have on one’s planning for post-secondary planning that could have a negative or positive effect on them. Even more so, the study indicated that peers had the possibility to affect one’s cognition, which is demonstrated in work from Kusumawati (2019) and Alexander et al. (1964) in that there is a relationship between peers and the effect they have on one’s decisions.

### ***Factors informing student choice during secondary school***

Secondary students have access to counselors whose job is to assist with one’s future decisions, amongst other duties, and Sattin-Bajaj et al. (2018) examined three types of counseling guidance for students choosing a high school in New York: directional (providing specific recommendations-guided students to specific high schools that would benefit them), generic (general information- wanted students to create their own opinions about the different high school options), and procedural (basic information- decision should rest with the parents of the student). Sattin-Bajaj et al. (2018) used a mixed methods approach and drew on semi-

structured interviews and surveys with 88 middle school counselors and data on student choice outcomes at schools which inferred that counselors should not use directional counseling as it could play a role in hindering the student's educational pathway long term. Students from lower SES class needed more adult support as they were more likely to be making decisions about high schools on their own (Sattin-Bajaj et al., 2018). Piepenburg & Fervers (2022) would agree that counseling students can be positive but in their randomized control trial of 574 high school students in Germany who were between 6 to 18 months from graduating and had plans to attend college, and their results suggested that guidance from counseling services assists in choosing gender-typical majors. Furthermore, a dissertation study conducted by Finlayson (2009) used a quantitative approach and examined the effects of middle school and high school counselors' perception on CTE choice. It was recorded that the counselors felt that they did not have enough time to educate students on career counseling and believed that if students who are informed and ready to choose a career area their freshman year of high school then they will have an easier transition from middle school to high school which would lower the high school dropout rate (Finlayson, 2009). The research suggested that not only do students and parents observe the benefits of the CTE pathway, but businesses and the community see the value as well (Finlayson, 2009).

Gender has been shown to play a significant role in student's educational choices (Bottia et al., 2020; Godwin et al., 2017; Hegna, 2014; Jacobs et al., 2002; Mann et al., 2020; Piepenburg & Fervers, 2021; Pinxten et al., 2012; Sojkin et al., 2011; Van der Vleuten et al., 2016; Van Langen et al., 2006, 2008; Wang et al., 2016; Zhang et al., 2021). PISA not only examines the knowledge of 15-year-old students around the world, but they also survey students and in 2018 the results showed that boys who scored high in math and science were more likely

to show interest in choosing an engineering or science career (Mann et al., 2020). Godwin et al. (2017) revealed in their quantitative study that males reported tinkering with different electrical or mechanical devices while woman share that they attended camps and interacted with the natural world more often. Another reason that science, mathematics, engineering, and math (STEM) based majors have been more sought out by men more than women is partly because of cognitive strengths and ability, including field stereotype beliefs, employment interest, values, including views on work-life balance, and gender stereotypes (Wang et al., 2016). Decreasing gender segregation when students are choosing a college major could result in an effortless transition from college graduation to one's occupation (Piepenburg & Fervers, 2021).

When planning for the future, students consider many factors and Briggs (2006) reported that the top 10 factors for Scottish students' decision-making process for entry into college, with the top three being academic reputation, location, and distance from school. While Simões and Soares (2010) surveyed 1,641 first time students who were enrolling in a Portuguese university and yielded very similar findings in their quantitative study with geographical proximity, academic reputation of the university, and academic reputation of the degree being most important. Le et al. (2020) used a quantitative survey to point that future jobs, the requirements for entrance, and quality of teaching could be key factors when choosing a university but are still not as much of a factor as the role parent's play in the decision making of their child's future as this is a Vietnamese cultural norm. Indonesian high schoolers echo the reasons for selecting a public university (Kusumawati et al., 2019). This qualitative study showed that these students not only sought advice from their parents but also their family, friends, and teachers as well as job opportunities and the school's reputation (Kusumawati et al., 2019).

While there is research that describes students' decision-making process in other areas of education such as choosing college majors (Peterson, 2006), STEM tracks (Bottia et al., 2020; Jacobs et al., 2002; Pinxten et al., 2012; Van Langen et al., 2006, 2008; Zhang et al., 2021), and schools, either college or high school (Hegna 2014; Sattin-Bajaj et al., 2018), there is not much research on how students decide on an educational pathway in high school. There are studies that attempt to relay the outcomes of CE (Partridge et al., 2021; Rivera et al., 2019; Witkowsky & Clayton, 2020), CTE (Alonzo, 2011; Atchison et al., 2021; Closs, 2010; Conneely & Hyslop, 2018; Cushing et al., 2019; Edgerton, 2022; Haniford, 2008; Holman et al., 2017; Kwong, 2010; Landl, 2018; Perry, 2019; Smith, 2012; Turpen et al., 2021), and ECHS (Atchison et al., 2021; Berger et al., 2013; Edmunds et al., 2017; Hall, 2013; Nodine, 2011; Song & Zeiser, 2019) and the impacts these pathways may have on individuals. But literature is missing on how students are choosing to pursue a pathway and if there is a connection to the current literature that is already present on student choice. Each student has different experiences in life that may influence how they make decisions. Studies show that students might make these choices based off their family and friends (Alexander et al., 1964; Kusumawati et al., 2019), their financial status, both past and future (Bottia et al., 2020; Sojkin et al., 2011), and their gender (Bottia et al., 2020; Godwin et al., 2017; Hegna, 2014; Jacobs et al., 2002; Mann et al., 2020; Piepenburg & Fervers, 2021; Pinxten et al., 2012; Sojkin et al., 2011; Van der Vleuten et al., 2016; Van Langen et al., 2006, 2008; Wang et al., 2016; Zhang et al., 2021).

**Table 2**

*Seven common factors that influenced student choice that were found in prior literature.*

| Gender                                                                                                                                                                                                                                                                  | Family                                                                                                                             | Peers                                                                          | Financial                                                                                                         | Counselor                                                              | Location                            | Academics                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bottia et al., 2020; Godwin et al., 2017; Hegna, 2014; Jacobs et al., 2002; Mann et al, 2020; Piepenburg & Fervers, 2022; Pinxten et al., 2012; Sojkin et al., 2011; Van der Vleuten et al., 2016; Van Langen et al., 2006, 2008; Wang et al., 2016; Zhang et al., 2021 | Alexander et al., 1964; Galotti & Mark, 1994; Hegna, 2014; Kusumawu ti, 2019; Le et al., 2020; Martinez, 2013; Sojkin et al., 2011 | Alexander et al., 1964; Galotti & Mark, 1994; Holland, 2010; Kusumawu ti, 2019 | Bottia et al, 2020; Galotti & Mark, 1994; Kusumawu ti, 2019; Le et al., 2020; Sojkin et al., 2011; Martinez, 2013 | Finlayson, 2009; Piepenburg & Fervers, 2022; Sattin-Bajaj et al., 2018 | Briggs, 2006; Simões & Soares, 2010 | Bottia et al, 2020; Briggs, 2006; Hamlin & Lee, 2021; Hegna, 2014; Jacobs et al., 2002; Kusumawu ti, 2019; Le et al., 2020; Peterson, 2006; Pinxten et al., 2012; Sattin-Bajaj et al., 2018; Simões & Soares, 2010; Van Langen et al., 2006, 2008; Zhang et al., 2021 |

### **Gaps in Research Educational Pathway Options**

The reason for this study is the gap in literature. Little research has been done on how students describe choosing their educational pathway. Therefore, the literature used for this study was based on studies about tracking, educational pathways, and how students are making choices within an education setting. . The current literature on CE, CTE, and ECHS has positive outcomes for students but does not provide insight to how students are choosing these pathways.

While tracking is a debated topic and has shown both positive and negative effects for students, it may not be what is best for all students. Tracking can affect the experiences that students have in the school setting as well as what options are presented to them. Students on higher tracks may be pushed towards more challenging opportunities such as taking college level courses in high school. In contrast, students who are placed in a lower track may be viewed as not being capable of the demands of college classes and, rather, are guided to obtain skills that will prepare them for the workforce right after high school. However, when students are given options and are able to make a choice, evidence suggests that educational outcomes are more positive (Lerma & Kreinovich, 2015; Merrill & Gonser, 2021; Ryan & Deci, 2000b). While schools providing students with choice in their educational options can be a positive, external factors such as family, friends, gender, and socioeconomic status hinder a student's ability to make decisions that meet their desires and goals they have for themselves. .

### **Chapter 3: Conceptual Framework**

This chapter describes Self-Determination Theory, Complexity Theory, and Family Identity Theory. Different tenets of these theories were applied to this study to theorize about varying potential factors influencing students' decision-making processes when choosing an educational pathway. These theories were used to inform both the research design and to interpret findings for this study.

#### **Self-Determination Theory (SDT)**

Self-Determination Theory (SDT) focuses on one's motivation as it relates to our three main psychological needs: autonomy, competency, and relatedness (Deci & Ryan, 2000). For the purpose of this study, the focus will be on autonomy. In SDT, autonomy examines the innate

human drive to be curious and interested in learning (Niemic & Ryan, 2009). Niemic and Ryan (2009) used a large amount of empirical evidence on Self Determination-Theory (SDT) to show that both types of motivation, intrinsic and extrinsic, facilitates student engagement and learning in a classroom setting. Niemic and Ryan (2009) also found that when teachers support their students' psychological needs for autonomy, competence, and relatedness, it increases their students' motivation for learning in the classroom and their overall well-being, but when students become frustrated and their psychological needs are not being met, it leads to disengagement and lower outcomes in their learning.

According to Ryan (2009), SDT is a psychological need that encompasses autonomy, competence, and relatedness which are essential to the functioning of humans no matter their stage of life. There have been multiple studies that have examined SDT and academic motivation/achievement. A meta-analysis of six studies was performed by Taylor et al. (2014) looking at high school students over a period of time and concluded that intrinsic motivation is the greatest factor for students' achievement in the classroom. They also found that intrinsic motivation has a very strong positive relationship to student achievement for high schoolers and college students compared to students in elementary school (Taylor et al., 2014). Froiland and Worrell (2016) interrogated the relationship between intrinsic motivation to learn, learning goals, behavioral engagement at school, and academic performance (GPA) and parental education among 1,575 students who attended an ethnically and racially diverse high school.

The studies from Froiland and Worrell (2016) and Taylor et al. (2014) produced similar findings. If students are motivated and are choosing their own educational pathway then students, using SDT, will have a positive achievement in high school. Providing students the

opportunity to explore what interests them and provide them with different options to pursue could lead students to choose what motivates them.

Autonomy is defined by experts as being able to take charge in one's learning (Field, 2007). Students may be autonomous by being able to choose their own educational pathways. Many countries, such as the Netherlands, have separated their education systems into tracks or pathways (Ravitch & Cortese, 2009). A study conducted in Finland by Vanhalakka-Ruoho et al. (2016) revealed that families' feel very strongly that their children should be able to have their own autonomy and be autonomous and be allowed to choose their pathway. Once students have completed their primary education in the Netherlands, they get a choice in which track they would like to pursue for their secondary education from three different options: pre-vocational (four years), general education (five years), and pre-university education (six years) (Ravitch & Cortese, 2009). While students do get to choose their path based on their interest in the Netherlands and Finland, there are other countries who run their education system similarly but require students to take a test to demonstrate they are capable of being successful in that pathway, which more so falls under tracking.

There is a large body of literature on autonomy in the classroom. Many researchers state that when students have a choice in their academics, they are more likely to have a heightened motivation in the classroom (Assor et al., 2002; Deci et al., 1991; Katz and Assor, 2006; Ryan and Deci, 2000a; Stipek, 1996). Starting at a young age, students react positively when given a choice. An experimental study recently found a 45% correlation between autonomy and student's success (Lerma & Kreinovich, 2016). The overall research shows that when students have more autonomy over their learning, they are more likely to have greater intrinsic motivation which could lead to greater student achievement (Lerma & Kreinovich, 2016).



## **Autonomy Versus Autonomous.**

Students may exhibit autonomy in their day-to-day life as they self-regulate and guide their behavior (Niemic et al., 2010 p. 170). Autonomy begins when a person is able to control their thoughts, emotions, and actions which are influenced by intrinsic and extrinsic motivations (Deci & Ryan, 2013 p. 24). A person transitions from autonomy to autonomous when they take responsibility of their future and have an inner force driving them to reach the goals that they have set for themselves and are self-aware of their progress and adjust when needed (Marandi & Sadaghian, 2016). In this process the tasks also become less influenced by extrinsic factors (Deci & Ryan, 2013 p. 26). In a classroom setting, autonomous learners do not see themselves as below the teacher, instead they see themselves as equals in terms of the educational learning outcomes because all parties are working together and take responsibility of the learning (Marandi & Sadaghian, 2016). If we apply the literature to educational pathways, tracking could hinder one's choice. A student who is not limited based solely on their ability, socioeconomic status, or ethnicity but rather has their autonomy fostered could choose a pathway based on what motivates them, whether intrinsically or extrinsically, compared to students who are autonomous, who make decisions based on their desires, are self-aware of their choice, and take responsibility of their choice and adjust their actions to observe a desired outcome.

## **Complexity Theory (CT)**

Complexity Theory is about growth and advancement through different relationships (Morrison, 2008). Complexity Theory first came about in the biological and physical sciences to try to better understand the nature of organisms, but in the last 20 years it has been applied to other areas to try to understand the function and change in social and political organizations (Waldrop, 1992). An education system is considered a complex system (Kershner & McQuillan, 2016, p. 6) which is comprised of agents, such as teachers, administration, and students (Duncheon & Relles, 2020). Teachers play a crucial role for students as the teachers must scaffold a student's knowledge and be able to create a conducive learning environment that is not only positive and full of learning but also encourages student motivation (Morrison, 2008). Agents are in constant communication and these interactions lead to changes over time (Hoban, 2004). Behavior within a school system is determined by how agents interact and their relationship as a whole versus how one individual agent acts (Hoban, 2004). A system's historical memory will be a deciding factor as to whether individual agents buy in or demand change (Duncheon & Relles, 2020).

### ***Individual Agent***

Complexity theory guides away from the behavioral aspect of agents and focuses more on the interactions that they have between one another (Duncheon & Relles, 2020). This leads to assuming that agents make choices based on their personal goals, the activity of other agents around them, and pressures from the larger environment (Duncheon & Relles, 2020). Battram (1999) dives deeper and says that the relationship between the agent and the environment has a dynamic and non-linear relationship that eventually leads to the change in one another (Duncheon & Relles, 2020). Agents, or students', decisions are not derived from their own

personal beliefs alone but by the actions and decisions of other agents as well as the pressure from the outside environment (Duncheon & Relles, 2020), in other words, interactions influence one's decisions which they may not have arrived to on their own.

When examining how students choose their education pathway, one aspect that must be inspected is who the individuals are surrounding themselves with, who are considered agents. Students spend a large amount of time around these different agents, teachers, other students, and administration. While one may be influenced by other agents, the changes that occur are not immediate rather there is a change over time (Morrison, 2008) and sometimes these outcomes can be unpredictable (Duncheon & Relles, 2020). Tony Robbins, a life coach, once said "who you spend time with is who you become." If students surround themselves with individuals who have high expectations, are hard workers, and who are motivated will act the same way, and based on CT, could be influencing the educational pathways that they choose to pursue.

Applying CT to the existing literature with an understanding that who a student surrounds themselves with in an educational setting can be called a school community and that a school community, or stakeholders, can include teachers, school leaders, students, board members, local residents, city officials, representatives, or alumnae (The Glossary, 2019) has the potential to influence educational decisions. The partnership between school and community can help to bring about several positive outcomes such as providing additional resources, creating next-generation leaders, and assisting students in getting connected to career opportunities (Decker & Decker, 2000, p. 66). Viewing educational choice through the lens of CT, previous research has found that students make decisions based not only on wants but that their desires have been influenced by outside force.

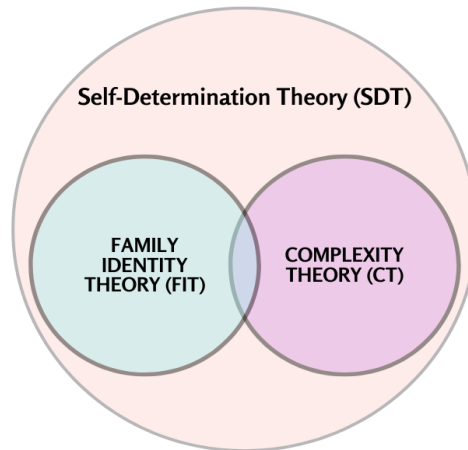
## **Family Identity Theory (FIT)**

Each person gives meaning to their identity in consideration to social groups (Tajfel, 1978) with regard to one's in-group, with whom they identify and usually experience positive comments from, and one's out-group, ones they do not identify with and experience negative comments from (McLeod, 2023). A family relationship is connected by values, rituals, and assigned roles that have been established whether the family is aware or not (Scabini and Manzi, 2011). The family influences individuals within the relationship and when those individuals emerge from the family, the influence that the family has had on them can affect their process which leads to who they believe they are or who they identify as (Scabini and Manzi, 2011). Scabini and Manzi (2011) address three different levels: group level, couple subsystem level, and individual subsystem level. For the purpose of this paper, I will be focusing on the individual subsystem level which dives into how an individual's identity comes to be through being a part of a family. Reay and Ball (1998) dive into education choice-making from within different types of families using Bernstein's work. In the early 1960s, Basil Bernstein developed a theory called sociolinguistic code which examined the contrast in communication codes between families in different socioeconomic classes which reflected a variance in a few areas but in particular, school (Sadovnik, 2001). While families vary based on social power, Reay and Ball (1998) came to the conclusion that a child in a working-class family has the greatest power to influence choice compared to other family classes. Based on current research on education choice, students can be shaped by their families, intentionally or unintentionally, which can play a factor in their decision-making. Using FIT as a lens when examining the literature highlights how external factors such as friends, teachers, and the community can influence one's educational choice but also one's family as this a bond that is created at birth and many children depend on their parents

for not only survival, but also guidance in their life choices. This can also differ depending on one's culture as observed in the literature.

Using this as a lens for how students describe their decision-making processes when choosing an education pathway, many students' choices are connected to their parents whether that be that they are following in their parent's footsteps or that their parents had an influence on the pathways that they chose.

Families play an important role in their child's life (APA, 2023). Families offer guidance and development in their cognitive, social, emotional, and physical being (APA, 2023). When using FIT as a lens for this study, it is important to remember how much selection bias can come from family. A student's choice may be restricted by the limited resources that families can spend on certain pathways (Bell, 2009; Hamlin, 2018; Stewart & Wolf, 2012). Since these students are in high school, some from low socioeconomic families, transportation to and from their pathways that are off campus could be limiting students from choosing this pathway (Hamlin, 2018). Students who are first generation college students may not have as much access to different resources, or a networking group (Hamlin, 2018) compared to their counterparts whose parents have had similar experiences. Students who have performed poorly in their education journey will most likely not be able to choose their pathway of choice (Hamlin, 2018). This alone highlights an academic bias of a student without examining the reasons for the poor grades. These students may then become tracked into a pathway instead of choosing.



This research provides insight on how students make choices as it relates to their education. Peterson's (2006) findings suggested that students change their major for different reasons, but intrinsic factors were the most important. Whereas other researchers such as Bottia et al. (2020), Jacobs et al. (2002), Hegna (2014), Pinxten et al. (2012), Van Langen et al. (2006, 2008), and Zhang et al. (2018) observed that gender was one of the largest factors that influences student's choice as it relates to how students internalized gender norms and pursued certain choices because of how they saw themselves or because of their desires. Even more, it was observed that the males were more likely to choose math and science focused majors than females. Hegna (2014) pointed out that not only does gender have an influence on the choices students make but so does one's socioeconomic status. Hegna (2014); Bottia et al. (2020); Sojkin et al. (2011) referenced in their research the effects of one's financial status either growing up or their future potential earnings and how those have impacted the choices. One's socioeconomic status bleeds over into their education life as Alexander et al. (1964) studied high school male students of the same status level and found that when those males made plans, they were more likely to follow through on the plan and their friendship was strengthened. Whereas other researchers yielded academic reputation and future jobs (Simões and Soares, 2010), reputation

and location (Briggs, 2006) while others find others found similar finds to Simões and Soares (2010) and Briggs (2006), Le et al., (2020) and Kusumawati et al. (2019) who highlighted the cultural aspect that nothing came above students seeking advice from their parents as well as their friends and family.

Using existing literature, this study draws upon three theories. The first one is SDT which provides the perspective of autonomy. While we know that choice plays a role in autonomy, the difference between choice and autonomy is that autonomy meets students' desires they have for themselves. The literature shows that when students have autonomy in their decision making, they have better educational outcomes. Complexity Theory and Family Identity Theory will take a closer look at what or who is shaping the students' desires and if the desires are truly their own. Complexity Theory is where agents (students) make choices not only based off their desires but also how others (teachers, peers, and classmates) influence their decisions. Research suggests peers may influence one's college plans (Alexander et al., 1964) and Holland (2011), furthermore, said students want input from their peers when making their decisions (Holland, 2011; Kusumawati et al., 2019). Whereas Family Identity Theory is who someone considers themselves based off their family and personal experiences which shapes their ambitions. CT and FIT can overlap as a child's family can play a role in their educational setting and influence their decision from a family aspect but also an educational aspect. Families can act as agents by being involved in PTA, volunteering at their child's school, attending conferences with their child's teacher. Research suggests a family's socioeconomic status and background can play a deciding role in what the student wants for themselves and how they perceive themselves (Alexander et al., 1964; Atchison et al., 2021; Hallinan, 1997; Hegna, 2014; Loveless, 1998; Slavin, 1990). Families influence a student's environment in choosing where to live based off of the local

public schools and some families are fortunate enough to afford a private education. Together these three theories create a lens to gain a better understanding of how and why students make important choices about their education as young adults.

## **Chapter 4: Methods**

### **Current Study**

This study aims to address a notable gap in existing research. There has been limited exploration into how students articulate their decision-making processes when selecting their educational paths. As a result, the study draws from literature related to tracking, learner autonomy, and various educational pathways. Although current literature indicates positive outcomes for students in CE, CTE, and ECHS programs, it fails to shed light on the factors influencing students' choices. While the concept of tracking remains a topic of debate, with evidence of both positive and negative impacts on students, it may not necessarily be the best approach for all students. Moreover, while granting students autonomy in their educational decisions can be beneficial, influences such as family, peers, gender, and socioeconomic status can impede students' ability to make decisions that truly align with their best interests. The research question was as follows:

***Research Question:*** *How do high school graduates describe their decision-making processes when choosing an education pathway in high school?*

### **Research Design**

A qualitative study was chosen for this study because of the need in the literature for a deeper understanding and a personal account of how students are choosing the pathways they are choosing. Two ways that students join a pathway are by tracking or by choice. Using interview questions will allow me to dig deeper into a student's choice to try and gain a better



understanding of how students are making choices and if their choices are autonomous. This study attempts to gain a better understanding of how students choose their own educational pathways. Specifically, this study asks, how do high school students describe their decision-making processes when choosing an education pathway?

### **Study Setting**

The state of Oklahoma currently offers two different curriculums for students to choose from (High School Students, 2020). The first shows scholars what classes they should take if they want to go to college (High School Students, 2020). The other outline shows which classes are the bare minimum needed to graduate high school (High School Students, 2020). Many districts in the state of Oklahoma, however, have begun to explore other educational pathway options. Oklahoma is an important setting for studying education choice in high school as the state has begun to allow different educational pathways in high school, concurrent enrollment (CE) (High School Students, 2020), Early College High School (ECHS) (Turpen et al., 2021), and Career and Technical Education (CTE) (Advance CTE, n.d.).

### ***Concurrent Enrollment Pathway***

In the state of Oklahoma, any eligible high school student who is at least 13 years of age and is receiving high school level instruction, including at home, may partake in CE, however, CE is most common for juniors and seniors (High School Students, 2020) and must meet the admission requirements and any placement requirements (Ross, 2023) of said university or community college before beginning. Students can take an array of courses from English, math, and even science. CE gives students an opportunity to complete their basics so that when they arrive at a postsecondary institution, they will be able to start whatever career field they are interested in right away. Taking CE courses also provides a glimpse into college classes and the

expectations that they have for students. While high school and basic college courses cover similar topics, students are held to a higher standard in college and have to be able to show a higher level of thinking.

In terms of funding CE in Oklahoma, high school juniors may receive a voucher for up to nine credit hours per year if there are available funds and high school seniors are eligible to receive a voucher for up to twelve credit hours per year by the state of Oklahoma (High School Students, 2020). This is huge for Oklahoma high schools as this allows students to begin taking college courses and be reimbursed for the cost.

### ***Early College High School Pathway***

In Oklahoma, there are currently 19 districts participating in the ECHS pathway (OKcollegestart, n.d.), excluding the two charter schools. While most of the districts do not post the details of the cost of ECHS, Muskogee Public Schools (MPS, n.d.) and Union Public Schools (UPS, n.d.) shared on their website that it does not cost to participate in the ECHS program. One of the most common requirements is that students must apply during their 8th grade year and be accepted to the program.

### ***Career and Technical Education Pathway***

In Oklahoma, there are currently 29 technology centers on 60 different campuses that allow high schools students to attend (Technology Centers, 2023). High school students that live within these districts can attend without the burden of tuition cost (Technology Centers, 2023). Students who are enrolled in CTE courses have a 96% graduation rate and 94% continued on to post-secondary education (*Oklahoma, n.d.*). There are currently 196,567 students enrolled in public high schools in Oklahoma and only 36,966 of those students are enrolled in CTE program (*Oklahoma, n.d.*).

Oklahoma CareerTech has partnered with Project Lead the Way which is a STEM curriculum designed and led by educators (PLTW, n.d.). CareerTech programs offer the Project Lead the Way curriculum in Computer Science, Engineering, or Biomedical Science to high school students who are interested in pursuing these fields (PLTW, n.d.). Students accepted into this program attend the career tech center where they will take different courses and can earn college credit (PLTW, n.d.).

This paper will use Self-Determination Theory, Complexity Theory, and Family Identity Theory as lenses to assist in understanding student choice as it relates to educational pathways alongside interviewing students who have graduated from different educational pathways.

This gap in the literature on educational pathways in high school demands further research. As a result, the research question that this study will attempt to address is, how do high school graduates describe their decision-making processes when choosing an educational pathway in high school that offers multiple pathways?

## **Data Sources**

For this qualitative study, I began by creating a list of schools that offered all three pathways using data from the State Department of Education and OKcollegestart's websites and placed them in an Excel Sheet called Dissertation under the schools and pathways. Within the spreadsheet there are four tabs: participants, codes, school codes, and schools and pathways. The website listed both a district and the independent schools so to make sure it was accurate, I reached out to the director of Concurrent Enrollment within the Oklahoma State Regents for Higher Education, as ECHS falls under CE because they both partner with local colleges and universities. The director responded with clarifications of all the participating school districts in

Oklahoma. Since I used snowball sampling, many emails were sent out to principals, counselors, program directors of curriculum, college and career pathways representative for the schools, Tulsa Tech superintendent, and college counselors who are liaisons to high schools specifically for concurrent enrollment and early college pathways. The email that was sent can be viewed in Appendix 1. The study's parameters were that all participants would be at least 18 years old and have graduated from a high school in Oklahoma in one of the three pathways, CTE, CE, or ECHS. The high school the participants attended was not required to offer all three pathways. A Qualtrics survey was sent to participants to fill out so I could contact them because the school stated they could not provide emails for students even if they were alumni. Table 3 provides insight to how many participants participated in the study from each of the three pathways and their high school's urbanicity. The urbanicity of the Oklahoma high schools was determined by the National Center for Education for Statistics (NCES). The NCES listed urban schools as city and rural schools as town. For the purpose of this paper the terms rural and urban will be used. Table 4 provides an overview of the schools that were represented in this study. Total student enrolment, ethnicity/race breakdown, the school's Title I status were determined by the Oklahoma State Education Department. There was only one school where the information was unavailable and that was an Oklahoma private school.

**Table 3**

*Sample characteristics that feature the number of participants that correspond to the urbanicity of the school they attended and in which pathway they participated.*

|               | URBAN | SUBURBAN | RURAL | PRIVATE | TOTAL |
|---------------|-------|----------|-------|---------|-------|
| <b>ECHS</b>   |       | 1        |       |         | 1     |
| <b>CE</b>     | 3     | 6        | 3     | 1       | 13    |
| <b>CTE</b>    | 2     | 3        |       |         | 5     |
| <b>CE/CTE</b> |       | 1        | 2     |         | 3     |
| <b>TOTAL</b>  | 5     | 11       | 5     | 1       | 22    |

**Table 4**

*Table showing the 12 schools' characteristics highlighting the total enrollment, the breakdown of the student's population's ethnicity and race, whether the school is Title I or not, and showing how many graduates from each school participated in the study.*

| School code | Student enrollment | Ethnicity/race breakdown                                                                                                | Title I | Number of participants |
|-------------|--------------------|-------------------------------------------------------------------------------------------------------------------------|---------|------------------------|
| Suburban001 | 4,589              | 52.9% (White), 18.1% (Hispanic), 6.6% (Black), 6.8% (AI), 4.2, (Asian/Pacific Islander), 11.4% (Two or more)            | No      | 8                      |
| Urban001a*  | 1,091              | 40.8% (White) 27.3% (H) 12.3% (Black) 6.3% (American Indian) 1.8% (Pacific Islander) 11.5% (Two or more)                | Yes     | 2                      |
| Urban001b*  | 1,280              | 31.5% (White) 22.9% (Hispanic) 28.4% (Black) 4.5% (American Indian) 3.3% (Asian/Pacific Islander) 9.4% (Two or more)    | Yes     | 1                      |
| Urban001c*  | 342                | 32.2% (White) 19.3% (Hispanic) 20.5% (Black) 10.2% (American Indian) 5.8% (Asian/Pacific Islander) 12.0% (Two or more)  | Yes     | 2                      |
| Suburban002 | 776                | 44.1% (White) 10.7 (Hispanic) 3.5 (Black) 17.0% (American Indian) 4.5% (Asian/Pacific Islander) 20.2% (Two or more)     | No      | 1                      |
| Rural002    | 682                | 55.3% (White) 8.9% (Hispanic) 0.4% (Black) 16.0% (American Indian) 0.3% (Asian/Pacific Islander) 19.1% (Two or more)    | Yes     | 1                      |
| Rural003    | 1,300              | 23.2% (White) 19.3% (Hispanic) 0.8% (Black) 36.3% (American Indian) 0.6% (Asian/Pacific Islander) 19.7% (Two or more)   | Yes     | 1                      |
| Private001  | N/A                | Information was unavailable                                                                                             | No      | 1                      |
| Rural001    | 946                | 61.3% (White) 19.9% (Hispanic) 3.2% (Black) 3.9% (American Indian) 1.4% (Asian/Pacific Islander) 10.4% (Two or more)    | No      | 2                      |
| Suburban003 | 1,777              | 59.7% (White) 9.4% (Hispanic) 3.8% (Black) 13.6% (American Indian) 0.3% (Asian/Pacific Islander) 13.1% (Two or more)    | No      | 1                      |
| Suburban004 | 2,636              | 50.4% (White) 16.4% (Hispanic) 8.0% (Black) 3.9% (American Indian) 1.9% (Asian/Pacific Islander) 19.5% (Two or more)    | No      | 1                      |
| Rural004    | 1,073              | 24.8% (White) 19.6% (Hispanic) 18.5% (Black) 12.9 % (American Indian) 0.9% (Asian/Pacific Islander) 23.3% (Two or more) | Yes     | 1                      |

\*These schools have the same code names because they are within the same school district.

## Interviews

When the pilot study was conducted in spring 2022, three seniors in high school were interviewed in one of the three educational pathways. Based on the pilot study, I have decided to change the methods layout. I have decided to only interview students who have graduated high school so that they would have more experience and be able to provide more details about their decision-making process in high school.

In total, there were 33 individuals who signed up for the Qualtrics Survey. Out of 33 there were only 22 who signed up for a time to be interviewed and completed the interview. Obtaining individuals to participate was a very lengthy process, 14 weeks, and very difficult to find high school graduates who would participate. Once participants had filled out the Qualtrics, I would email them several days and times that I had available. Once the participant chose a time, I would respond with a Zoom link for our meeting and a locked copy of the Oral Consent form which allowed for the participant to review before the Zoom interview. In the meantime, I would add the participants to the Dissertation Excel sheet under the tab participants with all their information so I could assign them a code. I also created a Consent Form with all their information, located in the Dissertation folder under Consent Forms, so it would be ready to fill out once it was time for their interview. At the beginning of each Zoom interview, I would ask the participant if they had any questions about the Consent Form and they would verbally give their consent, and I would mark their response to the questions on their Consent Form that I had uploaded into the Consent Form Folder. Once the interviews had concluded I emailed the participant a copy of their Consent Form and asked them if they could forward the below message to other people, they know who have completed one of the following pathways: CTE, CE, or ECHS.

All interviewees were asked the same questions, but each interview was unique and different questions arose based on the interviewee's responses and their personal experiences that differed greatly from other participants. The questions that were asked were associated with how students felt about having a choice in their education, if family impacted their decision, and explaining how they chose their educational pathway. Core questions that were asked at each interview can be seen in Appendix B.

The questions were designed to gain a better understanding of how participants are given autonomy over their educational pathway, if their choice was autonomous or tracked, and how they go about choosing that pathway. The answers obtained from the interviews revealed great insights to better understand the research question. The demographics of the 22 interviewees are laid out in Table 5.

**Table 5**

*A breakdown of each participant that contains their code name, age, race, gender, and the number of years they have been out of high school.*

| <b>Participants</b> | <b>Age</b> | <b>Race</b>                       | <b>Gender</b> | <b>Years post high school</b> |
|---------------------|------------|-----------------------------------|---------------|-------------------------------|
| CE001               | 21         | White                             | F             | 3                             |
| CE002               | 24         | White                             | F             | 6                             |
| CE003               | 23         | White                             | F             | 5                             |
| CE005               | 22         | White                             | F             | 4                             |
| CE006               | 24         | White                             | M             | 6                             |
| CE007               | 24         | White/Japanese                    | F             | 6                             |
| CE008               | 30         | White/Native American             | F             | 12                            |
| CE009               | 27         | White                             | F             | 9                             |
| CE010               | 18         | White                             | F             | 1 month                       |
| CE011               | 21         | Asian Indian                      | M             | 4                             |
| CE014               | 19         | White                             | F             | 1                             |
| CE016               | 30         | White/Hispanic                    | F             | 12                            |
| CTE001              | 51         | White/Native American             | M             | 33                            |
| CTE002              | 51         | White                             | M             | 32                            |
| CTE003              | 22         | African American                  | F             | 4                             |
| CTE 005             | 18         | White                             | F             | 1 month                       |
| CTE008              | 38         | White                             | M             | 20                            |
| ECHS001             | 18         | White                             | M             | 1 month                       |
| CE004/CTE004        | 22         | American<br>Indian/Alaskan Native | F             | 4                             |
| CE012/CTE006        | 28         | White                             | M             | 10                            |
| CE013/CTE007        | 28         | White/Native American             | M             | 10                            |
| CE015/CTE009        | 19         | White                             | F             | 1                             |

### **Data Analysis**

Using existing research on educational pathways and the three theories: SDT, CT, and FIT to gain a better understanding of student choice the three educational pathways CE, CTE, and ECHS. SDT is being used to better understand student autonomy as it pertains to the pathway they have chosen or not chosen for themselves. CT is being used as it relates to individual agents within the educational system. FIT will help in understanding why the students chose their particular pathway and if anyone within their family or within their group influenced their decision.



Zoom was used to conduct the interviews. The transcription feature was turned on to transcribe the conversation and the interviews were recorded. All interview documents were uploaded into a folder on Microsoft OneDrive. All transcriptions were uploaded to the Transcripts folder. All oral consent forms were uploaded to the Consent Forms folder. All the audio recordings were uploaded to the Zoom Audio folder.

Before interviews began, 80 a priori codes were obtained based on literature about the theories, research that is currently out there on this topic, such as tracking and different educational pathways, and interviews and were added to the Dissertation Excel sheet under the tab labeled Codes. All a priori codes have been refined and similar terms have been combined for a total of 33 codes and each a priori code was given a code name that was placed next to it that was used when examining the transcripts.

All transcripts were copied into a large word document. Each interview was separated by their pathway. I listened to each auto recording again and compared it to the quoted material that would be used to verify that it was correct. I used my a priori codes to code different words or phrases within each transcript by highlighting that word or phrase the same color and labeling it the a priori code. All words and phrases are kept in the codes tap on Excel under Codes. I also noted which participant(s), by using their code name, and placing it in a column to the right of the citations.

Emergent codes were identified by words or phrases that were commonly discussed within the 22 different interviews that connected back to my research question. If there was a phrase or word that I believed to be important or that was brought up among different participants, then I added it to the emergent codes' column. Next to each emergent code I noted which participant the emergent code came from. I began with 143 emergent codes and as I began

to color code the emergent codes within the Excel document to see which ones fell under the same category, I noticed several of the codes did not truly relate back to my research question and, therefore, I began eliminating them which left 116 emergent codes.

Once I was satisfied with each emergent code, I began to place the emergent codes that I had color coded based on similarities, into the category column. From there, I reviewed all of the a priori codes and placed them into the corresponding category. I cycled through the a priori codes and emergent codes four times to verify that each code was in the correct category. After the third time though, I went from 13 to 12 categories, and I began to derive the five themes. Theme one took two attempts, theme two took three attempts, theme three took three attempts, and theme four and five I was content with on the first attempt. Appendix B provides a list of the a priori codes including the code name and the citation of where the code was retrieved, the emergent codes and which participants discussed the words or phrases, the categories that were created using the a priori codes and emergent codes, and the themes that speak back to the research question.

Furthermore, producing quality interview questions would provide an opportunity for participants to dig deep into their decision-making processes. Based on the data received from the 22 interviews, five themes emerged. These themes provide insight into how high school graduates chose an educational pathway in high school. The five major themes are as follows: resources for students to obtain information about pathways, finances can have an influence on one's choice, independent choices made based on personal preferences, and peers and their impact on one's educational pathway and the role that family plays in their child's educational decision-making process. The themes are not all inclusive on how these high school graduates made choices about their educational pathway, but the outcomes from this study do shed light on

to how high school graduates are making these choices in high school and provides insight to how families and the school community can better assist and support students while they are making these profound choices.

## **Chapter 5: Findings**

In summary, the main findings from this qualitative study revealed five themes: how students obtain information about the different pathways, how finances can influence one's choice, how one's independent choices were made based on their personal preferences, how peers may have an impact on their choice, and how the role of one's family can play in their educational decision-making.

These themes lead to suggesting that while many of the participants stated they had autonomy over their educational choice, others were completely autonomous and made educational choices that would meet their own educational needs, wants, or desires. While the majority of these participants stated they enjoyed being able to have a choice and choose their own educational pathways, several were aware of the influence that others: peers, family, school officials, had on shaping their desires. While this does not make their desires, wants, or needs any less of their own, it is important to acknowledge that outside forces may have influenced and shaped their choice.

Overall, a rating of 2.85 out of 3 was received from the participants demonstrating how content they are with being able to choose their educational pathway in high school. The majority shared positive and useful insight into their process of choosing their educational pathway that contributes to furthering the literature and allowing practitioners to grow in this sector.

## Resources for students to obtain information about pathways

From interviews, high school graduates reported that they obtained information about different pathways, CTE, CE, and ECHS, in three different ways, in school, outside of school, and unexplored opportunities. For the purpose of this study, in school is defined as any school representative who provided information about one of the pathways to students, out of school as someone who informed the students about a pathway who was not a school representative, and unexplored pathways is where participants described that while on the educational pathway journey not all options were presented by their in or out of school representative or the participant had very little interest in pursuing another pathway.

Participants shared that they obtained information about the CE pathway in school mainly through the school counselor. Four participants mentioned that counselors discussed CE pathways with them when they were students, beginning their decision-making process. The consensus among participants was that counselors would discuss the CE pathway as a whole group, whether going to specific classes based on students' ability or whole grade meetings, and then would meet with students one-on-one to determine how to begin the process. The high school graduates felt these meetings were important because they learned more about CE and the requirements for this pathway. This also gave them the opportunity to fill out applications with the counselor's assistance and find out where to take the next steps.

*"You have a planning meeting with your guidance counselor. They meet with every student there any way to kind of plan out your senior year make sure you get all your credits I just told mine that I was really interested in concurrent because I wanted, you know, those college credits and so, she helped me apply by filling out paperwork and then she sent it over to TCC. It was very the school was very hands on with my application process rather than me being the one to do the application and everything. They helped make sure I would get classes that would cover both high school and college credits and just anything that would fit into the schedule and mine was really nice."*  
CE003

*“into our sophomore, I think our English teachers were the ones kind of tasked with handling all of that and so they would our I think you're like title is College and Career Readiness Counselor. So, like that's all she does is help with college stuff. She would come and talk to us about it and then we went and toured like the Votech school, we toured the college campus, and just have a couple full days of learning everything we could about it. But it was mostly [name of counselor], the college and career, and our English teachers that we're giving us the real information.” CE014*

Whereas participants interested in the CTE pathway experienced a mixture of ways they received information but also a difference in the way the information was presented. Compared to the CE pathway, many of the CTE pathways were very well advertised by high schools or by school counselors. Many participants expressed that they received information from recruiters from vocational schools that would visit the high school or by email, while a few other participants obtained the information from their high school counselors. A handful of participants were exposed to the CTE pathway and their opportunities as early as elementary and middle school.

*“So, the CTE, Tulsa Tech, they, they are very much about recruiting. They come to lots of high schools and even when I was in, when I was in elementary school, we had 6th grade in the elementary school. We would go to Tulsa Tech and we did so in middle school as well. And then, you know, high school, they're really, really pushing like, hey, this is an option, this is an option.” CE004/CTE004*

*“I think there was probably advertised at the middle school and counselor. I feel like it was not advertised as well as the concurrent enrollment and I feel like both of them actually weren't advertised as well as, I felt like they should have been and as well as they were beneficial, I felt like and especially the Pre Med thing, the CTE. It wasn't something that necessarily my high school encouraged people to go do it. It was, it was something that was there and you had to really work to go do it if you wanted to.” CE012/CTE006*

There were a few participants who shared their process on choosing a CTE, CE, or CTE/CE pathway that turned out to be disappointing. After participants selected a pathway based on the information that was provided to them, they described that the pathway they chose was not exactly as it had been described to them. CE013/CTE007 described in greater detail that the

pathway chosen was advertising to be a “rewarding” and “challenging” program but in the end, they were disappointed with the outcome. Later in the interview, this participant shared that professors within this CTE pathway had very little or no background knowledge in the topic. Three participants stated that they did not find out about their pathway until later in high school because of a lack of communication.

*“I was just kind of disappointed when they advertise it, as well, my school, my school’s Tulsa Tech Rep advertised it as you get college credit or certification of some sort and then you didn’t get that.” CE015/CTE009*

*“It was only my senior year. I think it was open to juniors, but they didn’t really advertise it until you were about to be a senior.” CE002*

*“At the time, I learned, I learned this after the fact that at the time I saw it as and it was being pitched, that program was being pitched as a very challenging, very, difficult and very rewarding program, that offered, you know of 13 hours of college credit, it offered, you know, calculus, physics, little bit of circuits design stuff like that. We didn’t really get in the course what I expected to get out of it.” CE013/CTE007*

Not every participant received information about pathways from their schools. Two participants expressed that the information came from their parents. This is important to note as it has the possibility to connect to FIT where one’s family plays a role in their educational decision making.

*“I feel like maybe, through my parents, because I guess I was, you know, just 17 or whatever at the time and they knew that if you lived in Tulsa County it was free to do the Tulsa Achieves.” CE016*

*“My brother had so he’s older than me. So, he went through suburban001 completely and they had a class there for aviation and so he got his foot in the door with that and then they went and said there’s applications to actually go to Tulsa Tech. He did that his like sophomore year and then his junior and senior year he went to Tulsa Tech. And, and then so we heard about that and we’re like, well, let’s try that option for me. So, you know, might as well try it. And that’s how I heard about it was I guess.” CTE005*

Another participant vocalized that information on their pathway was provided by peers as a handful of participants had older siblings and revealed that their sibling's peers shared details about a pathway that played role in their decision making.

*"I had an older sister who was two grades older than me and so I kind of knew about it just from like her and her friends talking about it, she did not do concurrent." CE014*

Finally, four of the participants expressed that they did not explore any other pathways. Interviewees shared an array of explanations as to why they did not fully explore any other pathways such as other opportunities were not presented, a certain pathway did not interest them, ECHS offered the chance for students to graduate high school with an associate's degree but by the time the participant was made aware this pathway, they would not have had enough time to complete all the required courses.

*"There was the program where you're there basically all day long and you graduate with an associates, but I didn't really know about that in enough time to graduate with my associates, like I wouldn't have enough time to complete that amount of credits. But also, all of my electives like leadership and student council and stuff were done at the high school and if I had taken a full day of classes at the NSUBA campus then I wouldn't have been able to be a part of those things." CE001*

*"It was never really given as an option in Fayetteville. So, I did not grow up understanding the benefits of concurrent enrollment. We had concurrent enrollment because I had a friend in Fayetteville who took college algebra but I was like why are you taking college algebra when I'm taking calculus like you know I mean I just Like you, I don't know why, you know, I mean, because they did, in NWCC, Northeast, North West Community College in NWCC is where they were going to do concurrent. And so, it was an option it was not the popular option... like I said, culturally, AP classes were the thing, right? So, like I said, I grew up with nobody having any college experience in my life and so there was really like no way to get navigate. I had full growing up I had full control of what I wanted to do with my education." CE008*

This is in contrast to two participants who voiced the opposite about unexplored opportunities. These participants stood very firm in stating similar processes when choosing a pathway by sharing during the interview that they did not examine any other pathways.

ECHS001 shared that they only viewed ECHS or regular high school and they did not explore any of the other pathways their high school had to offer. Furthermore, ECHS001's decision-making process examined the ramifications, and which option made the most sense for their future. This outcome demonstrates participants making autonomous choices.

Lastly, CE005 shared a unique decision-making process on how they used the information they learned about the different pathways offered at their high school to determine what was best for them. CE005's process crosses over into Theme 5 on how family plays a role in their child's decision-making process, which will be explored later in the findings section but based on what CE005 shares, their family and health played a major role in eliminating one of the pathways as an option for them stating:

*“Even though like on paper, it [CTE] was presented as an option. I knew that it wasn't for me. Mostly because of my parents. It was sort of like the “you're too book smart to do any of that.” And also logistically, I'm technically disabled, I have I've had arthritis since I was a year and a half old and crippling allergies to the point I'm very medicated every day and I got two new diagnoses in December and so like being on my feet all day was really never going to be an option and you know in the winter I wouldn't have been able to hold haircutting shears at all my fingers swell up like balloons.” CE005*

### **Finances can have an influence on one's choice**

Another factor that became visible from this qualitative study is the cost of partaking in an educational pathway and one's socioeconomic status growing up. The social class one grows up in can limit their choices as it pertains to educational pathways and even the peer group they surround themselves with. As for educational pathways, depending on the pathway one chooses and the district or school policy, the family may have to pay for the expenses.

Previous research found that future earning potential played a role in decision making, but when participants were asked about how future earning potential played a role in which pathway they chose, only one participant stated they knew their future career field had the



potential for a good paying salary. Therefore, this concludes that future earning potential was not part of the process when participants were making the decision to choose an educational pathway.

*“I knew it was gonna have a good pay salary to it.” CTE001*

Several participants noted that the pathway they chose only cost them a minor fee or, in a few cases, they did not have to pay anything. These participants articulated that obtaining a free or near free secondary education in high school that had the potential to save them money was well worth pursuing.

*“Also, it [CE] was a lot cheaper [in high school] and covered by the Indians and all my scholarships and stuff. So, I got a lot of my classes paid for free before I actually started at an institution.” CE001*

When examining socioeconomic status, one participant pointed out what they had observed within their own community. CE004/CTE004 provided insight into what they had observed within their low-income school. Many of their peers had to begin working long hours directly after high school or, in some scenarios, students needed to step away from high school. This is relevant to this study as it prevented students who may be interested in a pathway that is offered at their school due to financial or family obligations, or both. The greatest significance that this participant noted and connected to how it can assist these individuals, are the programs that are offered in their area. Tulsa Tech and the local community college each provide an opportunity for students to attend one of the pathways post high school for little to no money and still meet the needs of the students.

*“I also grew up in a part of [name of city] that is low income and so they, a lot of my peers were not able to go to college due to the fact that they either had to start working, some of them had to drop out in high school to start working. But it was just not something feasible for them money wise. Which is why it's really great that TCC offers the [name of city] Achieves because that makes it way more attainable for so many*

*people. But Tulsa Tech, it's a free option, you go while you're in school and so by the time you graduate, you have this, you know, career type path." CE004/CTE004*

While interviewing each participant, I asked about their ethnicity/race, their socioeconomic status (SES) growing up, and their current socioeconomic status. Based on the literature, one's socioeconomic status can play different roles in their lives, such as going to college (Hegna, 2014). Students from higher socioeconomic backgrounds were more likely to enter the CE pathway compared to students from a low socioeconomic status (LSES) (Atchison et al., 2021) and Early College High School was created to assist students from LSES (Atchison et al., 2021). These results were not reflected in this study. There was no connection between students of low SES choosing the ECHS pathways and participants of high SES choosing the CE pathways. Instead, there seems to be no correlation between the participants' SES status and the educational pathway they chose in high school.

Based on the data collected from this study, twelve participants SES stayed the same from growing up to now, seven SES increased, two participants did not respond, and one participant decreased. The participant who decreased is an anomaly as CE006 is currently pursuing a doctorate degree and therefore is unable to be employed.

When race/ethnicity is factored into this data, participants who identified as Caucasian: eight SES stayed the same, three SES increased, two did not respond, and one decreased (the outlier discussed above); one participant who identified as African American SES stayed the same; one participant who identified as Asian SES stayed the same; participants who selected two or more races/ethnicities: four SES increased, two SES stayed the same.

Focusing on student's who chose the CE pathway, only three noted that they grew up in a LSES, one Caucasian and two who were two or more races/ethnicities, and during the interview process they did not express any difficulty obtaining access to the CE pathway based on their

SES. When examining the four participants who completed two pathways, one being CE, only one of the four noted growing up LSES, who was Caucasian, but also did not mention any adversity of being able to be accepted into the CE pathway. The ECHS participant, who was Caucasian, noted that their SES growing up was middle class and therefore did not fall into the original purpose of what ECHS was created for but did not convey any struggles in being accepted into the ECHS pathway.

### **Independent choices made based on personal preferences**

Self-Determination Theory (SDT) focuses on one's main psychological needs, autonomy, competency, and relatedness (Deci & Ryan, 2000), and for the purpose of this study autonomy was the focus. SDT provides the viewpoint of autonomy where choice plays a role in autonomy, but what distinguishes them is that autonomy meets students' desires that they have for themselves. The responses from this study revealed that numerous participants made autonomous choices for an array of reasons.

The participants shared their autonomous decision-making process when questioned about the influences on their choices. Their choices were based on the classes they needed to take in order to fulfill a current or future requirement. They shared that taking these classes in high school could assist them not only in high school but also when they went to college. Participants in the CTE pathway shared that the program they chose aligned with what they were interested in and allowed them the opportunity to choose something other than regular classes as well provide opportunities for them post high school. CE002 reported that it was liberating being able to pick their own classes, sharing:

*“So, it felt really freeing that I could kind of choose and pick these other classes that would help me more as I go on with both college and after college.” CE002*

CE008 and CE012/CTE006 expressed that their autonomous decision-making was more focused on their interest and aspirations post high school however CE008 also wove into the second theme where finances also influenced and possibly even shaped their desires. These two participants shared in greater detail the why behind choosing the pathway they chose:

*“I’m very goal oriented, right? And so, I had very specific goals that I wanted to meet in order to like, I wanted to go to college with as much college credit as possible because, like we grew up like low-income and... all on me to pay for college. So, I wanted to get as much as I could done before actually going into college to help offset the cost. And then I also had like this big dream that I was gonna go into like engineering and things like that. So, I wanted to, so I chose course work specifically to help me advance in that.”*  
CE008

*“I knew I was interested in medicine and so I knew that I would want to, I wanted to kind of pursue an avenue that was kind of going to set me up for that... I think I did concurrent enrollment because it was something I wanted to do as well. It was, is something that was going to, it was beneficial as far as it kind of put me ahead as far as moving into the next steps because it was college credit that I could then carry forward and make things easier in the future.”*-CE012/CTE006

Participant CE004/CTE004 shared a very unique perspective on their process when choosing their educational pathway as it all centered around a goal, a choice, and a pathway they had set for themselves which led to them enrolling into two pathways. They shared that they always wanted to be Valedictorian of their graduating class and to be able to accomplish this they needed to take AP classes due to the weight it carried on their GPA. Unfortunately, this coincided with another activity in the morning and their CTE pathway in the afternoon, this ultimately led them to discovering concurrent enrollment. CE004/CTE004 shares:

*“My Tech was in the afternoon so I wouldn’t miss band in the morning. I started taking college classes at TCC in the night and the evening. That way I could make up those AP credits that I was missing and so I could get a better education out of it... that’s why I did the concurrent enrollment was so that I could meet the needs that or meet the wants that I had in my education and also better myself in a way that I couldn’t have gotten at my high school due to our low staffing, low funding, and all that stuff.”* CE004/CTE004

Each participant was asked to rate on a scale (1-3) how they felt about being able to choose their pathway, 1 (I do not like it), 2 (I like it), or 3 (I love it). 21 out of 22 participants responded with an average score of 2.86. This average suggests that most of the participants loved being able to choose their pathway. Asking how participants to rate how they felt about being able to choose their pathway in high school allows for them to quantify their choice on a simple scale, while also providing an opportunity for the participants to be able to explain in their own words what the score meant to them by sharing their own opinion.

### **Peers and their impact on one's educational pathway**

Complexity Theory (CT) provides a view to gain a better understanding of how students may make decisions that are influenced by those whom they surround themselves with (Duncheon & Relles, 2020). Research authenticates CT by demonstrating that students of the same status level were more likely to attend college if their peers had the same plans (Alexander et al., 1964). The following two participants expressed similar ideas as Alexander et al. (1964) study, except it was unclear if their friend group was of the same social level:

*“I had a lot of friends who were doing it and I had just started driving, so I was like, oh, we can go more than one place. So yeah, I had a couple of my friends in student council who were taking classes there and yeah, I just was like, oh, this is genius to get some classes out of the way.”*

When CE001 was pushed further about if an agreement was made about taking this pathway together with peers, they said:

*“Yeah, we had decided together, applied together, and then we all like enrolled in the same classes” -CE001*

CE001 proceeded to list several classes that the peer group enrolled in together and continued to elaborate into greater detail about how taking these classes together was a unique experience compared to taking it on a college campus with unfamiliar faces.

CE014 shared a similar experience to CE001 except they shared that the arrangements expanded beyond their own school:

*“We would, whenever like we knew it was coming up, I had one friend, [friend’s name]... but we would sit down and make our schedule together so that we could be in the same classes. We did that all of our junior year... But we always make sure we take the same classes. And I even had friends from other schools that I’ve kind of plan with too. That was more of like a social thing, like I don’t ever get to see you let’s take this class at this college together. But then also [friend’s name] was kind of like with me being really sick like she was able to help me out on what I missed.” CE014*

While the following participant stated that they did not originally make plans with their peers when choosing their educational pathway, they did meet peers that were within their new environment and stated that a bond was formed which led to student's wanting input from their peers when making educational decisions which reflects the research outcomes of Holland (2011).

*“So, at first, no, but along the way I, I got really close with the best friend that I have now... we ended up you know like, yeah, you should take that second course... and we’ve really been encouraging each other ever since. ...it was really helpful in keeping me going and not dropping out.” -CE004/CTE004*

*“It made it easier to be there [in the ECHS pathway] because you had friends, so it made you want to stay even if you were not like doing well in classes.” ECHS001*

Two participants shared unique experiences compared to the other participants. Their testimonies pair with CT in that an outside environmental interaction influenced their decision. Both participants expressed that they had someone they knew who was either currently enrolled or who was previously enrolled in the program that they were interested in who they felt comfortable turning to for advice. This is meaningful because the advice provided to these participants influenced their choice. The interviewees verbalized:

*“I think maybe I’d talk to a couple of friends that were in the grade above and asked them how they liked it, and I heard nothing but good things about it so I think it was just kind*

*of a general consensus and on my part common sense thing that made it felt like the TCC concurrent, it would be the best option for me.” CE002*

*“I got interested in Tech and then I mentioned it and I have one person who, who also did tech when they were in high school and they were a little bit older than me, it was like a family friend, so, I think they graduated like 10 years before or something and they did the nursing program and they loved it and got certified to, you know, work as a nurse. So, they're like, oh yeah, I love tech. You, you should totally do it. So, it was a little bit both.” CE015/CTE009*

Overall, peer influence was seen throughout the study. While it appeared in different facets and some participants expressed a stronger autonomous choice when making plans with their peers versus other participants, it is possible that the strength of ones friendship among other similar factors such as similar SES, pathway goals, education goals, and many more could play an important role in the significance of a peers' influence on one's decision-making process when choosing an educational pathway.

### **The role that family plays in their child's educational decision-making process**

When observing how one's family plays a part in their child's educational decision-making process, Family Identity Theory (FIT) was used as a lens to gain a better understanding of how one's identity emerges from being a part of their family (Scabini and Manzi, 2011). The findings from the interviews were mainly divided into two main concepts: family background and family role in decision-making.

Family background can have many interpretations but, for the purpose of this study, family background provides an understanding of what ones immediate or even extended family has accomplished in one's life or the values and beliefs that have been rooted in someone since they were young. This is in comparison to family role in decision-making where one's family plays a role in assisting their decision. When assisting or making decisions for someone, their family background can have an influence.

While discussing with participants their family's background and gaining a better understanding of their decision-making process, participants shared how their family members exposed them to a certain trade whether it was because it was something they enjoyed doing together or was their career. CTE008 acknowledged the influence of their environment and how growing up in a blue-collar family molded their desire to graduate from a CTE program expressing this sentiment:

*"But my family member, my uncle, would have me work on plumbing on the weekends and whatever summers and, had an interest that really was an interest to me... But, but a lot of it was because my uncle was happy doing plumbing and I had a lot of interest and it felt right for me." -CTE001*

*"So I grew up in a family of mechanics...and so the opportunity for an automotive class came about at Moore Norman so that's what I decided to do was go into automotive mostly because I, I think at that time I did wanna pursue that as a trade. But I would say for the most part, yes, it was an outside influence because it was, it was what I saw. It was what was around me growing up in a blue-collar family. I now know that, you, I was a product of my environment for sure because it's what I knew." CTE008*

Or it is what the participants witnessed day in and day out from their families which has influenced their identity and affected their course (Scabini and Manzi, 2011):

*"Yes. My mom also used to do hair. Long time ago and she does my hair even now, whenever I don't wanna go to the beauty salon. So, I would say that definitely influenced me a little bit like being able to like do something and like make people feel more beautiful and like get paid for it like It's a good job to be." CTE003*

A family is more than just a group of individuals who are related, especially for participant CE011 whose family is connected by their deep values and rituals that influenced their educational decisions. CE011 shared in great detail how their Asian-Indian cultural background played a role in their family's decision-making as it pertained to CE011's education. CE011 noted in the interview that they realized the difference in cultures and CE011 had to explain to the family what the expectations were here and how colleges wanted well rounded



students, not just highly educated students. The family viewed education as doing well in school and when they were not successful in their academics, and did not meet their family's expectations, then there were repercussions. CE011 shared that the value that their parents placed on education had trickled down to them, while grades are important it is not the only factor that matters when applying for post high school programs, with CE011 stating that:

*"I come from an Indian cultural background and when I was a kid we used to go to India constantly. So, from an early age we were always like practicing during the summer... So, in terms of trying to get education, my parents heavily focused on that and so that's transferred to me. And so, I also value education. However, the difference is that In India, the education system is a bit different to where they only care about test scores. Whereas here it's very, very different. In the sense that test scores matter, but they're not the end all be all. You also have to have extracurriculars. You have to be known as a certain person like, a human being, right? So that kind of matters as well. So, when I was younger I thought all I have to get a 4.0 point a GPA and I have to get a high ACT score and that's it, right? And that's not it, right?" CE011*

CE005 and CE014 also experienced family background but in a different way from CE011. CE005 and CE014 both expressed that they grew up with family members who are in the career paths that both of the participants chose. Both participants acknowledged that their parents influenced their decision.

*"I was raised by educators so that kind of influenced my decision to do everything." - CE005*

*"My mom taught, kindergarten forever and then 3rd grade forever. And now she does nonprofit work and she's actually back like as a superintendent over head start [name of school]." CE014*

CTE008 mentioned early in their interview how their family played a role in their educational journey and influenced their educational pathway in high school. As the conversation progressed, CTE008 began to mention a unique generational factor, as well as a cultural change within the United States, that affected their choice in educational pathway. CTE008 explained that due to their family culture and what their older generations had

accomplished, CTE008 believed that the responsibility fell on them. Which influenced the change in pathways during their senior year of high school when they applied for the work release program and were able to begin working a full-time job and preparing for the Navy.

CTE008 shared those thoughts:

*“Some of us had older siblings, older cousins who were raised by that generation. That was our influence and so those kids were raised by the Boomers. The Boomers experienced going to war... so, when we saw that and watching that in, most of us in high school or junior high around that time had a TV willed into the classroom and we watched the event happen [September 11, 2001]. And so, for us, it was very real. ... I completed the only 1st year automotive by the time I ended my junior year, I knew I was going to the Navy.” CTE008*

Gender roles can fall within FIT and one participant made the comment:

*“I tried auto body, auto mechanics, mainly just cause I was a guy, and I was interested in cars.” CTE001*

Continuing to use FIT as a lens, existing literature found that compared to females, who typically select a non-science route, men are more likely to take a scientific or math track (Godwin et al., 2015, 2015; Pinxten et al., 2012; Van Langen et al., 2006, 2008). The findings from this section suggest that there is a relationship between family background and gender that could influence their educational choice. CE and ECHS were eliminated from this analysis due to the CE pathway focusing on individual courses that students choose to take and ECHS currently offering only specific associates degrees based on the agreement between the high school and the partnering institution. This left four females who were strictly in the CTE pathway, two females who were in the CTE/CE pathway, three males in the CTE program, and two males in the CTE/CE pathway. It was noted during interviews that one female and one male dropped out of the program. For the four females in the CTE pathway, only two of them were in

a STEM based program, whereas all five males in the CTE pathways were in STEM based programs.

Another concept that emerged from the interviews was how family played a role in the decision. This concept was discussed more in the aspect of how participants would discover the pathway from their family members. The following participants shared that their family members wanted them to pursue a certain pathway and encouraged them to take the next step. While some expressed that they were already interested in the pathway, they clarified that it was the influence of their families that pushed them to make the decision. CTE005 and CE003 expressed how their family encouraged them to follow their desires and motivated them to pursue an educational pathway, stating:

*“I feel like I wanted to do it, but I was more motivated by the people [parents and brother] around me because I was unsure of myself of what I'd be capable of doing it. So having people there to be like, no, you can do it, you know, go on with it. It will help you in the future ... just kinda getting encouraged to do it.” CTE005*

*“[I] would say that my mom definitely really encouraged me to do concurrent. ... concurrent sounded like a great choice just because I could get 12 credits done for free... while in high school and that opportunity was there just. And so, she really encouraged me just to take that step and ... I may as well do something that's going to further my goal. She was very influential in the decision just to one, attend college, but two, go with that educational pathway.” CE003*

Another participant, however, shared that their family members were more vocal about the decision they wanted their student to make or rooted in their family identity that it showed through in their parenting. CTE003 expressed that their temporary foster parents were vocal in nudging them into choosing an educational pathway that would be beneficial to them. The participant had shared several times throughout the interview their interest in hair and nails, which is the main reason the foster parents were so vocal in making sure she registered for the

pathway of her choice and not letting the opportunity pass them by. CTE003 recounted how she chose the CTE pathway:

*“I remember [foster parent] like bringing it up. Pretty often she would be like, you should do this, I think it would be fun because she like knows my personality. So I was already into like, makeup and like doing my hair and stuff like that. ...at the time I was so overwhelmed with just like school period because I had transferred from urban001c to suburban001 and it was just like a drastic change in the curriculum. Like at urban001c I felt really smart like I had no issues with my grades and then when I went to suburban001, everything was so much harder. So, he [foster dad] was just like hey I can actually help you do this if this is something that you really want to do. I think it would be a good idea. Let's sit down and talk about it and that's where I went.” CTE003*

CE013/CTE007 parents' family identity showed up in how they parented the participant. The participant gave several examples throughout our discussion of how their parents noticed early on in their life that they enjoyed constructing and taking apart objects. Their parents fostered such learning and took the time to make every mistake a learning opportunity, even something as simple as a cup of milk spilling and the glass breaking, the participant shared with me. They explained that their parents fostered that learning mindset throughout their life which really pushed them to choose an engineering pathway. CE013/CTE007 expressed:

*“That I wanted to go on this [CTE] engineering pathway now there are aspects of that decision that we're fueled by you know my parents my mentor and stuff like that just my upbringing in general... My parents did, I mean, they, I wouldn't say that they necessarily pushed me to choose engineering, but they definitely nurtured it... They would give me things to take apart... But like it's like we would do those sorts of projects together” CE013/CTE007*

### **Summary of Findings**

Making choices in general is not ever easy, but this is especially true when high school students make important choices at a younger age. Educational pathways are an opportunity for students to explore and take charge of their own education and have the potential to have a lasting impact on one's life. The outcomes from this qualitative study are not conclusive to how

high school graduates describe their decision-making processes when choosing an educational pathway in high school but do provide an insight to how a group of students made their decision. Five themes surfaced from interviews with 22 participants that provided a better understanding of how these high schoolers are making these choices that may affect them for the rest of their future.

The first theme of this study revealed that students received information about the pathways from different sources which had the possibility of influencing their decision due to the way the information was presented, who the information was and was not presented to, and not all options being presented equally. Many participants shared that counselors were the major resource in sharing information about CE, ECHS, and CTE.

The second theme revolves around finances and the strong hold it can have on someone. Participants revealed that contrary to what some of the literature stated about education choice, future earning potential did not play a role in their decision, rather how choosing an educational pathway in high school can be cheaper and save one money before attending an institution was seen as important. The other aspect of finances that was examined was socioeconomic status (SES). Based on previous research, socioeconomic status can hinder one's education journey. Each participant was asked about their SES growing up and based on my analysis not one participant's socioeconomic status impeded them from being able to choose the educational pathway of their choice. Out of all 22 participants, only one of them was very aware of the SES of their high school and personally shared how they viewed how their local town and secondary schools are making an effort to make receiving a post-secondary education more obtainable for at risk students. The next three themes are linked to each of the theories used in this research and demonstrate how the theories overlap with one another.

Theme three uses the lens of SDT and produced findings that demonstrated that when students were choosing an educational option, they were making decisions about classes, currently or for their future, that would fulfill their wants or needs. As for current classes, classes that were offered in the programs were compared to the classes they still needed to graduate, if the classes they took in the pathway would be of interest to them, and where there is overlap with their future does the class meet a requirement for their future needs. As for their future, students were choosing educational pathways to work towards a future career that they were passionate about or they knew they wanted to go to college, but they did not know their passion yet, whereas a handful just wanted to get a jump start on classes so they could get ahead or feel more prepared post-high school.

Taking a deeper dive into the SDT using an overlay of Complexity Theory (CT) for theme four and Family Identity Theory (FIT) for theme five revealed similarities and differences of how peers and family have an impact on one's decision-making process. Exploring theme four with the extended lens of CT applied to SDT, the findings suggest that peers have an impact on one's educational choice, though not necessarily one's choice about an educational pathway. Based on the findings derived from theme four, peers may have influenced student's decision-making process, but the participants' autonomy stayed intact. For the final theme, the CT lens is exchanged for the FIT lens where the role of the participant's family in one's decision-making process can be broken down into two concepts: family background and family role. As for family background, prior research stated that a family's relationship is connected by their values and rituals and that family can influence individuals within those relationships (Scabini & Manzi, 2011) and those conclusions are noticed in this study. Several participants noted that their family members' careers, rituals, or family beliefs played a role when choosing their pathway or altering

their pathway before graduating high school. Family role was more focused on how family members supported or opposed their decision and how that affected their choice. In the majority of interviews, it was observed that these high school graduates were still able to have autonomy, but their choices were influenced based on their personal experiences which revealed that family background has more of an influence in adolescent years versus how family role influenced one's choice in the current moment.

## **Chapter 6: Discussion**

As discussed in previous sections, while research on tracking students has mixed evidence, minimal research has been done on how students make different education choices. A portion of previous research argues that when students have a choice in their learning, they have less high school dropouts (Closs, 2010), better engagement and sense of belonging (Rivera et al., 2019), and better access for at-risk demographics (Witkowski & Clayton, 2020). This study makes an attempt to bridge the gap in literature and highlight the need for better understanding of students as it pertains to choosing their educational pathways. This study used SDT, CT, and FIT as a lens that guided the interview questions based on the findings in the literature. 33 a priori codes were comprised from literature, 119 emergent codes surfaced from the 22 Zoom interviews, and together, five themes were produced. The findings from the five themes support the phenomenon that students make decisions about their educational pathway based on where they obtain the information, having autonomy based on personal preferences, one's finances, and the impact of friends and family.

## **Previous Research**

Previous research has produced evidence that points toward students making choices for several different reasons and there are several prior findings echoed in the findings of this qualitative study. While the methods of the research are not identical, the topics are in close relation to one another as they speak on the topic of students making choices in education. While there were additional findings that have been mentioned previously, the following are findings from previous studies that arose numerous times throughout multiple studies. This qualitative study yielded five overarching themes that describe how students make decisions when choosing their educational pathway in high school. These five themes consist of how students obtain information about the different pathways, how finances have an influence on their decision-making, how their independent choices can be made based on personal preferences, how peers can impact their choice when choosing an educational pathway, and the role one's family plays in their educational decision-making process.

Participants in this study revealed that they did not specifically choose a pathway because of a single class. Rather, how a class could help to fulfill their desires enticed them to choose a certain pathway, such as class schedules, meeting GPA requirements, and how classes could advance students toward their goals and prepare them for college. Participants were also questioned if they had a career in mind that they wanted to pursue after high school when choosing their pathway. Participants stated that at the time of choosing a pathway they either had an idea of the career field they wanted to pursue, and discussed in length on how it influenced their decision, or they had no idea where they viewed themselves after high school, but they knew the educational desires they had for themselves. These results differ from the literature because those studies discuss college majors in the aspect of students who already have a major



picked and are going to or have changed it. While there were a few participants who mentioned their future and what they had envisioned for themselves, it did not relate back to the research question of how their future jobs influenced their decision-making process when choosing an educational pathway in high school and therefore was not a finding in this study.

Along a similar thread to future careers is future potential earnings and finances. Research done by Hegna (2014), Bottia et al. (2020), and Sojkin et al. (2011) discussed how one's future earning potential as well as their financial status growing up could impact their choice. Finance can be viewed in different facets. My participants rarely discussed financial status unless it was necessary to drive home their point or they were answering the demographic questions that were being asked at the end of the interview. After analyzing the data, the results did not match the findings from previous research as participants did not make educational choices based on their SES growing up or their future earning potential.

Another factor seen in the research was that families played a large role in the decision making process which was also seen in this study. In every interview, the interviewee discussed how their family played a role in their decision-making process when choosing an educational pathway. Galotti & Mark (1994), Sojkin et al. (2011), and Alexander et al. (1964) all expressed how families can influence a student's choice whether that was by supporting their autonomy and allowing students to make their own decisions or by guiding their decisions based on what the parents believe is the best decision for their child. This study's outcomes shined on how students are provided autonomy and have family support in addition to how a student can be so engrained in their values, traditions, and their surroundings that their decision-making process is reflective of who their family is. Even more so, Alexander et al. (1964), Galotti & Mark (1994), and Kusumawati (2019) shared that who one is surrounded by can impact one's decision-making

which is not exactly the outcomes that were observed from this study. The relationship between the student making the decision and a peer coincided more with Alexander et al.'s (1964) study which states that students of the same class who make plans together are more likely to attend college. While the results of this study differed slightly, a few participants did make arrangements with at least one of their peers to choose classes together within their educational pathway whereas very few participants selected to complete a pathway with a peer. It was not ever mentioned if any of the participants who made these choices with their peers decided to complete any post high school programs together as this study's focus was on educational pathways in high school.

Another factor that was seen in the literature was how gender may affect decision making (Godwin et al., 2017; Jacobs et al., 2002; Van der Vleuten et al., 2016; Zhang et al., 2021). Hegna's (2014) research suggested that gender roles not only played a role in choosing an educational pathway but also changing their educational pathway. While these outcomes had some similarities to this study's outcome, there were differences, such as, out of the 22 participants, only one reported changing their educational pathways, and gender did not play a role in the change.

## **Theory and Student Choice**

Self-Determination Theory (SDT) offers insights into the autonomy of students and provides a deeper understanding of their choices regarding classes, programs, and educational pathways. Autonomy is closely linked to the concept of choice, however, it's important to distinguish between autonomy and being autonomous. An individual who is autonomous makes decisions that align with their personal desires, needs, and preferences. Using SDT against this study provides a deeper understanding of autonomy and how students can make independent

choice compared to a student who is autonomous which goes beyond their capacity to make an independent decision and reveals if students are making surface level decisions versus fulfilling their desires.

This study also used two additional theories, Complexity Theory (CT) and Family Identity Theory (FIT), to delve into factors influencing students' desires and whether these desires are truly their own. Complexity Theory examines how students' choices are influenced by their own desires and by external factors such as teachers, peers, and classmates. On the other hand, Family Identity Theory focuses on how family and personal experiences shape students' self-perception and ambitions. As these theories pertain to the study, they go hand in hand. By the time students are in high school, many have rooted themselves in a family and a personal circle, who some might consider family, and may even spend more time with than their actual family. A family has a connection based off their beliefs, values, and rituals and these can shape who you are as an individual and how you identify (Scabini & Manzi, 2011). Then friends who one considers their family may begin to alter their beliefs and values to please or conform to their peers. While this study did not focus on answering this question, it did provide insight on how much the participants still relied on their families for emotional support. Many participants shared what their family's values and beliefs were in general while others discussed specific issues or topics. As these same participants began speaking about how their peers influenced their decision-making, for some of them, it became clear how these two topics intersected and how other peers may have had a similar level of influence as family.

With so many different influences and factors that can affect decision making, this is where it can become challenging to determine if one's choice is truly autonomous. While the student may have autonomy, their desires and needs are deeply rooted in their family and

possibly their peers' values and beliefs or students could be influenced by their peers own rooted values and beliefs. Applying these theories to research allows for deeper consideration and a firmer conclusion that while students are shaped by their family (FIT) and possibly their peers and their external environment (CT), humans have the capability to learn how to become independent. As students are entering their high school years, they are learning to take on more responsibility in preparation to take on the world post high school. Therefore, students can make a conscious decision that pleases them and meets their desires despite how they were raised or the peers they surround themselves with. Several participants said they did not make any plans with their peers due to their schedules or classes not aligning. In the end, using all three theories provides a greater perspective on how SDT, FIT, and CT can allow for greater understanding on how students make decisions when it comes to educational pathways in high school.

## **Limitations**

Several limitations were noted while completing this study which will be discussed in this section. The first limitation that was noted was the small sample size within the study. Increasing the number of participants would allow for a more solid claim in how one describes their decision-making process when choosing an educational pathway in high school. Due to the study design, the range of when the participants graduated high school varied which gave a different perspective on one's process. However, a limitation to the diversity of when the participants graduated high school is that the longer they had been out of high school, the more difficult it was for them recall the details of their decision-making process and therefore some participants were not able to provide a clear picture of their pathway. This study was also not able to obtain a large sample of high school graduates from the Early College High School pathway. It is inferred that this could be for a few reasons, one there are currently only twelve

active Early College High School programs in Oklahoma, two it was difficult finding participants for the other two larger pathways and since the method of this study used snowball sampling it made it a little more difficult to connect with participants from this pathway.

The second limitation that was noted was that while creating this study, the literature surrounding student choice, as it pertains to educational pathways, was more focused on students' choice and how students make different educational choices. Therefore, this study was unable to locate any literature that examined how students described making choices in high school as it relates to different pathways.

The third limitation that was noted was that a list of questions was created for the interviews as well as probing questions. While each question from this list was asked to all participants, each interview brought about a different set of circumstances and some of the probing questions were unique to the student's own experiences and, therefore, would not have been appropriate to ask the other interviewees. Furthermore, some participants were more outgoing and talkative about their process and did not need very many probing questions, if any at all, as it was more of a conversation. Whereas other participants were more introverted and shy about their process when choosing their pathway which steered the discussion to more of an interview and less of a conversation with a lot of probing questions and needing to reword questions due to the participant not answering the question being asked. This created variations in the amount of information gleaned from each participant which could have impacted the amount of knowledge gained from each participant.

The final limitation noted during this study was that the 22 interviews were done by Zoom due to the study's nature, snowball sampling, and the parameters limited to anyone living in Oklahoma. Completing all the interviews in person could allow for the interviewer to be able

to triangulate and better examine nonverbal communication that could not be observed due to the limitations of telecommunication. All in all, despite the limitations, this study addresses a major gap in what is known about how high school graduates describe choosing a pathway in high school.

### ***Selection Bias***

One important factor that must be acknowledged is the possibility of selection bias impacting underlying the sample of subjects that take part amongst different pathways within education. Educational pathways provide different options for students to choose from to further their education. When examining why students choose educational pathways, there may be selection bias issues in existing literature because one often cannot randomly place students into the pathways as it takes their choice away which defeats the study (Hamlin, 2018). Taking a deeper look into each pathway, research on them may contain their own selection bias.

Concurrent enrollment is open to all high school junior and seniors but only ones who have good grades and are able to pass any examination requirements from the university or college which can eliminate students who may not be good test takers or have had a poor high school experience. To add another layer, the state department will reimburse high school seniors once the student has passed the class and if there are available funds, juniors can submit for the voucher, which is a great incentive. However, students and their families would have to be able to afford the cost upfront for the student to enroll and take the course.

As for Career and Technical Education, any student can attend the program at no cost if they live in the technology-centered district. This unfortunately eliminates students who do not live within these boundaries and may want this pathway.

Lastly, the Bill Gates Foundation created the Early College High School pathway for students who would be first generation college students, students of color, or students that come from a low socioeconomic background and students must apply for the program in 8<sup>th</sup> grade (Berg et al., 2013). This pathway was intended to exclude students who do not fall into these categories or who may change their minds later in high school. Each school district has also added their own requirements to the ECHS program, and I do not have access to each school's application process and, therefore, I cannot examine all the questions that each program is asking students. When ECHS was created, students admitted to the program could attend for free, however, from my research, this is not true for every school now.

### **Strengths**

There are numerous advantages to this qualitative investigation. This study provided an in-depth examination of how the participants described their decision-making process when choosing an educational pathway in high school through rich, real-time interviews that produced efficient data. While there were a set of questions prepared for the interviews, seen in Appendix B, each interview brought about its own individuality and new questions were asked in real time. The data collected from the interviews produced compelling results that were not only consistent with the findings of previous research but also expanded off of that research in a way that has the potential to grow the literature.

### **Contributions**

This study has the potential to shed light on the unknown about allowing students to have choice in their education and what influences these choices. In the meantime, this study contributes to the existing literature by providing school leaders, families, friends, and even

students insight into how a small sample of students described their process in choosing an educational pathway in high school.

Several different factors that may influence a high school student to choose a specific educational pathway that emerged in this study include information about one's educational options, finances, friends, and family emerged. Participants shared a variety of ways they received information about these pathways, such as family, friends, recruits, and, most predominantly, counselors. As for finances, the outcomes that came from the interviews highlighted that while one's socioeconomic status growing up may not play a role in decision making, participants did discuss how these pathways at their high schools were provided to them at a lower cost than what these opportunities may cost post high school. The data obtained from this study suggested that the influence of friends is more aligned with one's interest in classes, personality, or desires post high school. Whereas the influence of one's family may begin not only at any at an early age but may also be interwoven into one's family identity. This was discussed in different forms such as how their family raised them or their family's occupation.

The findings indicate that while students may have autonomy and may even be autonomous as it pertains to their educational choice, there could still be the possibility of several different influences on their choice, with one beginning well before they reach school age. As for educators, serving students and meeting their needs can be a part of the job. Educators work closely with students at a young age and could have the potential to shape them into the people they will come to be. Therefore, educators fostering an autonomous learning environment has the potential to push students to be comfortable in making decisions and help them to realize the opportunities available to them. With this indication, educators, families, and students should



work in close partnership with one another to assist in meeting students' needs and supporting their goals and desires.

The contributions of this study has the potential to increase attendance and decrease discipline by allowing students to do what interests them. This could also change how money is allocated to schools and increase funding for certain programs, especially ones that assist in fostering autonomy and introduce different educational pathways to students. Another contribution is that students would be more prepared for post-graduation plans which could allow them to save money on college or a Career Tech program. This could have huge financial benefits for students considering the increasing cost of tuition for post-high school institutions. This is especially true in Oklahoma, where there are several local and federal programs/laws that were designed to serve students in educational pathways.

## **Future Work**

There is considerable future work to be done on student choice as it pertains to educational pathways as there is currently little research on how and why students choose their pathway. This includes, but is not limited to, several different ideas to gain a better understanding of how students describe their choice. One way is to replicate this study but with a larger sample size along with a few other modifications such as increasing the number of ECHS participants, increasing the number of rural participants, which could provide further confirmation on the process of how students choose an educational pathway in high school, and including researchers from sociology and psychology whom could assist in bringing forth their expertise to the study and provide insight on different perspectives. To branch off this study, researchers could follow students post high school graduation to see how their choices have affected them which could allow for hindsight and educators could have insight from a different

perspective on how to better support students during an important time. In addition, researchers could include other states or even other countries, especially those who are ranked higher than the United States in the PISA scores, which could reveal improvements on educational pathways on high schools. A longevity study to consider would be to observe students from the end of their 8<sup>th</sup> grade year through high school to see the different factors that influence their choices as well as how students describe the process from year to year.

## **Conclusion**

This qualitative study examined how students described their decision-making process when choosing an educational pathway in high school by interviewing students who had graduated from an Oklahoma high school in one of the following pathways: Career and Technical Education (CTE), Concurrent Enrollment (CE), or Early College High School (ECHS). Participants were obtained through the snowball sampling method, and interviews concluded once the responses became saturated, yielding 22 participants. The results from this study yielded five themes: resources for students to obtain information about pathways, finances can have an influence on one's choice, independent choices made based on personal preferences, peers and their impact on one's educational pathway, and the role that family plays in their child's educational decision-making process. These five themes are rooted in the a priori codes which were derived from the literature and the emergent codes which were collected from the interviews.

To examine the findings of previous literature as well as the findings of this study, three theories were used to better understand the phenomena of student autonomy. These three lenses overlapped one another to demonstrate their relationship to one another. SDT was the overarching lens used throughout the study to focus on autonomy and choice. As student choice

was explored, it became clear that other factors shaped a person's choice such as peers, seen in Complexity Theory (CT), and family, seen in Family Identity Theory (FIT). According to the research on decision-making in an educational setting, students make decisions based on many different factors such as financial status (Bottia et al., 2020; Sojkin et al., 2011), friends and family (Alexander et al., 1964, Hollan, 2010; Kusumawati et al., 2019), gender (Bottia et al., 2020; Godwin et al., 2017; Hegna, 2014; Jacobs et al., 2002; Mann et al., 2020; Piepenburg & Fervers, 2021; Pinxten et al., 2012; Sojkin et al., 2011; Van der Vleuten et al., 2016; Van Langen et al., 2006, 2008; Wang et al., 2016; Zhang et al., 2021), location, reputation, (Briggs, 2006; Simões and Soares, 2010), and counselors (Finlayson, 2009; Piepenburg & Fervers, 2022; Sattin-Bajaj et al., 2018). Through the use of the three theories described above, the findings from this research revealed similarities and differences from existing data. Participants echoed that they enjoyed being able to have autonomy over their decisions. Even though participants exhibited having autonomy and some being autonomous, the findings suggest that there are influences to their decisions such as finances, peers, family, obtaining information, and personal preferences. This introduces the concept of bounded autonomy where students have autonomy over their decisions, but these decisions are limited to certain options or conditions set by outside factors. This could be seen in the autonomy of choosing a pathway but being limited in choices based on what is available and/or the influence of those around them. All and all the majority of participants shared that they enjoyed being able to choose an educational pathway as the pathway they chose provided them with the opportunity to be able to meet a need or desire they had for themselves.

Examining the findings of previous research and this study as described above leads to important implications for school leaders which consists of two overarching points,

communication and support. Participants in this study shared that some educational pathways were not shared with them or were only shared in certain classes and therefore not every student was provided the same opportunities. Making sure each student understands the different options provides equal opportunities among students regardless of their socioeconomic status and race. Participants shared that their schools would send emails and post flyers, this method may not be up to date with the current communication platforms. Social media plays a large role in student's day to day activities and therefore schools posting flyers to social media or creating short engaging videos could assist in closing the communication gap. Another important point in communicating with students is making sure that accurate information is available. Some students mentioned feeling misled by pathways and what they could expect, which led to negative experiences. Having correct information up front and available could reduce these negative experiences and lead to students sharing information about pathways with others.

The challenge for school leaders does not stop once students are on an educational pathway, supporting them through this journey can be crucial as not every student has supportive parents, friends, or family. While participants from this study expressed having support from family or peers, not every student had this experience. For some students, they may be the first person in their family to attend a post high school degree or certificate. To assist with the support, schools could create a peer-mentorship program among students in the same educational pathway. This opportunity could allow students who are new to the program to have someone to turn to who may have similar experiences. Even more so, pairing students up based on their similarities would allow them to be more relatable.

Ultimately, this qualitative study has the potential to advance the current literature and pave the way for future research on this topic. Educational pathways and the process that

students go through to make an important decision is not a highly researched topic. A better understanding of this process could allow school leaders, families, peers, and the community to better assist students to ensure their decision is theirs.

## References

*Advance CTE: State Leaders Connecting Learning to Work*. (n.d.).

<https://careertech.org/oklahoma>

Alexander Jr, C. N., & Campbell, E. Q. (1964). Peer influences on adolescent educational aspirations and attainments. *American sociological review*, 568-575.

Alonzo, V. (2011). An analysis of career and technology education programs in Texas ESC region one high schools (*Doctoral Dissertation*).

American Psychological Association (APA). (2023). Parents and caregivers are essential to children's Healthy Development. <https://www.apa.org/topics/families/parents-caregivers-kids-healthy-development>

Appendix: District clusters cluster category district county.(2023). <https://okhighered.org/wp-content/uploads/2023/05/appendix-district-clusters.pdf>

Assor, A., Kaplan, H., & Rother, G. (2002). Choice is good, but relevance is excellent: Autonomy-enhancing and suppressing teacher behaviours predicting students' engagement in schoolwork. 261–278.

<https://doi.org/https://doi.org/10.1348/000709902158883>

Atchinson, D., Zeiser, K., Mohammed, S., Knight, D., & Levin, J. (2021). The costs and benefits of early college high schools. *Education Finance and Policy*. 16(4), 659–689.

Batram, A. (1999). Navigating complexity: The essential guide to complexity theory in business and management. Spiro Press.

Bell, C. (2009). Geography in parental choice. *American Journal of Education*, 115(4), 493– 521.  
doi:10.1086/599779

- Berger, A., Turk-Bicakci, L., Garet, M., Song, M., Knudson, J., Haxton, C., Zeiser, K., Hoshen, G., Ford, J., & Stephen, J. (2013). Early college, early success: Early college high school initiative impact study.
- Beymer, P., & Thomson, M. (2015). The effects of choice in the classroom: Is there too little or too much choice? *30*(2), 105–120. <https://doi.org/10.1111/1467-9604.12086>
- Billett, R. O. (1932). "What the high schools are doing for the individual" Second progress report, National Survey of Secondary Education. Bulletin of the Department of Secondary-School Principals of the National Education Association, *16*(40), 139-169.
- Bloomfield, A., Foster, J., Hodes, C., Konopnicki, P., & Pritz, S. (2013). Credentials. One tool for retaining students. *Techniques: Connecting education and careers* (J3), *88*(2), 24-27.
- Bottia, M., Stearns, E., Mickelson, R., Moller, S., & Jamil, C. (2020). The importance of community colleges in students' choice to major in STEM. *The Journal of Higher Education (Columbus)*, *91*(7), 1116-1148.
- Briggs, S. (2006). An exploratory study of the factors influencing undergraduate student choice: The case of higher education in Scotland. *Studies in Higher Education (Dorchester-on-Thames)*, *31*(6), 705-722.
- Calhoun, Y., Snodgrass Rangel, V., & Coulson, H. (2019). Educational resilience at risk? The challenges of attending an early college high school. 301–325. CareerTech. (n.d.) Programs in PK-12 School Districts. Power BI. <https://app.powerbigov.us/view?r=eyJrIjoiYjAxMmM1YzQtNWRjMC00YWFiLTljNjctMTIzZjA0OGRkZWU5IiwidCI6IjIhMzA3ODY0LTNlOTgtNGYwOC1iOTBhLTcyOGI2MmNmMzJjNSJ9>
- CareerTech. (2018). Learning what works for America CTE.

- Chmielewski, A. K., Dumont, H., & Trautwein, U. (2013). Tracking Effects Depend on Tracking Type: An International Comparison of Students' Mathematics Self-Concept. *American Educational Research Journal*, 50(5), 925-957.  
<https://doi.org/10.3102/0002831213489843>
- Closs, R. (2010). The association between career and technical education and implications for programming and attendance for secondary school students (Doctoral Dissertation).
- College Board (n.d.). Can anyone take AP? – AP students  
<https://apstudents.collegeboard.org/help-center/can-anyone-take-ap>
- College Board. (n.d.). Discover AP. Advanced Placement® (AP) – College Board.  
<https://ap.collegeboard.org/>
- Conneely, N., & Hyslop, A. (2018). CTE: Education for a strong economy.
- Cushing, E., English, D., Therriault, S., & Lavinson, R. (2019). Developing a college- and career-ready workforce: An analysis of ESSA, Perkins V, IDEA, and WIOA.
- Darling-Hammond, L. (2015). The flat world and education: How America's commitment to equity will determine our future. Teachers College Press.
- Deci, E., & Ryan, R. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *11*(4), 227–268.  
[https://www.tandfonline.com/doi/abs/10.1207/s15327965pli1104\\_01](https://www.tandfonline.com/doi/abs/10.1207/s15327965pli1104_01)
- Deci, E. L., & Ryan, R. M. (2013). The importance of autonomy for development and well-being. Self-regulation and autonomy: Social and developmental dimensions of human conduct, 19-46.



- Deci, E., Vallerand, R., Pelletier, L., & Ryan, R. (1991). *Motivation and education: The self-determination perspective*. 26(3–4), 325–346.  
[https://doi.org/10.1207/s15326985ep2603&4\\_6](https://doi.org/10.1207/s15326985ep2603&4_6)
- Decker, L. E., & Decker, V. A. (2000). *Engaging Families and Communities: Pathways to Educational Success*. 0-93088-19-4
- Duncheon, J. C., & Relles, S. R. (2020). " We're Caught In Between Two Systems": Exploring the Complexity of Dual Credit Implementation. *The Review of Higher Education*, 43(4), 989-1016
- Dustmann, C., 2004. Parental background, secondary school track choice, and wages, *Oxford Economic Papers*, Volume 56, Issue 2, Pages 209–230,  
<https://doi.org/10.1093/oep/gpf048>
- Edgerton, A. (2022). Strengthening career and technical education for the 21st century act (Perkins V): A primer.
- Edmunds, J., Arshavsky, N., Furey, J., Lewis, K., Thrift, B., & Unlu, F. (2017). Preparing students for college: Lessons learned from the early college.  
<https://doi.org/10.1177/0192636517713848>
- Edmunds, J., Unlu, F., Glennie, E., Bernstein, L., Fesler, L., & Arshavsky, A. (2017). Smoothing the transition to postsecondary education: The impact of the early college model. *Journal of Research on Educational Effectiveness*. 10(2), 297–325.  
<https://doi.org/10.1080/19345747.2016.1191574>
- Enrollment - studies, reports and Data. Oklahoma State Regents for Higher Education. (n.d.).  
<https://okhighered.org/studies-reports/enrollment/>
- Field, J. (2007). Looking outwards, not inwards. 61(1), 30–38. <https://doi.org/10.1093/elt/ccl042>

- Finlayson, K. J. (2009). Perceptions of career technical education by middle school and high school counselors and the effect of these perceptions on student choice of career and education planning (Order No. 3394946). Available from ProQuest Dissertations & Theses Global. (305168250).
- Foiland, J., & Worrell, F. (2016). Intrinsic motivation, learning goals, engagement, and achievement in a diverse high school. 53(3), 321–336. <https://doi.org/10.1002/pits.21901>
- Godwin, A., Sonnert, G., & Sadler, P. (2017). Disciplinary differences in out-of-school high school science experiences and influence on students' engineering choices. *Journal of Pre-College Engineering Education Research (J-PEER)*.
- Guill, K., Lüdtke, O., & Köller, O. (2017). Academic tracking is related to gains in students' intelligence over four years: Evidence from a propensity score matching study. *Learning and Instruction*.
- Hall, A. L. (2013). Program implementation and student outcomes at four western North Carolina early college high schools: A study synopsis. *Community College Journal of Research and Practice*, 37(9), 677-690.
- Hallinan, M. (1997). School differences in tracking effects on achievement. 72(3), 799–820.
- Hamlin, D. (2018). “The types of kids we get are different”—The distinguishing characteristics of school choosers in Detroit, Michigan. *Journal of School Choice*, 12(1), 52-79.
- Hamlin, D. (2017). Are charter schools safer in deindustrialized cities with high rates of crime? Testing hypotheses in Detroit. *American Educational Research Journal*, 54(4), 725-756.
- Hamlin, D., & Li, A. (2021). Factors mediating school safety in charter schools: An analysis of five waves of nationally representative data. *Journal of School Choice*, 15(3), 371-392.

- Haniford, R. (2008). A comparative study between career-technical programs and college preparatory programs on student performance (Doctoral Dissertation).
- Hanushek, E., & Wößmann, L. (2006). Does educational tracking affect performance and inequality? Differences- in-differences evidence across countries, *The Economic Journal*, *Volume 116*, Issue 510, Pages C63–C76, <https://doi.org/10.1111/j.1468-0297.2006.01076.x>
- Hegna, K. (2014). Changing educational aspirations in the choice of and transition to post-compulsory schooling—a three-wave longitudinal study of Oslo youth. *Journal of Youth Studies*, *17*(5), 592-613.
- Henri, D., Morrell, L., & Scott, G. (2018). Student perceptions of their autonomy at university. *75*, 507–516.
- Hess, F. M., & Meeks, O. M. (2010). Unbundling schools. *Phi Delta Kappan*, *92*(3), 41-42.
- High school students - Concurrent enrollment in college or university courses - Tuition waiver., §70, 628.13 (2020).
- Hoban, G. (2004). Teacher Learning for Educational Change.
- Holland, N. E. (2011). The power of peers: Influences on postsecondary education planning and experiences of African American students. *Urban Education*, *46*(5), 1029-1055.
- Holman, A., Kupczynski, L., Mundy, M., & Williams, R. (2017). CTE students’ perceptions of preparedness for post-secondary opportunities.
- Jacobs, J., Lanza, S., Osgood, D., Eccles, J., & Wigfield, A. (2002). Changes in children's self-competence and values: Gender and domain differences across grades one through twelve. *Child Development*, *73*(2), 509-527.

- Karlson, K. (2015). Expectations on track? High school tracking and adolescent educational expectations. *94*(1), 115–141.
- Katz, I., & Assor, A. (2006). When choice motivates and when it does not. *19*(4), 429–442.
- Kershner, B., & McQuillan, P. (2016). Complex adaptive schools: Educational leadership and school change. *13*(1), 4–29.
- Korthals, R., & Dronkers, J. (2016). Selection on performance and tracking. *48*(30), 2836–2851.
- Kulik, C., & Kulik, J. (1982). Effects of ability grouping on secondary school students. *19*(3), 415–428.
- Kusumawati, A., Perera, N., & Yanamandram, V. (2019). Modelling trade-offs in students' choice set when determining universities. *International Journal of Educational Management*, *33*(5), 979-989.
- Kwong, E. (2010). Effectiveness of career academies: A quantitative study on career academy participation and its relationship to student achievement and engagement (Doctoral Dissertation).
- Ladson-Billings, G. (2022). *The dreamkeepers: Successful teachers of African American children*. John Wiley & Sons.
- Landl, E. (2018). Designing a coherent state system of accountability: The every student succeeds act and Perkins V. National Center for the Improvement of Educational Assessment.
- Le, T., Robinson, L., & Dobeles, A. (2020). Understanding high school students use of choice factors and word-of-mouth information sources in university selection. *Studies in Higher Education (Dorchester-on-Thames)*, *45*(4), 808-818.
- Learning pathway definition*. (2013). The Glossary of Education Reform.

- Leonard, J. (2013a). Funding early college high school: Hold harmless or shared commitment. Education Policy Analysis Archives.
- Lerma, O., & Kreinovich, V. (2015). Student autonomy improves learning: A theoretical justification of the empirical results.
- Loveless, T. (1998). The tracking and ability grouping debate. 2(8).
- Lucas, S. (1999). Tracking inequality: Stratification and mobility in American high schools. Sociology of education series.
- Mann, A., Denis, V., Scheilder, A., Ekhtiari, H., Forsyth, T., Liu, E., & Chambers, N. (2020). Dream jobs? teenagers' career aspirations and the future of work. OECD.
- Marandi, S. S., & Sadaghian, S. (2016). A shift into autonomous education. *Journal of English Language Teaching and Learning*, 8(17), 75-92.
- Martinez, M. (2013). (Re)considering the role "Familismo" plays in Latina/o high school students' college choices. *The High School Journal*, 97(1), 21-40.
- Mayer, A., LeChasseur, K., & Donaldson, M. (2018). The structure of tracking: Instructional
- McLeod, S. (2023). Social Identity Theory in psychology (Tajfel & Turner, 1979). Simply Psychology. <https://www.simplypsychology.org/social-identity-theory.html#sthash.U5NnjwtA.dpbs>
- Merrill, S., & Gonser, S. (2021). The importance of student choice across all grade levels. *Edutopia*.
- Morrison, K. (2008). Educational philosophy and the challenge of complexity theory. *Educational Philosophy and Theory*, 40(1), 19-34.
- Muskogee Public Schools (MPS) (n.d.). Early College High School.
- NCEE. (n.d.). Singapore <https://ncee.org/country/singapore/>

- Niemiec, C., & Ryan, R. (2009). *Autonomy, competence, and relatedness in the classroom: Applying self-determination theory to educational practice*. 7(2), 133–144.
- Niemiec, C. P., Ryan, R. M., & Deci, E. L. (2010). Self-determination theory and the relation of autonomy to self-regulatory processes and personality development. *Handbook of personality and self-regulation*, 169-191.
- Nodine, T. (2011). *Making the grade: Texas early college high schools prepare students for college*.
- Noguera, P. A. (2009). *The trouble with black boys:... And other reflections on race, equity, and the future of public education*. John Wiley & Sons.
- Oakes, J. (2005). *Keeping track: How schools structure inequality*. Yale University Press.
- Oklahoma. (n.d.). <https://careertech.org/oklahoma>
- OKcollegestart. (n.d.). *Concurrent Enrollment*.
- Oreopoulos, P., Brown, R. S., & Lavecchia, A. M. (2017). Pathways to education: An integrated approach to helping at-risk high school students. *Journal of Political Economy*, 125(4), 947-984.
- Partridge, M. A., Schaller, T. K., Berry, R. L., & Routon, P. W. (2021). The economic benefit from tuition savings for dual enrollment students in Georgia. *Journal of School Choice*, 15(4), 655-667.
- Perry, A. (2019). Making the most of Perkins V. *State Education Standard*. 19(3), 15–17.
- Peterson, K. (2006). *Changing their majors: how do students choose their majors and why do so many change?*

- Piepenburg, J., & Fervers, L. (2022). Do students need more information to leave the beaten paths? The impact of a counseling intervention on high school students' choice of major. *Higher Education*, 84(2), 321-341.
- Pinxten, M., De Fraine, B., Van Den Noortgate, W., Van Damme, J., & Anumendem, D. (2012). Educational choice in secondary school in Flanders: the relative impact of occupational interests on option choice. *Educational research and evaluation*, 18(6), 541-569.
- PISA 2018 worldwide ranking - average score of mathematics, science and reading (2020). FactsMaps. <https://factsmaps.com/pisa-2018-worldwide-ranking-average-score-of-mathematics-science-reading/>
- PISA scores by country. (2022) <https://www.datapandas.org/ranking/pisa-scores-by-country>
- Project Lead the Way (PLTW). (n.d.). Where stem curriculum meets career readiness. <https://www.pltw.org/>
- Ravitch, D., & Cortese, A. (2009). Why we're behind: What top nations teach their students but we don't. 75(1).
- Reay, D., & Ball, S. J. (1998). 'Making their minds up': Family dynamics of school choice. *British Educational Research Journal*, 24(4), 431-448.
- Regions. (n.d.). CareerTech. <https://oklahoma.gov/careertech/educators/legislation-assistance/perkins/grant-application-information/regions.html>
- Rivera, L., Kotok, S., & Ashby, N. (2019). Access to dual enrollment in the United States: Implications for equity and stratification.
- Ross, E. (2023). Growth of concurrent enrollment reflects value of program for students, families. Oklahoma State Regents for Higher Education. <https://okhighered.org/2020/11/concurrent-enrollment-2020/>

- Ruhose, J., & Schwerdt, G. (2016). Does early educational tracking increase migrant–native achievement gaps? Differences-in differences evidence across countries. *52*, 134–154.
- Ryan, R., & Deci, E. (2000a). Intrinsic and extrinsic motivations: classic definitions and new directions. *25*(1), 54–67.
- Ryan, R., & Deci, E. (2000b). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *55*(1), 68–78.
- Sadovnik, A. R. (2001). Basil Bernstein (1924–2000).
- Saiger, A. J. (2020). Unbundling school. Fordham Law Legal Studies research paper, (3541319), 5.
- Santelises, S. B. (2016). Are high schools preparing students to be college-and career-ready? *Tech Directions*, *76*(1), 26.
- Sattin-Bajaj, C., Jennings, J., Corcoran, S., Baker-Smith, E., & Hailey, C. (2018). Surviving at the Street Level: How Counselors' Implementation of School Choice Policy Shapes Students' High School Destinations. *Sociology of Education*, *91*(1), 46-71.
- Scabini, E., Manzi, C. (2011). Family processes and identity. In: Schwartz, S., Luyckx, K., Vignoles, V. (eds) *Handbook of identity theory and research*. [https://doi.org/10.1007/978-1-4419-7988-9\\_23](https://doi.org/10.1007/978-1-4419-7988-9_23)
- Simões, C., & Soares, A. (2010). Applying to higher education: Information sources and choice factors. *Studies in Higher Education (Dorchester-on-Thames)*, *35*(4), 371-389.
- Slavin, R. (1990). Achievement effects of ability grouping in secondary schools: A best-evidence synthesis. *60*(3), 471–499.
- Smith, S. (2012). The impact of career and technical education programs on at-risk secondary students (Doctoral Dissertation).



- Sojkin, B., Bartkowiak, P., & Skuza, A. (2011). Determinants of higher education choices and student satisfaction: the case of Poland. *63*(565–581).  
<https://doi.org/https://doi.org/10.1007/s10734-011-9459-2>
- Song, M., & Zeiser, K. (2019). Early college, continued success: Longer-term impact of early college high schools.
- Stewart, T., & Wolf, P. J. (2012). Understanding school shoppers in Detroit. Detroit, MI: Qwaku & Associates for Michigan Future Inc. Retrieved from [http://www.uark.edu/ua/der/SCDP/Detroit/Detroit\\_Shoppers\\_Report-Final.pdf](http://www.uark.edu/ua/der/SCDP/Detroit/Detroit_Shoppers_Report-Final.pdf)
- Stipek, D. (1996). Motivation and instruction. In *Handbook of Educational Psychology* (83–113).
- Tajfel, H. (1978). Differentiation between social groups: Studies in the social psychology of intergroup relations.
- Taylor, G., Jungert, T., Mageau, G., Schattke, K., Dedic, H., Rosenfield, S., & Koestner, R. (2014). A self-determination theory approach to predicting school achievement over time: The unique role of intrinsic motivation. *39*(4), 342–358.
- Technology centers*. (2023). CareerTech. <https://oklahoma.gov/careertech/technology-centers.html>
- The Glossary of Education Reform. (2019, January 29). School community definition. School Community. <https://www.edglossary.org/school-community/>
- The Princeton Review (n.d.). How to score AP Credit for College.  
<https://www.princetonreview.com/college-advice/ap-credit#:~:text=Many%20schools%20will%20give%20you,exam%2C%20but%20policies%20may%20differ.>

Tomlinson, C. A. (2017). How to differentiate instruction in academically diverse classrooms. ASCD.

Tulsa Tech. (n.d.). High School Extension Programs. <https://tulsatech.edu/about-the-district/locations/high-school-extension-programs/>

Turpen, M., Taylor, J., Hilliary, D., Casey, D., Holloway, A., Sherry, J., Parker, J., Hickman, J., & Warmington, C. (2021). Concurrent enrollment report - Oklahoma state regents for high education.

Union Public Schools (UPS). (n.d.).<https://www.unionps.org/collegecareer/edge>

U.S. Department of Education (2022). Career and Technical Education--title I (basic grants to states). Vocational Education--Basic Grants to States. <https://www2.ed.gov/programs/ctesbg/index.html>

Van der Vleuten, M., Jaspers, E., Maas, I., & van der Lippe, T. (2016). Boys' and girls' educational choices in secondary education. The role of gender ideology. *Educational Studies*, 42(2), 181-200.

Van Langen, A., Rekers-Mombarg, L., & Dekkers, H. (2006). Sex-related differences in the determinants and process of science and mathematics choice in pre-university education. *International Journal of Science Education*, 28(1), 71-94.

Van Langen, A., Rekers-Mombarg, L., & Dekkers, H. (2008). Mathematics and science choice following introduction of compulsory study profiles into Dutch secondary education. *British Educational Research Journal*, 34(6), 733-745.

- Vanhalakka-Ruoho, M., Koski, L., Silvonen, J., & Tamminen, M. (2016). Educational pathways of ninth grade adolescents: Transition practices in vocational and academic families. *Australian Journal of Career Development*, 25(3), 117-128.
- Waldrop, M. (1992). Complexity: the emerging science at the edge of order and chaos.
- Wang, M., & Degol, J. (2016). Gender gap in science, technology, engineering, and mathematics (STEM): Current knowledge, implications for practice, policy, and future directions. *Educational Psychology Review*, 29(1), 119–140
- What are pathways?. (n.d.). Great Schools Partnership (GSP).  
<https://www.greatschoolspartnership.org/pathways-report/what-are-pathways/>
- Whipple, G. (1936). The grouping of pupils (Thirty-fifth yearbook, part 1, national society for the study of education). Chicago: University of Chicago Press.
- Witkowsky, P., & Clayton, G. (2020). What makes dual enrollment work? High school counselor perspectives. 44(6), 427–444.
- Zhang, Y., Gros, T., & Mao, E. (2021). Gender Disparity in Students' Choices of Information Technology Majors. *Business Systems Research*, 12(1), 80-95.

## Appendix

### Appendix A: Email

Good [time of day and who the email was addressing],

My name is Jaydn Means and I am a PhD candidate at the University of Oklahoma in Tulsa. I am looking at how students describe their decision-making processes when choosing an education pathway in high school. I am reaching out to see if you know of anyone who has graduated from high school and completed one of these pathways: Concurrent Enrollment/Dual Credit, Early College High School, or Career and Technical Education. If you know of anyone who would like to participate, could you please pass along this [survey](#). I will be conducting interviews via Zoom. I hope to begin scheduling interviews as soon as possible. Thank you for taking the time to read my email and I am looking forward to hearing from you soon.

Thank you,

Jaydn Means, M.Ed.

Graduate Coordinator and Research Associate-THRIVE Center

Managing Editor of OEJ

EACS Ph. D. Candidate

## Appendix B: Interview Questions

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### Interview Questions-Main questions

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1. Why did you choose the educational pathway that you chose?
    - a. What were you interested in pursuing when you chose this pathway?
  2. When considering an educational pathway, was there a specific reason for choosing the one you chose over the other pathways? Please explain in as much detail as possible.
    - a. When you say \_\_\_\_, what exactly do you mean by that? Could you explain a little more?
  3. Walk me through choosing this pathway from the start. Please explain in as much detail as possible.
    - a. Having the participant explain certain steps that they mention to help identify if their choice was autonomous or tracked.
    - b. What is the application process like?
    - c. How are you “accepted into this pathway?”
  4. When choosing this pathway did someone or something influence your choice? Please explain in as much detail as possible.
    - a. If there was (someone or something), can you elaborate on how they/it influenced you.
  5. When choosing this pathway, did you make plans with someone to complete the pathway together? If so, please explain in as much detail as possible.
    - a. If not, did you discuss your ambitions with anyone such as teachers, parents, friends, classmates, counselors, or someone in the community?
    - b. How did \_\_\_\_\_ have an influence on your decision?
  6. When choosing this pathway, did you consider how this pathway would aid you in advancing your career/education? Please be as specific as possible.
    - a. If yes, ask the participant to elaborate on how they hoped it would advance their career or education.
    - b. If not, ask them what they wanted to achieve by choosing this pathway.
  7. Rate on a scale (1-3) how they feel about being able to choose their pathway.
    - a. 1 (I do not like it), 2 (I like it), or 3 (I love it)
    - b. Describe to me what the ranking you chose means to you?
  8. Are there a variety of classes offered in this pathway?
    - a. If so, when you look at the list of classes offered, describe how you choose what classes to take.
  9. What high school did you attend, and did you attend it all four years?
  10. After graduating high school, did you attend college or a vocational program?
  11. Have you graduated from college or vocational school? If so, what is the highest degree/certification that you currently hold?
  12. How did you finance your education choice? Please be specific as possible.
  13. Please list out your immediate family (mother, father, sister(s), and brother(s), their highest level of education, and their career. (For example: Mother- B.S. in nursing-PICU nurse)
-

## Appendix C: Codes

| <u>A priori Codes</u> |                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                               |
|-----------------------|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| <i>Code Name Code</i> | <i>Code Name</i>                                                             | <i>Citation</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <i>Participant who touched on these topics</i>                |
| APC001                | Ability grouping/<br>Assigning students/<br>Tracking (educational abilities) | Billett, 1932; Chmielewski et al., 2013; Closs, 2010; College Board, n.d.; Edmunds et al., 2017; Guill et al., 2017; Hallinan, 1997; Haniford, 2008; Hanushek & Wößmann, 2006; Karlson, 2015; Korthals & Dronkers, 2016; Kulik & Kulik, 1982; Loveless, 1998; Lucas, 1999; Mayer & Lechasseur, 2018; Oakes, 2015; Reay & Ball, 1998; Rivera, Kotok, & Ashby, 2019; Ruhose & Schwerdt, 2016; Slavin, 1990; Tomlinson, 2017; Turpen et al., 2021; Van der Vleuten et al., 2016; Whipple, 1936 | CE004/CTE004, CE012-CTE006, CE002, CE005, CE009. CE010, CE011 |

|        |                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                  |
|--------|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| APC002 | Academic:<br>Performance/<br>Rigor/ Strengths/<br>Weaknesses | Advanced CTE, n.d.; Alexander Jr & Campbell, 1964; Alonzo, 2011; Atchinson et al., 2021; Berger et al., 2013; Beymer et al., 2015; Billett, 1932; Bloomfield et al., 2013; Bottia et al., 2020; Briggs, 2016; Calhoun et al., 2019; CareerTech, n.d.; 2018; Chmielewski et al., 2013; Closs, 2010; College Board, n.d.; Cushing et al., 2019; Darling-Hammond, 2015; Deci et al., 1991; Decker & Decker, 2000; Duncheon & Relles, 2020; Edmunds et al., 2017; Edmunds et al., 2017; Finlayson, 2009; Foiland & Worrell, 2016; Guill et al., 2017; Hall, 2013; Hallinan, 1997; Hegna, 2014; Holland, 2011; Jacobs et al., 2002; Karlson, 2015; Korthals & Dronkers, 2016; Kwong, 2010; Ladson-Billings, 2022; Leonard, 2013; Loveless, 1998; Mann et al., 2020; Mayer & Lechasseur, 2018; Merrill & Gonser, 2021; NCEE, n.d; Niemiec, Ryan, & Deci, 2010; Nodine, 2011; Oakes, 2015; Oreopoulos, Brown, & Lavecchia, 2017; Piepenburg & Fervers, 2022; Pinxten, Fraine, Van Den Noortgate, Van Damme, & Anumendem, 2012; Ruhose & Schwerdt, 2016; Ryan & Deci, 2000b; Sattin-Bajaj, Jennings, Corcoran, Baker-Smith, & Hailey, 2018; Smith, 2012; Song & Zeiser, 2019; Stewart & Wolf, 2012; Stipek, 1996; Taylor et al., 2014; The Princeton Review, n.d.; Tomlinson, 2017; Union Public Schools (UPS), n.d.; Van Langen et al., 2008; Vanhalakka-Ruoho et al., 2016; Wang & Degol, 2016; What are pathways, n.d.; Whipple, 1936; Witkowsky & Clayton, 2020 | CTE003, CE004/CTE004, CE005, CE010, CE008, CE011 |
|--------|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|

|        |                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                 |
|--------|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| APC003 | Achievement:<br>Gaps<br>/Outcomes/Standards | Atchinson et al., 2021; Berger et al., 2013; Beymer et al., 2015; Bloomfield et al., 2013; Bottia et al., 2020; Briggs, 2016; Chmielewski et al., 2013; Closs, 2010; Cushing et al., 2019; Deci & Ryan, 2000; Deci et al., 1991; Darling-Hammond, 2015; Decker & Decker, 2000; Duncheon & Relles, 2020; Edmunds et al., 2017; Finlayson, 2009; Foiland & Worrell, 2016; Godwin et al., all, 2017; Guill et al., 2017; Hall, 2013; Hallinan, 1997; Hamlin 2020; Haniford, 2008; Hanushek & Wößmann, 2006; Hegna, 2014; Jacobs et al., 2002; Kershner & McQuillan, 2016; Korthals & Dronkers, 2016; Kulik & Kulik, 1982; Kwong, 2010; Landl, 2018; Loveless, 1998; Mann et al., 2020; Mayer & Lechasseur, 2018; NCEE, n.d; Niemiec, Ryan, & Deci, 2010; Nodine, 2011; Oakes, 2015; Oreopoulos, Brown, & Lavecchia, 2017; Pinxten, Fraine, Van Den Noortgate, Van Damme, & Anumendem, 2012; PISA, 2018; PISA, 2022; Rivera, Kotok, & Ashby, 2019; Ruhose & Schwerdt, 2016; Ryan & Deci, 2000a; Ryan & Deci, 2000b; Sattin-Bajaj, Jennings, Corcoran, Baker-Smith, & Hailey, 2018; Slavin, 1990; Song & Zeiser, 2019; Stewart & Wolf, 2012; Stipek, 1996; Taylor et al., 2014; The Princeton Review, n.d.; Tomlinson, 2017; Turpen et al., 2021; Union Public Schools (UPS), n.d.; Vanhalakka-Ruoho et al., 2016; What are pathways, n.d.; Calhoun et al., 2019; Wang & Degol, 2016; Wang & Degol, 2016; Whipple, 1936; Witkowsky & Clayton, 2020 | CE004/CTE004, CE005, CE009, CE016, CE008, CE011 |
| APC004 | At risk students                            | Alonzo, 2011; Atchinson et al., 2021; Berger et al., 2013; Bloomfield et al., 2013; Bottia et al., 2020; Calhoun et al., 2019; Closs, 2010; Hall, 2013; Darling-Hammond, 2015; Finlayson, 2009; Holland, 2011; Holman et al., 2017; Kwong, 2010; Mann et al., 2020; Oakes, 2015; Smith, 2012; Stewart & Wolf, 2012; Stipek, 1996; Turpen et al., 2021; Union Public Schools (UPS), n.d.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                 |



|        |                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                     |
|--------|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| APC005 | Attitude:<br>Family/Teacher/Student           | Beymer et al., 2015; Billett, 1932; Calhoun et al., 2019; Closs, 2010; Cushing et al., 2019; Deci & Ryan, 2000; Decker & Decker, 2000; Duncheon & Relles, 2020; Edmunds et al., 2017; Finlayson, 2009; Godwin et al., 2017; Hallinan, 1997; Hamlin 2020; Kershner & McQuillan, 2016; Kulik & Kulik, 1982; Kwong, 2010; Ladson-Billings, 2022; Martinez, 2013; Noguera, 2009; Rivera, Kotok, & Ashby, 2019; Ryan & Deci, 2000a; Stewart & Wolf, 2012; Stipek, 1996; Taylor et al., 2014; Van der Vleuten et al., 2016; Witkowsky & Clayton, 2020; Zhang et al., 2021                                                                                                                                                                                                                                                 | CE012-CTE006, CE009, CE014                                                                          |
| APC006 | Autonomy/Autonomous                           | Alexander Jr & Campbell, 1964; Assor, 2002; Atchinson et al., 2021; Beymer et al., 2015; Bloomfield et al., 2013; Briggs, 2016; Cushing et al., 2019; Deci & Ryan, 2000, 2013; Deci et al., 1991; Duncheon & Relles, 2020; Field, 2007; Foiland & Worrell, 2016; Hamlin, 2018; Henri et al., 2018; Katz & Assor, 2006; Kershner & McQuillan, 2016; Lerma & Kreinovich, 2015; Marandi & Sadaghian, 2016; Mayer & Lechasseur, 2018; Merrill & Gonser, 2021; Morrison, 2008; NCEE, n.d.; Niemiec & Ryan, 2009; Niemiec, Ryan, & Deci, 2010; Ryan & Deci, 2000a; Ryan & Deci, 2000b; Sattin-Bajaj, Jennings, Corcoran, Baker-Smith, & Hailey, 2018; Stewart & Wolf, 2012; Stipek, 1996; Taylor et al., 2014; Van Langen et al., 2008; Vanhalakka-Ruoho et al., 2016; What are pathways, n.d.; Witkowsky & Clayton, 2020 | CTE001, CTE003, CTE008, CE004/CTE004, CE013-CTE007, CE001, CE002, CE003, CE006, CE010, CE016, CE014 |
| APC007 | Change:<br>Personal/Educational/Environmental | Advanced CTE, n.d.; Alexander Jr & Campbell, 1964; Atchinson et al., 2021; Battram, 1999; Berger et al., 2013; Beymer et al., 2015; Billett, 1932; Briggs, 2016; Calhoun et al., 2019; CareerTech, n.d.; 2018; Closs, 2010; Darling-Hammond, 2015; Deci & Ryan, 2000; Deci et al., 1991; Decker & Decker, 2000; Duncheon & Relles, 2020; Edgerton, 2022; Edmunds et al., 2017; Finlayson, 2009; Hall, 2013; Hallinan, 1997; Hamlin, 2018; Haniford, 2008; Hanushek & Wößmann, 2006; Hegna, 2014; Henri et al., 2018; Hess, 2010; Hoban, 2004; Jacobs et al.,                                                                                                                                                                                                                                                        | CTE003, CE005, CE014, CE008                                                                         |

|        |                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                        |
|--------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
|        |                             | 2002; Karlson, 2015; Kershner & McQuillan, 2016; Korthals & Dronkers, 2016; Kwong, 2010; Ladson-Billings, 2022; Landl, 2018; Mann et al., 2020; Martinez, 2013; Morrison, 2008; NCEE, n.d; Niemiec, Ryan, & Deci, 2010; Perry, 2019; Sattin-Bajaj, Jennings, Corcoran, Baker-Smith, & Hailey, 2018; Smith, 2012; Sojkin et al., 2011; Song & Zeiser, 2019; Stewart & Wolf, 2012; Stipek, 1996; Tajfel, 1978; Taylor et al., 2014; Technology centers, 2023; Tomlinson, 2017; Tulsa Tech, n.d.; Turpen et al., 2021; Union Public Schools (UPS), n.d.; Van der Vleuten et al., 2016; Vanhalakka-Ruoho et al., 2016                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                        |
| APC008 | Choice:<br>Education/Career | Alexander Jr & Campbell, 1964; Atchinson et al., 2021; Beymer et al., 2015; Bottia et al., 2020; Briggs, 2016; CareerTech, n.d.; 2018; Chmielewski et al., 2013; Closs, 2010; Deci & Ryan, 2000; Deci et al., 1991; Decker & Decker, 2000; Duncheon & Relles, 2020; Edmunds et al., 2017; Finlayson, 2009; Godwin et., all, 2017; Hallinan, 1997; Hamlin & Li, 2021; Haniford, 2008; Hanushek & Wößmann, 2006; Hegna, 2014; Hess, 2010; Holland, 2011; Holman et al., 2017; Jacobs et al., 2002; Katz & Assor, 2006; Korthals & Dronkers, 2016; Kusumawati, Perera, & Yanamandram, 2019; Le & Dobebe, 2020; Lerma & Kreinovich, 2015; Marandi & Sadaghian, 2016; Martinez, 2013; Mayer & Lechasseur, 2018; Merrill & Gonser, 2021; Morrison, 2008; NCEE, n.d; Niemiec, Ryan, & Deci, 2010; Piepenburg & Fervers, 2022; Ravitch & Cortese, 2009; Reay & Ball, 1998; Ryan & Deci, 2000a; Saiger, 2020; Sattin-Bajaj, Jennings, Corcoran, Baker-Smith, & Hailey, 2018; Simões & Soares 2010; Slavin, 1990; Smith, 2012; Sojkin et al., 2011; Stewart & Wolf, 2012; Stipek, 1996; Tajfel, 1978; Taylor et al., 2014; Technology centers, 2023; Tulsa Tech, n.d.; Van der Vleuten et al., 2016; Van Langen et al., 2008; Vanhalakka-Ruoho et al., 2016; Witkowsky & Clayton, 2020; Zhang et al., 2021 | CTE003, CTE005, CTE008, CE004/CTE004, CE012-CTE006, CE013-CTE007, CE015/CTE009, CE001, CE002, CE003, CE006, CE009, CE016, CE014, CE008 |

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| APC009 | College           | Advanced CTE, n.d.; Alonzo, 2011; Atchinson et al., 2021; Bottia et al., 2020; Calhoun et al., 2019; Closs, 2010; Conneely & Hyslop, 2018; Cushing et al., 2019; Deci & Ryan, 2000; Deci et al., 1991; Decker & Decker, 2000; Duncheon & Relles, 2020; Edgerton, 2022; Edmunds et al., 2017; Edmunds et al., 2017; Finlayson, 2009; Foiland & Worrell, 2016; Godwin et al., 2017; Hall, 2013; Haniford, 2008; High school students, 2020; Holland, 2011; Holman et al., 2017; Kusumawati, Perera, & Yanamandram, 2019; Kwong, 2010; Landl, 2018; Le & Dobeles, 2020; Martinez, 2013; Mayer & Lechasseur, 2018; MPS, n.d.; Niemiec & Ryan, 2009; Nodine, 2011; Oreopoulos, Brown, & Lavecchia, 2017; Partridge, Schaller, Berry, & Routon, 2021; Piepenburg & Fervers, 2022; Rivera, Kotok, & Ashby, 2019; Ross, 2023; Saiger, 2020; Sattin-Bajaj, Jennings, Corcoran, Baker-Smith, & Hailey, 2018; Smith, 2012; Sojkin et al., 2011; Song & Zeiser, 2019; Taylor et al., 2014; The Princeton Review, n.d.; Turpen et al., 2021; Union Public Schools (UPS), n.d.; What are pathways, n.d.; Wang & Degol, 2016; Witkowsky & Clayton, 2020; Zhang et al., 2021 | ECHS001, CTE003, ALL CE                                               |
| APC010 | Communication     | Alexander Jr & Campbell, 1964; Cushing et al., 2019; Decker & Decker, 2000; Edmunds et al., 2017; Field, 2007; Finlayson, 2009; Hall, 2013; Hoban, 2004; Holland, 2011; Kershner & McQuillan, 2016; Landl, 2018; Marandi & Sadaghian, 2016; Morrison, 2008; MPS, n.d.; Bernsterin, 2001; Simões & Soares 2010; Smith, 2012; Stewart & Wolf, 2012; Stipek, 1996; Tajfel, 1978;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | CTE005, CE015/CTE009, CE002, CE014, CE008, CE011                      |
| APC011 | Complexity Theory | Alexander Jr & Campbell, 1964; Battram, 1999; Beymer et al., 2015; Bloomfield et al., 2013; Bottia et al., 2020; Briggs, 2016; Calhoun et al., 2019; Closs, 2010; Deci & Ryan, 2000; Godwin et al., 2017; Haniford, 2008; Hoban, 2004; Holland, 2011; Kusumawati, Perera, & Yanamandram, 2019; Morrison, 2008; Sojkin et al., 2011; Waldrop, 1992                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | CTE005, CE004/CTE004, CE013-CTE007, CE001, CE002, CE005, CE014, CE011 |

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| APC012 | Concurrent Enrollment | Edgerton, 2022; High school students, 2020; Learning pathway definition, 2013; OKcollegestart, n.d.; Partridge, Schaller, Berry, & Routon, 2021; Perry, 2019; Rivera, Kotok, & Ashby, 2019; Ross, 2023; Turpen et al., 2021; Witkowsky & Clayton, 2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | CE001, CE002, CE003, CE005, CE006, CE007, CE008, CE009, CE010, CE011, CE012, CE13, CE014, CE015, CE016, CE004/CTE004, CE011 |
| APC013 | CTE/Vocational school | Advanced CTE, n.d.; Alonzo, 2011; Bloomfield et al., 2013; Bottia et al., 2020; CareerTech, n.d.; 2018; Closs, 2010; Conneely & Hyslop, 2018; Cushing et al., 2019; Edgerton, 2022; Finlayson, 2009; Haniford, 2008; Hegna, 2014; Holman et al., 2017; Kwong, 2010; Landl, 2018; Learning pathway definition, 2013; Oklahoma, n.d.; Perry, 2019; Regions, n.d.; Santelises, 2016; Smith, 2012; Taylor et al., 2014; Technology centers, 2023; Tulsa Tech, n.d.; U.S. Department of Education, 2022; Vanhalakka-Ruoho et al., 2016                                                                                                                                                                                                                                                                                                                                                                                                     | CTE001, CTE002, CTE003, CTE005, CTE008, CTE009, CE004/CTE004, CE012-CTE006, CE013-CTE007                                    |
| APC014 | Decisions             | Beymer et al., 2015; Bottia et al., 2020; Briggs, 2016; Calhoun et al., 2019; Closs, 2010; Cushing et al., 2019; Deci & Ryan, 2000; Decker & Decker, 2000; Duncheon & Relles, 2020; Edgerton, 2022; Finlayson, 2009; Foiland & Worrell, 2016; Godwin et al., 2017; Hallinan, 1997; Hamlin, 2018; Hegna, 2014; Holland, 2011; Karlson, 2015; Kershner & McQuillan, 2016; Kusumawati, Perera, & Yanamandram, 2019; Landl, 2018; Le & Dobe, 2020; Mann et al., 2020; Marandi & Sadaghian, 2016; Martinez, 2013; Mayer & Lechasseur, 2018; Merrill & Gonser, 2021; NCEE, n.d; Niemiec, Ryan, & Deci, 2010; Piepenburg & Fervers, 2022; Reay & Ball, 1998; Saiger, 2020; Sattin-Bajaj, Jennings, Corcoran, Baker-Smith, & Hailey, 2018; Simões & Soares 2010; Smith, 2012; Sojkin et al., 2011; Stewart & Wolf, 2012; Stipek, 1996; Taylor et al., 2014; Van Langen et al., 2008; Vanhalakka-Ruoho et al., 2016; Witkowsky & Clayton, 2020 | CTE008, CE004/CTE004, CE013-CTE007, CE002, CE003, CE006, CE014, CE008, CE011                                                |

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| APC015 | Early College High School | Atchinson et al., 2021; Berger et al., 2013; Calhounn et al., 2019; Dunccheon & Relles, 2020; Edgerton, 2022; Edmunds et al., 2017; Edmunds et al., 2017; Hall, 2013; Learning pathway definition, 2013; Leonard, 2013; MPS, n.d.; Nodine, 2011; Perry, 2019; PISA, 2018; PISA, 2022; Song & Zeiser, 2019; Union Public Schools (UPS), n.d.;                                                                                                                                                                                                                                                                                                                                                                                        | ECHS001          |
| APC016 | Educational Pathways      | Advanced CTE, n.d.; Alexander Jr & Campbell, 1964; Atchinson et al., 2021; Berger et al., 2013; Bottia et al., 2020; Calhounn et al., 2019; CareerTech, n.d.; 2018; Conneely & Hyslop, 2018; Cushing et al., 2019; Godwin et al., 2017; Haniford, 2008; Learning pathway definition, 2013; Leonard, 2013; MPS, n.d.; Perry, 2019; Rivera, Kotok, & Ashby, 2019; Santelises, 2016; The Princeton Review, n.d.; Technology centers, 2023; Tulsa Tech, n.d.; Turpen et al., 2021; Union Public Schools (UPS), n.d.; U.S. Department of Education, 2022; Vanhalakka-Ruoho et al., 2016; What are pathways, n.d.; Witkowsky & Clayton, 2020                                                                                              | All participants |
| APC017 | Ethnicity/Race            | Atchinson et al., 2021; Berger et al., 2013; Bottia et al., 2020; Chmielewski et al., 2013; Closs, 2010; Cushing et al., 2019; Darling-Hammond, 2015; Deci & Ryan, 2000; Decker & Decker, 2000; Edmunds et al., 2017; Edmunds et al., 2017; Finlayson, 2009; Foiland & Worrell, 2016; Godwin et al., 2017; Hall, 2013; Hallinan, 1997; Hamlin, 2018; Haniford, 2008; Hegna, 2014; Holland, 2011; Kwong, 2010; Ladson-Billings, 2022; Lucas, 1999; Mayer & Lechasseur, 2018; Niemiec, Ryan, & Deci, 2010; Noguera, 2009; PISA, 2018; Oakes, 2015; PISA, 2022; Rivera, Kotok, & Ashby, 2019; Song & Zeiser, 2019; Stewart & Wolf, 2012; Tajfel, 1978; Van der Vleuten et al., 2016; Van Langen et al., 2008; What are pathways, n.d.; | CE011            |

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| APC018 | Family                 | Alexander Jr & Campbell, 1964; APA, 2023; Berger et al., 2013; Beymer et al., 2015; Bloomfield et al., 2013; Bottia et al., 2020; Calhoun et al., 2019; Closs, 2010; Deci & Ryan, 2000; Godwin et al., 2017; Hamlin, 2018; Hamlin 2020; Hamlin & Li, 2021; Haniford, 2008; Hanushek & Wößmann, 2006; Hegna, 2014; Karlson, 2015; Kusumawati, Perera, & Yanamandram, 2019; Kwong, 2010; Kwong, 2010; Leonard, 2013; Loveless, 1998; Martinez, 2013; Niemiec, Ryan, & Deci, 2010; Niemiec, Ryan, & Deci, 2010; Nodine, 2011; Noguera, 2009; Reay & Ball, 1998; Reay & Ball, 1998; Ryan & Deci, 2000a; Ryan & Deci, 2000b; Bernsterin, 2001; Saiger, 2020; Simões & Soares 2010; Smith, 2012; Sojkin et al., 2011; Song & Zeiser, 2019; Stewart & Wolf, 2012; Tajfel, 1978; Van der Vleuten et al., 2016; Van Langen et al., 2008; Vanhalakka-Ruoho et al., 2016; Wang & Degol, 2016; | CTE003, CTE008, CE004/CTE004, CE013-CTE007, APC018, CE006, CE010, CE016, CE014, CE008, CE011 |
| APC019 | Family Identity Theory | Alexander Jr & Campbell, 1964; APA, 2023; Beymer et al., 2015; Bloomfield et al., 2013; Bottia et al., 2020; Calhoun et al., 2019; Closs, 2010; Deci & Ryan, 2000; Decker & Decker, 2000; Haniford, 2008; Hanushek & Wößmann, 2006; Hegna, 2014; Kusumawati, Perera, & Yanamandram, 2019; Kwong, 2010; Martinez, 2013; Niemiec, Ryan, & Deci, 2010; Niemiec, Ryan, & Deci, 2010; Niemiec, Ryan, & Deci, 2010; Reay & Ball, 1998; Ryan & Deci, 2000b; Scabini & Manzi, 2011; Simões & Soares 2010; Smith, 2012; Sojkin et al., 2011; Song & Zeiser, 2019; Tajfel, 1978; Van der Vleuten et al., 2016; Vanhalakka-Ruoho et al., 2016                                                                                                                                                                                                                                                 | CTE001, CTE003, CTE005, CTE008, CE004/CTE004, CE013-CTE007, CE005, CE014, CE008, CE011       |
| APC020 | Friends                | Alexander Jr & Campbell, 1964; Beymer et al., 2015; Bottia et al., 2020; Briggs, 2016; Calhoun et al., 2019; Closs, 2010; Deci & Ryan, 2000; Decker & Decker, 2000; Finlayson, 2009; Godwin et al., 2017; Haniford, 2008; Holland, 2011; Kusumawati, Perera, & Yanamandram, 2019; Le & Dobe, 2020; Loveless, 1998; Martinez, 2013; Niemiec, Ryan, & Deci, 2010; Reay & Ball, 1998; Scabini & Manzi, 2011; Simões & Soares 2010; Smith, 2012; Sojkin et al., 2011;                                                                                                                                                                                                                                                                                                                                                                                                                  | CTE001, CTE005, CE004/CTE004, CE013-CTE007, CE001, CE002, CE011                              |

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|        |            | Stewart & Wolf, 2012; Tajfel, 1978; Vanhalakka-Ruoho et al., 2016                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                      |
| APC021 | Gender     | Alexander Jr & Campbell, 1964; Atchinson et al., 2021; Berger et al., 2013; Bottia et al., 2020; Briggs, 2016; Chmielewski et al., 2013; Closs, 2010; Cushing et al., 2019; Deci & Ryan, 2000; Decker & Decker, 2000; Edmunds et al., 2017; Edmunds et al., 2017; Finlayson, 2009; Foiland & Worrell, 2016; Godwin et al., 2017; Hallinan, 1997; Hamlin & Li, 2021; Haniford, 2008; Hegna, 2014; Henri et al., 2018; Jacobs et al., 2002; Karlson, 2015; Kwong, 2010; Mann et al., 2020; Martinez, 2013; Niemiec, Ryan, & Deci, 2010; Noguera, 2009; Oreopoulos, Brown, & Lavecchia, 2017; Piepenburg & Fervers, 2022; PISA, 2018; PISA, 2022; Reay & Ball, 1998; Rivera, Kotok, & Ashby, 2019; Ruhose & Schwerdt, 2016; Sojkin et al., 2011; Song & Zeiser, 2019; Tajfel, 1978; Van der Vleuten et al., 2016; Van Langen et al., 2008; Vanhalakka-Ruoho et al., 2016; Wang & Degol, 2016; Zhang et al., 2021 | CTE001                               |
| APC022 | Location   | Appendix, 2023; Briggs, 2016; Closs, 2010; Duncheon & Relles, 2020; Edmunds et al., 2017; Hamlin, 2018; Le & Dobe, 2020; MPS, n.d.; PISA, 2018; PISA, 2022; Ravitch & Cortese, 2009; Regions, n.d.; Smith, 2012; Stewart & Wolf, 2012; Technology centers, 2023; Tulsa Tech, n.d.; Turpen et al., 2021; Union Public Schools (UPS), n.d.; U.S. Department of Education, 2022                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | CE014, CE011                         |
| APC023 | Motivation | Assor, 2002; Beymer et al., 2015; Bloomfield et al., 2013; Briggs, 2016; Calhoun et al., 2019; Closs, 2010; College Board, n.d.; Deci & Ryan, 2000; Decker & Decker, 2000; Edmunds et al., 2017; Field, 2007; Foiland & Worrell, 2016; Godwin et al., 2017; Hallinan, 1997; Hamlin & Li, 2021; Haniford, 2008; Jacobs et al., 2002; Katz & Assor, 2006; Kwong, 2010; Mann et al., 2020; Marandi & Sadaghian, 2016; Niemiec & Ryan, 2009;                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | CTE003, CTE005, CTE008, CE012-CTE006 |

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|        |                               | Niemiec, Ryan, & Deci, 2010; Pinxten, Fraine, Van Den Noortgate, Van Damme, & Anumendem, 2012; Ryan & Deci, 2000a; Slavin, 1990; Smith, 2012; Stewart & Wolf, 2012; Stipek, 1996; Taylor et al., 2014; The Princeton Review, n.d.; Vanhalakka-Ruoho et al., 2016; What are pathways, n.d.; Witkowsky & Clayton, 2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                              |
| APC024 | Parent:<br>Background/Support | Alexander Jr & Campbell, 1964; APA, 2023; Atchinson et al., 2021; Berger et al., 2013; Bloomfield et al., 2013; Bottia et al., 2020; Calhoun et al., 2019; Chmielewski et al., 2013; Closs, 2010; Cushing et al., 2019; Deci & Ryan, 2000; Deci et al., 1991; Edgerton, 2022; Edmunds et al., 2017; Finlayson, 2009; Godwin et al., 2017; Hallinan, 1997; Hamlin, 2017; Hegna, 2014; Korthals & Dronkers, 2016; Kusumawati, Perera, & Yanamandram, 2019; Kwong, 2010; Leonard, 2013; Lucas, 1999; Martinez, 2013; Noguera, 2009; Oreopoulos, Brown, & Lavecchia, 2017; Reay & Ball, 1998; Ruhose & Schwerdt, 2016; Ryan & Deci, 2000b; Sattin-Bajaj, Jennings, Corcoran, Baker-Smith, & Hailey, 2018; Sojkin et al., 2011; Song & Zeiser, 2019; Stewart & Wolf, 2012; Tajfel, 1978; Taylor et al., 2014; Union Public Schools (UPS), n.d.; Van der Vleuten et al., 2016; Van Langen et al., 2008; Vanhalakka-Ruoho et al., 2016 | CTE001, CTE005, CTE008, CE003, CE005, CE009, CE014, CE008                                    |
| APC025 | Reputation                    | Briggs, 2016; Decker & Decker, 2000; Kusumawati, Perera, & Yanamandram, 2019; Simões & Soares 2010; Stewart & Wolf, 2012; The Princeton Review, n.d.; Wang & Degol, 2016; Zhang et al., 2021                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | CE013-CTE007, CE002                                                                          |
| APC026 | School Counselors             | Bottia et al., 2020; Closs, 2010; College Board, n.d.; Cushing et al., 2019; Duncanson & Relles, 2020; Edgerton, 2022; Hallinan, 1997; Haniford, 2008; Hegna, 2014; Kwong, 2010; Piepenburg & Fervers, 2022; Sattin-Bajaj, Jennings, Corcoran, Baker-Smith, & Hailey, 2018; Stewart & Wolf, 2012; Union Public Schools (UPS), n.d.; Vanhalakka-Ruoho et al., 2016; Witkowsky & Clayton, 2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | CTE001, CTE002, CTE003, CE012-CTE006, CE015/CTE009, CE002, CE003, CE006, CE010, CE014, CE008 |



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| APC027 | Secondary Education/ High School | Advanced CTE, n.d.; Alexander Jr & Campbell, 1964; Atchinson et al., 2021; Berger et al., 2013; Bloomfield et al., 2013; Bottia et al., 2020; Calhoun et al., 2019; CareerTech, n.d.; 2018; Chmielewski et al., 2013; Closs, 2010; College Board, n.d.; Conneely & Hyslop, 2018; Cushing et al., 2019; Darling-Hammond, 2015; Deci & Ryan, 2000; Deci et al., 1991; Decker & Decker, 2000; Duncheon & Relles, 2020; Edgerton, 2022; Edmunds et al., 2017; Edmunds et al., 2017; Finlayson, 2009; Foiland & Worrell, 2016; Godwin et al., 2017; Guill et al., 2017; Hall, 2013; Hallinan, 1997; Hamlin, 2017; Haniford, 2008; Hoban, 2004; Holland, 2011; Jacobs et al., 2002; Karlson, 2015; Kulik & Kulik, 1982; Landl, 2018; Leonard, 2013; Loveless, 1998; Lucas, 1999; Martinez, 2013; Mayer & Lechasseur, 2018; Merrill & Gonser, 2021; MPS, n.d.; NCEE, n.d; Niemiec, Ryan, & Deci, 2010; Nodine, 2011; Oklahoma, n.d.; OKcollegestart, n.d.; Oreopoulos, Brown, & Lavecchia, 2017; Perry, 2019; Piepenburg & Fervers, 2022; PISA, 2018; PISA, 2022; Ravitch & Cortese, 2009; Regions, n.d.; Rivera, Kotok, & Ashby, 2019; Ross, 2023; Saiger, 2020; Santelises, 2016; Sattin-Bajaj, Jennings, Corcoran, Baker-Smith, & Hailey, 2018; Slavin, 1990; Smith, 2012; Song & Zeiser, 2019; Stewart & Wolf, 2012; Taylor et al., 2014; The Princeton Review, n.d.; Technology centers, 2023; Tulsa Tech, n.d.; Turpen et al., 2021; Union Public Schools (UPS), n.d.; U.S. Department of Education, 2022; Van der Vleuten et al., 2016; Van Langen et al., 2008; Vanhalakka-Ruoho et al., 2016; Wang & Degol, 2016; Witkowsky & Clayton, 2020 | All participants                             |
| APC028 | Self Determination Theory        | Advanced CTE, n.d.; Alexander Jr & Campbell, 1964; Alonzo, 2011; Assor, 2002; Atchinson et al., 2021; Beymer et al., 2015; Calhoun et al., 2019; CareerTech, n.d.; 2018; Closs, 2010; Deci & Ryan, 2000; Deci et al., 1991; Hamlin, 2017; Katz & Assor, 2006; NCEE, n.d; Niemiec & Ryan, 2009; Ryan & Deci, 2000a; Ryan & Deci, 2000b; Stipek, 1996; Taylor et al., 2014; Wang & Degol,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Everyone who falls within the autonomy block |

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|        |                      | 2016; What are pathways, n.d.; Witkowsky & Clayton, 2020; Zhang et al., 2021                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                              |
| APC029 | Socioeconomic status | Atchinson et al., 2021; Berger et al., 2013; Bottia et al., 2020; Briggs, 2016; Briggs, 2016; Closs, 2010; Cushing et al., 2019; Decker & Decker, 2000; Deci & Ryan, 2000; Edmunds et al., 2017; Edmunds et al., 2017; Godwin et al., 2017; Hall, 2013; Hallinan, 1997; Hamlin, 2017; Karlson, 2015; Korthals & Dronkers, 2016; Kusumawati, Perera, & Yanamandram, 2019; Kwong, 2010; Lucas, 1999; Martinez, 2013; Mayer & Lechasseur, 2018; NCEE, n.d.; Noguera, 2009; Partridge, Schaller, Berry, & Routon, 2021; Rivera, Kotok, & Ashby, 2019; Ruhose & Schwerdt, 2016; Santelises, 2016; Sattin-Bajaj, Jennings, Corcoran, Baker-Smith, & Hailey, 2018; Slavin, 1990; Stewart & Wolf, 2012; Turpen et al., 2021;; Union Public Schools (UPS), n.d.; Van der Vleuten et al., 2016; Van Langen et al., 2008; Vanhalakka-Ruoho et al., 2016; What are pathways, n.d.; | CTE001, CTE002, CE004/CTE004 |
| APC030 | STEM                 | Advanced CTE, n.d.; Bottia et al., 2020; CareerTech, n.d.; 2018; Conneely & Hyslop, 2018; Cushing et al., 2019; Godwin et al., 2017; Holman et al., 2017; Stewart & Wolf, 2012; Taylor et al., 2014; Technology centers, 2023; Tulsa Tech, n.d.; Van der Vleuten et al., 2016; Van Langen et al., 2008; Vanhalakka-Ruoho et al., 2016; Wang & Degol, 2016; Zhang et al., 2021                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | CE012-CTE006, CE013-CTE007   |
| APC031 | Student Ability      | Berger et al., 2013; Beymer et al., 2015; Whipple, 1936; Witkowsky & Clayton, 2020; Billett, 1932; Bloomfield et al., 2013; Bottia et al., 2020; Briggs, 2016; Calhoun et al., 2019; Chmielewski et al., 2013; Closs, 2010; College Board, n.d.; Deci & Ryan, 2000; Edmunds et al., 2017; Field, 2007; Hanushek & Wößmann, 2006; Henri et al., 2018; Holman et al., 2017; Jacobs et al., 2002; Karlson, 2015; Korthals & Dronkers, 2016; Kwong, 2010; Lucas, 1999; Stipek, 1996; Taylor et al., 2014; The Princeton Review, n.d.; Turpen et al., 2021;                                                                                                                                                                                                                                                                                                                 | CE008                        |

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|        |                                                      | Van der Vleuten et al., 2016; Van Langen et al., 2008; Wang & Degol, 2016; What are pathways, n.d.; Zhang et al., 2021                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                      |
| APC032 | Student Engagement: Behavioral/Emotional/Educational | Advanced CTE, n.d.; Beymer et al., 2015; Calhoun et al., 2019; CareerTech, n.d.; 2018; Closs, 2010; Cushing et al., 2019; Deci & Ryan, 2000; Decker & Decker, 2000; Edgerton, 2022; Godwin et al., 2017; Haniford, 2008; Henri et al., 2018; Holman et al., 2017; Kershner & McQuillan, 2016; Kwong, 2010; Martinez, 2013; Mayer & Lechasseur, 2018; NCEE, n.d.; Sattin-Bajaj, Jennings, Corcoran, Baker-Smith, & Hailey, 2018; Smith, 2012; Stipek, 1996; Taylor et al., 2014; Technology centers, 2023; Tulsa Tech, n.d.; Witkowsky & Clayton, 2020                                                                                                                                                                                                                                                                    |                                      |
| APC033 | Workforce/Careers                                    | Advanced CTE, n.d.; Atchinson et al., 2021; Berger et al., 2013; Bloomfield et al., 2013; Bottia et al., 2020; Briggs, 2016; Closs, 2010; Conneely & Hyslop, 2018; Edgerton, 2022; Edmunds et al., 2017; Finlayson, 2009; Godwin et al., 2017; Haniford, 2008; Holman et al., 2017; Kwong, 2010; Le & Dobebe, 2020; Mann et al., 2020; Niemiec, Ryan, & Deci, 2010; Nodine, 2011; Oreopoulos, Brown, & Lavecchia, 2017; Perry, 2019; Piepenburg & Fervers, 2022; Regions, n.d.; Santelises, 2016; Simões & Soares 2010; Smith, 2012; Song & Zeiser, 2019; Stewart & Wolf, 2012; Taylor et al., 2014; Technology centers, 2023; Tulsa Tech, n.d.; U.S. Department of Education, 2022; Van der Vleuten et al., 2016; Vanhalakka-Ruoho et al., 2016; What are pathways, n.d.; Witkowsky & Clayton, 2020; Zhang et al., 2021 | CTE003, CTE005, CTE008, CE015/CTE009 |

| <b><u>Emergent Codes</u></b>                                                                                                                   |                    |                   |
|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------------|
| <i>Phrase</i>                                                                                                                                  | <i>Who said it</i> | <i>Group name</i> |
| AP was offered but did the math and realized the credit for the classes were more beneficial for college credit for CE than AP                 | CE006              | Educational needs |
| Compared AP classes to CE and the tests for AP are hard, the classes do not prepare you like CE do and they are unjust compared to CE classes. | CE002              |                   |
| Past experience with AP courses and the test led me to choose CE                                                                               | CE003              |                   |
| At the time there was not ECHS but I was not interested in TT                                                                                  | CE009              |                   |
| CE allowed me to take a harder level math class, and I could challenge myself                                                                  | CE010              |                   |
| CE meets my educational needs                                                                                                                  | CE004/CTE004       |                   |

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| I was not being challenged enough in high school; I was getting bored in class                                                                                                                                                                                                                                                               | CE005        |                                                                |
| I was the guinea pig for my high school to see if a student could handle full time college coursework                                                                                                                                                                                                                                        | CE005        |                                                                |
| Moved here from AR met with principal of new school and learned that they had no classes for me to take even with the college they partnered with for CE                                                                                                                                                                                     | CE008        |                                                                |
| Regular school was not really for me                                                                                                                                                                                                                                                                                                         | CTE002       |                                                                |
| CE (some classes were a choice, others were required) was part of their regular HS track just for 12 graders. Did not have enough extracurriculars so they added college classes. Felt caged, like he could not do anything, was one of the issues with his HS journey. Parents made him go to this school because it was an Islamic school. | CE011        | Parents played a major role in their choice/educational choice |
| Mom and dad heavily influenced me                                                                                                                                                                                                                                                                                                            | CE005        |                                                                |
| My parents pushed me towards all of it                                                                                                                                                                                                                                                                                                       | CE012/CTE006 |                                                                |

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| Parent pushing to choose a certain pathway                                                                                                                   | CE004/CTE004 |                                             |
| Parents wanted me to choose what I wanted to be in high school and stick with it                                                                             | CE011        |                                             |
| When asked about why not CTE, Mostly parents would not allow her to do it but also because of her health                                                     | CE005        |                                             |
| Choosing classes with a friend more so she could help me out because I really sick.                                                                          | CE014        | Friends in relation to educational pathways |
| Finding a friend through the program kept me going and why I continued my program                                                                            | CE004/CTE004 |                                             |
| Having friends in the program made you want to stay in the program even when you did not like it                                                             | ECHS001      |                                             |
| I had a lot of friends that were in my classes, but we did not decide to do it together                                                                      | CE010        |                                             |
| I had friends from other schools that we tried to coordinate class schedules more so for social reasons.                                                     | CE014        |                                             |
| I had some friends that took the classes with me like we went through the same process of weighing out options and reflecting on experiences from AP classes | CE002        |                                             |

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| No, because people who take advantages of CE courses are students in AP so I did not know a lot of students in my CE courses | CE009        |                                          |
| The whole goal to stay competitive in advanced classes, driving force in high school                                         | CE008        |                                          |
| College counselors talked with students about their options                                                                  | CTE002       | Informed about pathways inside of school |
| Counselor came to Pre-AP English class higher level class where people could handle stuff like that.                         | CE006        |                                          |
| Had to take a career assessment test to determine where to be placed                                                         | CE002        |                                          |
| I heard about CE from the campus rep.                                                                                        | CE009        |                                          |
| Mainly spoke with counselor when finding out about CE                                                                        | CE010        |                                          |
| Met the counselor at the college                                                                                             | CE008        |                                          |
| My English teachers and College and Career Counselor who gave us the information                                             | CE014        |                                          |
| She got me in contact with TCC counselor for classes                                                                         | CE006        |                                          |
| SO yr of HS, explained by counselor.                                                                                         | CE006        |                                          |
| Tulsa Tech recruiting at high schools                                                                                        | CE004/CTE004 |                                          |

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| Was given a sheet of paper to write down which pathway they wanted and give back to counselor to receive more information on                | CE002        |                                 |
| Went in to speak with counselor about regular classes and she told me about CE                                                              | CE015/CTE009 |                                 |
| Counselor put pressure on students to take AP test even if students did not want too                                                        | CE002        |                                 |
| She met with their whole class and went to at least all the algebra 2 classes in the school                                                 | CE010        |                                 |
| CE put me ahead, moving me into the next steps, making things easier in the future                                                          | CE012/CTE006 | Making a choice about a pathway |
| Get ahead in education                                                                                                                      | ECHS001      |                                 |
| I am very goal oriented. I wanted to go into college with as much college credit as possible.                                               | CE008        |                                 |
| I chose CE because it counted for both HS and college credit                                                                                | CE001        |                                 |
| I definitely wanted to. I wanted to get ahead of the game and get kind of some college level stuff done                                     | CE006        |                                 |
| I knew I wanted to go to college so I kind of just got a head start by doing CE                                                             | CE006        |                                 |
| I took classes that were generic rather than specific.                                                                                      | CE002        |                                 |
| I wanted to be prepared and set myself up for success                                                                                       | CE012/CTE006 |                                 |
| I wanted to be ready for whatever like I was gonna go into in the future                                                                    | CE010        |                                 |
| I was filling my day with pointless stuff, so I wanted start doing some college classes and achieving something rather than killing my time | CE016        |                                 |



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| It is important for me to be working towards something. I appreciated having the choice or autonomy to make that choice because it is going to help me get there. | CE008        |                                                        |
| Petitioned to start concurrent earlier                                                                                                                            | CE013/CTE007 |                                                        |
| Take more credits in high school                                                                                                                                  | CE004/CTE004 |                                                        |
| Taking advantage of opportunities                                                                                                                                 | CTE001       |                                                        |
| To get college classes out of the way earlier                                                                                                                     | CE009        |                                                        |
| Trade school was offered but was focused on CE                                                                                                                    | CE006        |                                                        |
| Transferred to another HS in OK so I could enroll in CE with more options in classes.                                                                             | CE008        |                                                        |
| Free college was a benefit and played a role in choosing CE                                                                                                       | CE012/CTE006 | Money was a deciding factor the pathways they chose    |
| I feel I made the choice, and my mom was like yeah if it saves us money, let's do it.                                                                             | CE009        |                                                        |
| Indians and scholarships paid for my CE before I started college                                                                                                  | CE008        |                                                        |
| They helped me to see into the future and my mom pointing out that if I take these now, I will not have to pay for them later.                                    | CE014        |                                                        |
| The cost of AP vs the cost of CE                                                                                                                                  | CE002        |                                                        |
| Choosing class time or class schedule                                                                                                                             | CTE008       | Class flexibility                                      |
| Full flexibility on classes at NSU                                                                                                                                | CE008        |                                                        |
| Schedule, needing to be off to work classes were flexible                                                                                                         | CE003        |                                                        |
| Taking a pathway to make it fit your schedule                                                                                                                     | CE004/CTE004 |                                                        |
| Family support                                                                                                                                                    | CE015/CTE009 | Parents were supportive but still let them have choice |
| Making my own decision with family support                                                                                                                        | CE015/CTE009 |                                                        |

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| Mother was very influential and really encouraged her in her decision.                                                                                                                                                                              | CE003        |                          |
| My dad always wanted me to do college classes in high school but mainly it was me                                                                                                                                                                   | CE010        |                          |
| My dad was a good advocate for what I wanted.                                                                                                                                                                                                       | CE008        |                          |
| My dad went with me, and I am the first one to go to college, so we are learning this together                                                                                                                                                      | CE008        |                          |
| My parents talked to me about it and they support me no matter what.                                                                                                                                                                                | CE014        |                          |
| Not pressure but definitely encouraged                                                                                                                                                                                                              | CE006        |                          |
| Parents were my mentors                                                                                                                                                                                                                             | CE013/CTE007 |                          |
| I would not have chosen CE because I did not know the benefits at the time because I only knew of AP based on where I came from and where I grew up. AP was so big and super competitive in AR that is really all I knew. I really learned about CE | CE008        | Unexplored opportunities |
| By the time I was a JR. it was just kind of something we knew was gonna happen                                                                                                                                                                      | CE005        |                          |
| CE was not really advertised until my senior year                                                                                                                                                                                                   | CE002        |                          |
| First heard about CTE and CE in middle school                                                                                                                                                                                                       | CE012/CTE006 |                          |
| I had heard of another option, pathway, where you can get your associates, but I did not hear about it in enough time before graduating and due to my electives, I wanted to take I would not have been able to do both                             | CE001        |                          |

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| My high school did not advertise them the programs very well. It was not something my HS wanted people to do, it was there for you and if you wanted to do you had to really go do it | CE012/CTE006 |                                                          |
| Never explored other options                                                                                                                                                          | CTE005       |                                                          |
| Other options were not presented to me                                                                                                                                                | CTE003       |                                                          |
| Family member showing, working with them on their trade                                                                                                                               | CTE001       | Family background played a role in their decision making |
| I am Indian and that factors in on how we value education                                                                                                                             | CE011        |                                                          |
| I chose to do what my dad did since he owned his own company, and I could succeed him                                                                                                 | CE0011       |                                                          |
| I come from a low-income family, and it was on me to pay for college.                                                                                                                 | CE008        |                                                          |
| I was raised by educators so that kind of influenced my decision to do everything                                                                                                     | CE005        |                                                          |
| In India they focus on test scores, here focus on you as a person, had to learn this                                                                                                  | CE008        |                                                          |
| In terms of getting an education my parents focused on that, and it transferred to me                                                                                                 | CE008        |                                                          |
| My general up bringing fueled my decisions                                                                                                                                            | CE013/CTE007 |                                                          |
| My mom has been teaching CE classes since I was in middle school                                                                                                                      | CE005        |                                                          |
| My mom taught kindergarten forever and then 3rd grade.                                                                                                                                | CE014        |                                                          |
| Hearing the choices from their parent                                                                                                                                                 | ECHS001      | Informed about pathways outside of school                |
| I heard about CE from my older sister and her friends.                                                                                                                                | CE014        |                                                          |
| My parents told me about CE because they knew that if you                                                                                                                             | CE016        |                                                          |

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| lived in Tulsa County that it was free to do Tulsa Achieves, well not for CE but that is how TCC got on our radar.                                                                                                                                              |              |                                            |
| Parent, friends, school, self all played a role making the decision to choose CE                                                                                                                                                                                | CE002        |                                            |
| Already knew my interest before graduating high school                                                                                                                                                                                                          | CE012-CTE006 | Making a choice to meet own needs or goals |
| Being able to choose my own pathway allowed me to choose my own career path                                                                                                                                                                                     | CTE001       |                                            |
| Choosing the best path for themselves based off their personal interest                                                                                                                                                                                         | ECHS001      |                                            |
| CTE was definitely my choice because I was interested in the science & math                                                                                                                                                                                     | CE012/CTE006 |                                            |
| I definitely made my own choice. I am not really the type of person to let people influence me.                                                                                                                                                                 | CE014        |                                            |
| I did not know what I wanted to do but I knew I wanted to go to college                                                                                                                                                                                         | CE006        |                                            |
| I did not know what I wanted to do when started taking CE                                                                                                                                                                                                       | CE001        |                                            |
| I had big dreams of becoming an engineer and so I wanted to choose courses that would advance me in that.                                                                                                                                                       | CE008        |                                            |
| I initially wanted to go into meteorology like during CE but after I graduated, I changed to speech.                                                                                                                                                            | CE016        |                                            |
| I initially wanted to be a doctor. I went a cruise to Belize where I learned they do not have great healthcare, wanted to start a nonprofit there, but then took a college level science class and changed my mind. Then became interested in psychology due to | CE005        |                                            |

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| my own personal experiences but again science classes                                                           |              |  |
| I knew I wanted to be a doctor but not sure of the area                                                         | CE012/CTE006 |  |
| I knew I wanted to go to college, but I have no idea what I wanted to do                                        | CE009        |  |
| I knew the general path I wanted to take.                                                                       | CE002        |  |
| I took a sports health class and wanted to do PT which led me to CE to cut down on the years of schooling.      | CE003        |  |
| I wanted to be in finance                                                                                       | CE010        |  |
| I went to tech school because I did not want to go to college                                                   | CE004/CTE004 |  |
| Knowing what I wanted to do later in life before choosing a pathways                                            | CE008        |  |
| Making plans based on their dreams, desires, or goals                                                           | CE004/CTE004 |  |
| Personally, chose which associates degree she wanted                                                            | CE005        |  |
| She chose the degree based on the connections she made with the professors and how interesting the classes were | CE005        |  |
| Took classes based on the major she wanted to pursue in college                                                 | CE008        |  |

| <u>CATEGORIES</u>                                                                                                                                                                                                                                    | <u>THEMES</u>                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| <i>NAMES USING A PRIORI AND EMERGENT CODES</i>                                                                                                                                                                                                       | <i>Themes</i>                                                                      |
| 1. SCHOOL COUNSELORS (A PRIORI CODES): INFORMED ABOUT PATHWAYS INSIDE OF SCHOOL (EMERGENT CODES), HOW DO STUDENTS FIND OUT ABOUT THEIR OPTIONS: INFORMED ABOUT PATHWAYS OUTSIDE OF SCHOOL (EMERGENT), UNEXPLORED OPPORTUNITIES (EMERGENT)            | 1. Resources for students to obtain information about pathways                     |
| 2. SOCIOECONOMIC STATUS (A PRIORI): MONEY WAS A DECIDING FACTOR THE PATHWAYS THEY CHOSE (EMERGENT): USING AT RISK STUDENTS (A PRIORI CODE) WITH DATA I GATHERED ABOUT SOCIOECONOMIC STATUS GROWING UP                                                | 2. Finances can have an influence on one's choice                                  |
| 3. SELF DETERMINATION THEORY (A PRIORI) AUTONOMY/AUTONOMOUS (A PRIOR), CHOICE (A PRIORI): MAKING A CHOICE TO MEET OWN NEEDS OR GOALS (EMERGENT), CLASS SCHEDULE (EMERGENT), MAKING A CHOICE ABOUT A PATHWAY (EMERGENT), EDUCATIONAL NEEDS (EMERGENT) | 3. Independent choices made based on personal preferences                          |
| 4. COMPLEXITY THEORY (A PRIORI) FRIENDS (A PRIORI- KIND OF): FRIENDS IN RELATION TO EDUCATIONAL PATHWAYS (EMERGENT)                                                                                                                                  | 4. Peers and their impact on one's educational pathway                             |
| 5. FAMILY IDENTITY THEORY (A PRIORI): FAMILY BACKGROUND PLAYED A ROLE IN THEIR DECISION MAKING (EMERGENT), PARENTS PLAYED A MAJOR ROLE IN THEIR CHOICE/EDUCATIONAL CHOICE (EMERGENT)                                                                 | 5. The role that family plays in their child's educational decision-making process |

## Appendix D: IRB Approval Letter



**Institutional Review Board for the Protection of Human Subjects**  
**Approval of Initial Submission – Exempt from IRB Review – AP01**

**Date:** March 19, 2024

**IRB#:** 16986

**Principal Investigator:** Jaydn Mackensi Means

**Approval Date:** 03/18/2024

**Exempt Category:** 2

**Study Title:** DIVERSIFYING SCHOOL EXPERIENCES: A QUALITATIVE INQUIRY OF HOW STUDENTS CHOOSE AN EDUCATIONAL PATHWAY IN HIGH SCHOOL

On behalf of the Institutional Review Board (IRB), I have reviewed the above-referenced research study and determined that it meets the criteria for exemption from IRB review. To view the documents approved for this submission, open this study from the *My Studies* option, go to *Submission History*, go to *Completed Submissions* tab and then click the *Details* icon.

As principal investigator of this research study, you are responsible to:

- Conduct the research study in a manner consistent with the requirements of the IRB and federal regulations 45 CFR 46.
- Request approval from the IRB prior to implementing any/all modifications as changes could affect the exempt status determination.
- Maintain accurate and complete study records for evaluation by the HRPP Quality Improvement Program and, if applicable, inspection by regulatory agencies and/or the study sponsor.
- Notify the IRB at the completion of the project.

If you have questions about this notification or using iRIS, contact the IRB @ 405-325-8110 or [irb@ou.edu](mailto:irb@ou.edu).

Cordially,

Lara Mayeux, Ph.D.  
Chair, Institutional Review Board