Gifted Female Voices: Perceptions of Differentiation in Secondary and Higher Education

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Gifted Female Voices: Perceptions of Differentiation in Secondary and Higher Education

Abstract
While the advocacy of differentiation as best pedagogical practices for instruction of gifted students can be found in scholarly literature, minimal research attention has been given to high-ability students’ perceptions about their lived classroom experiences. Lack of challenging and accelerated content for identified gifted students can lead to boredom, negative self-perception, and disengagement from school. Gifted adolescent females, who are less likely to address barriers to realizing their potential can especially suffer or thrive depending on curriculum. The purpose of this qualitative study is to describe identified female gifted university students’ perceptions of pre-collegiate and collegiate differentiation of curriculum and instruction to find the essence of their lived experiences. This phenomenological research study shares the stories of ten gifted women in U.S. higher education. Data collection included in-depth interviews with gifted women within five years of high school graduation. Three themes emerged from data analysis: differentiation, agency, and self-perception. As supported in previous literature, the women in this study reported a lack of differentiation in secondary school. In higher education, the participants described some differentiation in terms of course content, process, product, and setting. A second finding was the level of agency in which all the women engaged to control their own educational experiences. Through participation in multiple, concurrent extracurricular activities, these gifted women supplemented their formal academic classes by independently regulating their learning. A third finding relating to self-perception revealed that nine of the ten participants in this study did not fully understand the manifestations of their own giftedness, while some experienced imposter syndrome. Implications for secondary educators point to a need for more systematic differentiation made to curriculum, instruction, and assessment for gifted students. Implications for higher education suggest broadening the concept of differentiation to enable students to design their own interdisciplinary majors. Another implication for students, parents, and educators is that gifted students need explicit training in the nature, development, types, and needs of gifted individuals. The women in this study expressed interest in learning about giftedness; the clear implication is that gifted students should be taught about giftedness in secondary and/or higher education.

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Gifted Female Voices: Perceptions of Differentiation in Secondary and Higher Education

A Dissertation

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the Faculty of the Morgridge College of Education

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by

Ann Makikalli

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Advisor: Dr. Norma Hafenstein
Abstract

While the advocacy of differentiation as best pedagogical practices for instruction of gifted students can be found in scholarly literature, minimal research attention has been given to high-ability students’ perceptions about their lived classroom experiences. Lack of challenging and accelerated content for identified gifted students can lead to boredom, negative self-perception, and disengagement from school. Gifted adolescent females, who are less likely to address barriers to realizing their potential can especially suffer or thrive depending on curriculum. The purpose of this qualitative study is to describe identified female gifted university students’ perceptions of pre-collegiate and collegiate differentiation of curriculum and instruction to find the essence of their lived experiences. This phenomenological research study shares the stories of ten gifted women in U.S. higher education. Data collection included in-depth interviews with gifted women within five years of high school graduation. Three themes emerged from data analysis: differentiation, agency, and self-perception. As supported in previous literature, the women in this study reported a lack of differentiation in secondary school. In higher education, the participants described some differentiation in terms of course content, process, product, and setting. A second finding was the level of agency in which all the women engaged to control their own educational experiences. Through participation in multiple, concurrent extracurricular activities, these gifted women supplemented their formal academic classes by independently regulating their learning. A third finding
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*Key terms: gifted women, differentiation, agency, self-perception, imposter syndrome, high school, college, university, student voice*
Acknowledgements

My doctoral journey has been like an 8-year Colorado River rafting trip floating forward on calm, clear, rippling water; navigating surging white rapids; and plummeting down a few exhilarating waterfalls. Sometimes the red rock canyon walls were so steep, I couldn’t see what was coming around the bend. I spent a few cancer years swirling around in eddies. I never could have predicted the pandemic-induced drought when the river dried up completely. Along the way, I was blessed with so many changing passengers in the raft with me–peers, colleagues, staff, professors, friends, and family. Everyone rowed. Each of my professors taught me essential skills along the journey–thank you to Dr. Paul Michalec, Dr. Bruce Uhrmacher, Dr. Nick Cutforth, Dr. Brette Garner, and Dr. Garrett Roberts. I also could not have survived the adventure without my strong, gifted, optimistic boys–thank you Juha, Samuel, Aaron, and Lukas for pulling the oars every day. Sometimes we capsized, but eventually righted the boat, bailed out the water, and continued the journey with laughter. Luckily, we never lost the ice chest full of snacks and iced tea! And finally, eternal gratitude to my gifted guide, Dr. Norma Hafenstein, who finally shoved the dissertation rudder in my hand and pointed me toward shore.
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Author’s Note

In the spirit of differentiation of process and product, the author acknowledges that there are many ways to SEE and INTERPRET the world (Eisner, 2002). Therefore, the author has provided a poem *The Gifted, You Know* (see Appendix A, p. 180) for those readers who may best enter content through an alternative path. Please begin reading there by pressing Ctrl + Click on the title.
Chapter One: Introduction

“I managed to learn something today, despite having to sit in class all day.”

– gifted high school student (2017)

“Gifted children arrive in class at the beginning of the school year knowing 40% - 60% of the content.” – Coleman & Cross (2005)

Research Problem Significance

Many school districts in the U.S. have a set of procedures to identify gifted elementary school students. While grades 2-8 may offer gifted programs with differentiated content and methods, high schools usually do not offer specialized courses or curriculum for gifted students because high schools offer honors, Advanced Placement (AP) or International Baccalaureate (IB) classes that supposedly meet the needs of gifted students. Gifted students are in classes with non-gifted students. Honors, AP and IB classes are higher level by design, so teachers of these classes rarely differentiate content and methods for gifted students in these classes (Kettler, 2016a). Similarly, American higher education does not offer specialized services or curriculum for gifted students, although some gifted students may participate in university honors programs (Robinson, 1997; Sauder 2015).

With the ultimate goal of meeting the needs of every student, based on the idea that every student has a right to learn at their own level (National Association for the
Gifted, n.d.), differentiating assignments/activities for gifted high school students can improve their learning experience (Winebrenner & Berger, 1994). For gifted students in a traditional American high school, curriculum is rarely differentiated (Winebrenner & Espeland, 2001). Even with opportunities to take higher level courses such as honors classes, International Baccalaureate and Advanced Placement classes, gifted students are asked to perform the same tasks as non-gifted students (Vanderbrook, 2006). To a gifted student, assignments/activities are often redundant “busy work” and do not broaden their knowledge or improve their skills (Cross, 2011). Furthermore, the speed of instruction is often slow for gifted students, and they complain about waiting in class to learn (Peine & Coleman, 2010). Lack of challenging and accelerated content for identified gifted students can lead to boredom, negative self-perception, and disengagement from school.

When specifically looking at the gifted female experience, some of the hindrances females encounter directly involve curriculum and instruction within the classroom. Despite social progress towards female equality in the US, high school girls continue to report bias in the curriculum and the manner of instruction in traditionally male disciplines. For example, girls often describe encountering stereotypical gender roles within their high school science classes (Reis & Callahan, 1996). “Moreover, adolescent girls also are 12 times less likely to speak up in class and 5 times less likely to receive attention from teachers” (Vanderbrook, 2006, p. 133). Teachers’ views of their female students affect their performance in the classroom and impact their future performances—these biases influence female gifted students’ attitudes towards career choices (Reis & Callahan, 1996). Research shows that gifted female students report a lack of challenge
and/or boredom in their classroom experiences (Callahan et al. 1994; Tomlinson 1992; VanTassel-Baska, 1988); however, adolescent gifted females rarely question their teachers when content is not challenging, nor do they pursue strategies for improving their learning experience (Callahan, et al. 1994; Kerr, 1994). On the contrary, Gilligan (1993) noted that early adolescent females tend towards devaluing the self and feeling worthless, as well as disassociating from institutions that undervalue them, such as school.

In early adolescence, gifted females encounter a combination of the normal developmental aspects of being a teenager and the affective qualities of being gifted. According to Reis (2002), exceptional intellectual abilities do not shield gifted females from the physical and psychological stresses all teenage girls endure. In fact, their gifted characteristics may complicate their struggles by creating unrealistic high expectations during a time already conflicted with painful issues of identity formation (Meredith, 2009). Conflicting societal expectations of female identity and teenage girls’ personal attempts to understand their gifts and talents can lead to confusion and isolation (Gilligan, 1993, Kerr, 1994; Piirto, 1991). Gifted teenage girls preoccupied with their appearance may unconsciously or consciously hide their talents and abilities as they shift their focus away from intellectual development in favor of social life (Kerr, 1994; Meredith, 2009).

While the advocacy of differentiation as best pedagogical practices for instruction of gifted students has been studied and can be found in scholarly literature (Tomlinson, 1999), minimal research attention has been given to the perceptions of high-ability students about their lived classroom experiences (Coleman et al, 2015). Exploring gifted
female students’ perception of differentiation, its impact and benefits, can provide insight into the actual classroom experience and the received curriculum, as well as the null curriculum (Flanders et al. 1986, Eisner, 1994), for identified gifted students. Tyler (2017) argues that studies of learners should be a source when developing educational objectives: “A study of the learners themselves would seek to identify needed changes in behavior patterns for the students which the educational institution should seek to produce” (p. 75). The audience for qualitative research in this area is gifted female learners, and their parents and teachers. Understanding gifted students’ perceptions of how curriculum and pedagogy are meeting their needs can inform best practices in classroom differentiation.

**Research Problem**

Lack of challenging and accelerated content for identified gifted students often means that their learning needs are not being met which potentially leads to boredom and disengagement in class/formal schooling. Gifted adolescent females, who are less likely to address barriers to realizing their potential (Reis, 2002; Meredith, 2009), can especially suffer or thrive depending on classroom pedagogy. Because programming arrangements for gifted students vary widely across the country, understanding female students’ perceptions of their academic and social-emotional functioning based on their experiences within many different gifted settings may lead to suggestions for educators (Kitsantas, Bland, & Chirinos, 2017).
Conceptual Framework

In conceptualizing the design for qualitative research, using an interpretative framework is advantageous. The instructional arc (Uhrmacher, Moroye, & Flinders, 2017) provides a framework that supports research focusing on student voices. Borrowing from Eisner’s ecology of schooling “intentions” (1992), the instructional arc refers to three aspects of curriculum: intended, operational, and received (see Figure 1.1). Looking at all three aspects of the arc is not necessary in one research study. This study seeks to understand the student experience—how do gifted female students experience class pedagogy. Much research has been done on intended and operational curriculums, but less research focuses on the actual student experience—given in their own voices. Interpreted through thematics, a phenomenological study of the received curriculum could bring student voices to life and provide an incisive and illuminating account of their educational journeys. The instructional arc is used as an interpretive framework to situate the findings.

The null curriculum (Flanders et al. 1986, Eisner, 1994) describes what is neglected in the curriculum—what is missing—including intellectual processes, content, and affective dimensions. Eisner (1994) identifies two major dimensions of the null
Flanders, Noddings, and Thornton (1986) expand on an affective dimension: “this dimension includes elements such as values, attitudes, and emotions” (p. 35). Although not originally aimed at the gifted student experience, the concept of the null curriculum is applicable when understanding the potential effects of a lack of differentiation. The null curriculum refers to what students do not have the opportunity to learn. In this case, students are learning something based on the absence of certain experiences, interactions, and discourses in the classroom.

Research in the past twenty-five years shows a great understanding of differentiation and what teachers should be doing. However, less is known about how differentiation is received by gifted students. The intended and operational curriculum might be very different from what a gifted student is receiving; the gifted student may feel marginalized in lesson plans (Vanderbrook, 2006). A teacher may believe that they are differentiating content and instruction, yet the student may still view the work as busy work or feel excluded (Cross, 2011). Looking at the received curriculum, and the null curriculum as it pertains to gifted students, is important to understand how educators can meet the needs of gifted students.

Study Purpose

The purpose of this phenomenological study is to describe identified female gifted university students’ perceptions of pre-collegiate and collegiate differentiation of curriculum and instruction in order to find the essence of their lived experiences (Creswell, 2013, p. 135). This study focuses on secondary and higher education.
experiences because most public-school gifted programs do not continue into high school (Davis, Rimm & Siegle, 2013), which means decisions concerning differentiation in the classroom are at the discretion of the teacher.

**Research Questions**

This qualitative study investigates four research questions. Firstly, according to gifted female students, what kind of differentiation strategies were received in secondary school and university/college? Secondly, in what ways did differentiation in high school and university/college classrooms influence gifted female students’ educational experiences? Thirdly, in what ways did differentiation in high school and university/college classrooms influence gifted female students’ self-perceptions? Finally, in what ways do gifted female students’ high school experiences influence their university/college experiences?

**Definition of Terms**

**Curriculum**

“Curriculum” does not have a universal definition—it is interpreted differently by various stakeholders. Curriculum policy can be referred to as the prescribed curriculum. This is the written curriculum, officially embodied in a school’s documentation of curriculum guides and programs of studies. Every curriculum should address the following elements: purpose, content, sequence, learners, instructional processes, instructional resources, evaluation, and adjustment (Lattuca & Stark, 2009). At the level
of practice, the terms *intended curriculum, operational curriculum* and *received curriculum* are sometimes used (Uhrmacher, Moroye, & Flinders, 2017). Intended and operational comprise the taught curriculum—what teachers aim to teach and what they are actually observed to teach. The received curriculum is the ultimate curriculum—in other words, what the students actually learn. Although it is the most important curriculum, the received curriculum is also the one that is most difficult to quantify, as learners assimilate and understand what is being taught in very different ways. Curriculum is an inexact art form rather than a precise science (Eisner, 2017).

In K-12 education, curriculum is defined by state standards—statements of what students should know, be able to do, and demonstrate at the end of each level. Standards (also known as learning outcomes, learning objectives, learning targets, competencies) can be used as reference points for planning, teaching, and assessing student progress. Structured as content, performance or proficiency, standards should be clear, observable, and measurable. A standards-based curriculum refers to systems of instruction, assessment, grading, and academic reporting that are based on students demonstrating, understanding or mastery of the knowledge and skills they are expected to learn as they progress through their education.

When considering the gifted student educational experience, state standards are deficient. As gifted students may show mastery of content standards much sooner than other learners, teachers must modify learning experiences for these students, since standards are not able to address the needs gifted students (National Association for the Gifted). In order to meet gifted students’ unique academic and social-emotional needs, “teachers will need to modify learning so that gifted learners are provided appropriately
challenging, stimulating experiences throughout the instructional day for continued progress” (National Association for the Gifted, n.p.). Perhaps gifted education falls outside the good intentions of state standards. Some predominant curriculum researchers question the efficacy of educational objectives. Eisner (2017) argues that “the dynamic and complex process of instruction yields outcomes far too numerous to be specified in behavioral and content terms in advance” (p. 131). This may be especially true in homogenous gifted classrooms. Noddings (2017) writes that the Common Core Standards are a disappointment because they “ignore great differences among students, the need for connections among the disciplines, and the unsatisfied longing for existential meaning” (p. 459). Again, these standards do not serve the gifted.

Kettler (2016a) proposes a modern approach to gifted curriculum that focuses on advanced conceptual understandings forming the foundation for creative thinking, critical thinking, and problem solving within and across disciplines. His goal of gifted curriculum consists of

1) developing increasing independence as a learner, 2) fostering active intellectual engagement with classical and contemporary ideas and issues, and 3) developing advanced products and performances reflecting conceptual insight and complex thinking (p. xii).

These goals are accomplishable through curriculum differentiation.

Giftedness

The concept and definition of giftedness has changed over time influenced by the evolution of ideas in the field of psychology, historical events, politics, and economics of different eras (Callahan, Hertberg-Davis, & Missett, 2018). Giftedness has traditionally
been defined in terms of intellectual ability based primarily on the work of Lewis Terman (1925) who viewed intelligence in terms of general intelligence factor. Based on psychometrics, early scholars such as Terman and Leta Hollingworth (1926) defined giftedness as the ability to achieve a very high score on an achievement test—giftedness was viewed primarily as an advanced ability to think and learn (Callahan, Hertberg-Davis, & Missett, 2018; Paul & Moon, 2017). IQ prevailed as the main criteria for giftedness from the 1920s to the 1960s, but in the last 60 years, different theories and definitions have evolved. For example, Gardner’s (1983, 2000) theory of multiple intelligences offers a multidimensional view: linguistic, logical/mathematical, spatial, bodily-kinesthetic, musical, interpersonal, intrapersonal, and naturalist. Another contemporary view of intelligence is Sternberg’s conceptualization of giftedness as developing expertise. “Sternberg’s Triarchic Theory of Intelligence (1988) recognizes three intelligence preferences—analytic, synthetic, and practical—to better describe ways in which individuals process information and demonstrate talent” (in Callahan, Hertberg-Davis, & Missett, 2018, p. 17). These neurobiological/cognitive definitions are typically operationalized with multiple measures such as both tests and performance-based assessments (Paul & Moon, 2017).

In 1972, a federally sanctioned report on the state of gifted education, The Marland Report (Callahan, Hertberg-Davis, & Missett, 2018; Paul & Moon, 2017) included the first federal definition of gifted:

Gifted and talented children are those identified by professionally qualified persons who, by virtue of outstanding abilities, are capable of high performance. These are children who require differential educational programs and/or services
beyond those provided by the regular school program in order to realize their contribution to self and the society.

Children capable of high performance include those with demonstrated achievement and/or potential ability in any of the following areas, singly or in combination:

- General intellectual ability
- Specific academic aptitude
- Creative or productive thinking
- Leadership ability
- Visual and performing arts
- Psychomotor ability (p. ix)

Many state and school definitions today continue to me modeled after the original Marland Report definition (Paul & Moon, 2017). Some gifted educators were dissatisfied with the Marland Report definition. For example, Renzulli’s (1978) three-ring conception of giftedness is a creative-productive definition based on examining the life histories of eminent adults. These definitions are usually “operationalized with multiple measures, including standardized tests… and authentic assessments; portfolios; interviews; teacher, parent, and self-nominations; and other subjective measures of talent potential” (Paul & Moon, 2017, p. 31).

In 2010, the National Association for Gifted Children (NACG) published a position paper offering a definition of giftedness. Broader and more inclusive, the NACG definition is a composite borrowing from multiple theoretical perspectives. Their definition incorporates the idea of talent development as a lifelong process. Gifted students may exhibit a high level of aptitude or competence in a variety of domains such as music, language, mathematics; as well as through sensorimotor skills like sports,
dancing, or drawing (Callahan, Hertberg-Davis, & Missett, 2018). This new definition of giftedness acknowledges that giftedness can be expressed as high achievement, high general ability, or learning at a rapid rate when compared to peers. The NACG definition also addresses that “the learning characteristics of children from traditionally underrepresented groups might manifest giftedness in ways not easily recognizable by teachers” (Callahan, Hertberg-Davis, & Missett, 2018, p. 17).

The evolution to the understandings of intelligence has encouraged many scholars in gifted education to reevaluate the defining characteristics of giftedness. While superior intelligence is recognized as a necessary factor in identifying giftedness, another predominant element of current understandings includes the characteristics of heightened sensitivity, intensity, or emotionality. Heightened sensitivity as seen in some gifted individuals exemplifies the depth and complexity of experiences that characterize their internal world. This way of experiencing and understanding impacts gifted individuals and the relationships they have with the people around them (Roeper, 1982)

In order to understand the unique needs of gifted learners, one must first understand the traits of giftedness. One of the most eloquent observations of giftedness was written by Annemarie Roeper: “Giftedness is a greater awareness, a greater sensitivity, and a greater ability to understand and transform perceptions into intellectual and emotional responses” (Delisle, 2002, p.42). Intellectually, gifted children differ from other children: gifted children exhibit precocious language and thought; logical thinking; early abilities in math, music and art; strong motivation and task persistence; and advanced interests. They are also able to master tasks after only 1-2 repetitions (Davis,
Affective characteristics also differ in gifted children: they are often challenged at social skills and personal adjustment, independent, self-confident, empathetic, artistic, risk-takers, and possess internal control, superior humor, and high moral thinking (Davis, Rimm & Siegle, 2011). They often need time alone as a respite from the world. Furthermore, gifted children are often mentally older than other children of the same age. “Agemate and peer are very different terms. A peer is someone who accepts, understands, and enjoys you. An agemate merely shares your birth year” (Delisle, 2002, p.186). Physically, a gifted child may be energetic, overactive, and/or over-sensitive to stimuli such as noise, light, or smells. All of these traits and more contribute to the need for special programming to meet the educational and personal needs of gifted learners.

Gifted learners also have special personal needs which can be met through developmental support. They are often emotionally sensitive; for example, they are empathetic and have a strong sense of justice. They are often highly self-critical, and their perfectionism can be extreme (Davis, Rimm & Siegle, 2011, p. 33). At the same time, they may have interpersonal difficulties due to their intellectual differences. They can suffer from depression and isolation. To help gifted children in with these special needs, they need a community of support which may consist of peers (not simply age mates), parents, teachers, and counselors. Gifted students may need counseling and mentoring by adults who understand their emotional needs (Neihart, et al., 2002). Parents need to be advocates for their children: “Parents need to be counseled in acquiring the expertise and courage to become ongoing tactful and active advocates for their child’s appropriate school experiences” (Kline & Meckstroth, 1985, p. 4). Most importantly, teachers need to
be trained in gifted education. They need to be able to recognize when gifted learners need emotional support and help them find that support. Overall, each child is distinctive and requires differing support.

The concept and definitions of giftedness are influenced by culture, politics, and research findings (Paul & Moon, 2017). In the absence of a comprehensive, legal definition, school districts are left to determine their own threshold of giftedness and its operationalization. While individual school districts have guidelines and recommendations that they can follow, it is important for school districts regularly review their definitions of giftedness, given the constantly evolving contexts of the philosophy of gifted education. School districts should also monitor changes in state policies on gifted education in order to maintain alignment. Due to the variety of changing definitions and operationalization of giftedness, this study does not attempt to define giftedness of its participants. Since a “typical” gifted student is difficult to define in terms of psychological aspects (Cross, 2011), “gifted” is defined according to the identification threshold for the participant’s pre-collegiate school.

**Gifted Programming**

School districts can determine their own identification process and gifted programming. At the elementary school level, gifted programming can take many forms: full-time heterogeneous ability grouping classrooms (both gifted and non-gifted in the same classroom), full-time homogeneous ability grouping classrooms (only gifted students), and part-time programs (Davis, Rimm & Siegle, 2013). Full-time heterogeneous programming includes cluster grouping (5-10 gifted students along with
15-20 regular students in a class) or gifted students just in regular classes; in both of these situations, differentiated and enriched learning experiences—learning centers, compacted curriculum, individualized learning contracts, etc. (Winebrenner & Espeland, 2001; Kingore, 2013)—are necessary to meet the needs of gifted students. Full-time homogeneous programs include magnet schools, special schools for the gifted, private schools, school-within-a-school (gifted students attend special classes for part of the day and mix with other students for other classes), and special classes within an elementary school (Davis, Rimm & Siegle, 2013). One important advantage of homogeneous grouping is the opportunity for gifted students to develop strong peer relationships within the context of a collaborative culture and supportive atmosphere—both intellectual and emotional (Westberg & Archambault, 1995). Part-time programs include pull-out (gifted students pulled-out of the regular classroom once or twice a week for 2-3 hours of programming), part-time special classes, enrichment clusters, temporary grouping for reading and math, special interest groups and clubs.

At the secondary school level, gifted support can also take many forms. Similar to elementary education, instruction for gifted students can take place in homogeneous or heterogeneous learning environments. While some urban gifted high school students have the opportunity to attend magnet schools, special schools for the gifted, or private schools with advanced curriculum, most gifted students attend regular high schools (Davis, Rimm & Siegle, 2013). Many high schools offer special classes such advanced and honors classes, as well as individualized learning programs. Extracurricular special interest groups and clubs supplement the gifted students’ choices for enrichment.
In post-secondary education, special programming for gifted education is minimal to non-existent. Many colleges and universities provide honors programs to serve the needs of gifted students (Hébert & McBee, 2007). However, not all gifted students participate in honors programs in college, and not all honors program participants are gifted.

The variety of ways that students can be grouped is only one factor in the efficacy of gifted programming; differentiation of curriculum and instruction is equally important. Differentiation can be useful for all students (Cash, 2011; Lawrence-Brown, 2004; Tomlinson, 2002), but is vital for gifted education (Cash, 2011; Kingore, 2013; Tomlinson, 2002; VanTassal-Baska, 1994; Winebrenner & Espeland, 2001).

**Differentiation**

Differentiation is the systematic adjustment made to curriculum assessment and instruction for gifted students so that they can experience challenge, choice, and opportunities for acceleration that may be lacking in the regular classroom (Jacobs & Eckert, 2017). The alignment of gifted learner characteristics with features of their learning experiences is a fundamental principle of differentiated instruction (Tomlinson, 1999, 2003). Differentiation includes content, process (instruction), and product (assessment) as integral parts of the learning journey:

A differentiated curriculum for the gifted is one that is tailored to the needs of groups and/or individual learners, that provides experiences sufficiently differentiated from the norm to justify specialized intervention, and that is delivered by a trained educator of the gifted using appropriate instructional and assessment practices to optimize learning (VanTassel-Baska & Little, 2011, p. 10).
Content is what students are expected to know and includes the means by which students gain access to the knowledge (Davis, Rimm & Siegle, 2013). Process refers to how students make sense of the content and includes activities such as homework, discussion, etc. Products are how students demonstrate what they have learned (Tomlinson & Jarvis, 2009). The interdependence of content, process, and product is also seen in Tomlinson’s (2004) inclusive definition of differentiating instruction for all students: “ensuring that what a student learns, how he/she learns, and how the student demonstrates what he/she has learned is a match for that student’s readiness level, interests, and preferred mode of learning” (p. 188) (see Figure 1.2). The noteworthy similarity between the two above definitions is the understanding that students differ from each other in educationally significant ways; these differences should be addressed in the learning experiences they are offered.
Operationally, differentiation can take many forms. Differentiation relies on flexible grouping (Cash, 2011; Davis, Rimm & Siegle, 2013) by interest, ability, learning style, academic strengths/weaknesses, or social-emotional needs. One effective instructional strategy is the use of tiered instruction: creating different levels of entry based on student readiness (Tomlinson & Jarvis, 2009). For example, a teacher might create three levels of an assignment—all of which meet the learning goals—enabling all students to meet a common goal, but to reach it via different paths. In his teacher training book on Advancing Differentiation, Cash (2011) give practical pedagogical strategies for differentiation; he also dispels ten common myths (see Table 1.1). In her teacher training textbook, Kingore (2013) offers *Rigor* as a complementary component of differentiation;
she advocates that a rigorous environment is required to kindle the learning capabilities of high-ability learners. A rigorous learning environment enables students to engage in high-level learning processes; receive support to learn concepts and skills on and beyond grade-level, at a pace commensurate with their capabilities; and demonstrate their understanding through high-end products evidencing relevant, sophisticated content (Kingore, 2011, p. 10).

Similarly, Kettler (2016b) advocates for a differentiated approach to critical thinking: “a differentiated approach to critical thinking curriculum and instruction modifies the depth, breadth, and pace at with gifted or advanced students practice and learn critical thinking skills” (p. 100). While critical thinking skills is a learning goal for all students, Kettler argues that the way critical thinking skills are taught should respond to the characteristics of gifted learners who may have advanced levels of analytic synthetic, and practical thinking styles—as described in Sternberg’s Triarchic Theory (Sternberg and Davidson, 2005).

Table 1.1

Myths of Differentiated Instruction

<table>
<thead>
<tr>
<th>Myths (Cash, 2011, pp.8-10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Differentiation is another word for individualization.</td>
</tr>
<tr>
<td>2. In a differentiated classroom you will see all the kids doing something different.</td>
</tr>
<tr>
<td>3. Differentiation will change everything and solve all teaching problems.</td>
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<tr>
<td>4. In a differentiated classroom, the teacher does not teach.</td>
</tr>
<tr>
<td>5. Teachers can’t differentiate whey they need to prepare students for high-stakes testing.</td>
</tr>
<tr>
<td>6. Differentiation is mainly for gifted students.</td>
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<tr>
<td>7. Differentiation is just a way to group or track students.</td>
</tr>
<tr>
<td>8. There is no fair way to grade in a differentiated classroom.</td>
</tr>
<tr>
<td>9. With everything teachers must go, they can’t be expected to differentiate, too.</td>
</tr>
<tr>
<td>10. Differentiation takes too much time—it’s not worth it.</td>
</tr>
</tbody>
</table>
Enrichment strategies are delivery methods for achieving process and content differentiation goals. Independent study, research projects, and creative projects (art/drama/music/writing) are common means for giving gifted students agency in their learning process. Other common strategies include field trips, Saturday and after-school programs, mentor and mentorship programs, and academic competitions (National History Day, science fairs, Destination Imagination, Math Counts, Jr. Great Books, etc.) (Davis, Rimm & Siegle, 2013). Summer programs are also seen as a way to supplement gifted students’ regular curriculum: summer residential schools for gifted, study abroad programs, community service projects, college programs for gifted high school students, and subject-specific camps (music, art, language, computer, etc.) (Davis, Rimm & Siegle, 2013).

One overarching essential characteristic of successful differentiation is student choice—curriculum and instruction should encourage self-determination for the gifted learner (Davis, Rimm & Siegle, 2013). Differentiation should proactively plan content and instruction that considers the gifted students’ learning profiles, readiness, and interests (Tomlinson & Jarvis, 2009). Students should be allowed to select from variations in process and alternatives in product. Cash (2011) advocates for student autonomy as the ultimate goal of differentiation is to not only cultivate a lifelong passion for learning, but also to give gifted students the tools to follow their passions. Instruction should build autonomy by guiding students to take responsibility for and control of their learning. “Autonomous learners find more relevance in the material, are more intrinsically motivated, and show greater gains in achievement” (Cash, 2011, p. 80).
Research from the field of cognitive neuroscience provides another lens to view the idea of student choice. In their article *Universal Design for Learning in Postsecondary Education: Reflections on Principles and Their application*, Rose et al. (2006) define Universal Design for Learning (UDL) as not only providing access to information, but also designing an accessible pedagogy. The focus of UDL is on learning and its three underlying principles are: 1) multiple means of representation, 2) multiple means of expression, and 2) multiple means of engagement (Rose et al., 2006). The first principle reflects the idea that presenting information should have many forms—graphic, written, spoken, kinesthetic, etc. The second principle supports different forms of expressing knowledge and skill, and advocates for different scaffolding to support different types of expression (product). The third principle refers to way in which students interact with the class and material—socio-affective needs and constraints vary, as do intrinsic and extrinsic motivation of students. Therefore, students should be supported to engage in a way that is consistent with their emotional and attitudinal histories (Rose et al., 2006). Their UDL research from post-secondary education aligns with the K-12 differentiation research.

For this study, “differentiation” will be defined as classwork (content, product, process, assessment, and/or pace) altered by a teacher to meet the needs of high ability students (Tomlinson, 1999).

**Agency**

The concept of student agency is based on the principle that students have the ability and the will to positively influence their own lives and the world around them.
Defined as the capacity to set a goal, reflect, and act responsibly to effect change, “student agency is about acting rather than being acted upon; shaping rather than being shaped; and making responsible decisions and choices rather than accepting those determined by others” (OECD 2019). Viewed from a social cognitive perspective, Bandura (2001) highlighted that the core features of agency enable people to play a part in their self-development, adaptation, and self-renewal with changing times. He describes agency being associated with an individual’s self-efficacy and striving for control of their learning activities. Vaughn (2020) defines agency in the context of schooling as multi-dimensional: “it extends beyond individuals pursuing their interests to strengthening learning contexts where students’ cultures, languages, and interests are in the foreground and where students and teachers co-create learning contexts together” (p. 109). When students play an active role in deciding what and how they will learn, they tend to show greater motivation to learn and are more likely to define objectives for their learning (Willcocks, 2017). These students are also more likely to have learned how to learn—an invaluable skill that they can and will use throughout their lives.

**Conclusion**

This study explores the experiences of gifted women in higher education with gifted programming and the effects differentiation or lack thereof may have on their self-perceptions. Understanding gifted women’s perceptions of the received curriculum is important for educators. This study’s findings are impactful because they give participants a voice, which empowers the participants. Hopefully, the findings can inform both classroom pedagogy and gifted education policy to support gifted students’ needs.
Chapter Two provides a review of the empirical literature of gifted student perceptions of differentiation in secondary and higher education.
Chapter Two: Review of the Literature

“[The] great interest in the topic of differentiation instruction…is sparked by the realization that it’s no longer possible to look at a group of students in a classroom and pretend they are essentially alike.” – Carol Ann Tomlinson (2001)

Background

Differentiation

Almost a hundred years ago, educators acknowledged the need for a different type of curriculum for gifted learners (Jolly, 2016). In 1924, Lulu Stedman working at the University of California explored the idea of flexible and individualized instruction of gifted students in Education of Gifted Children (Jolly, 2018). Her curriculum included both individual instruction and group discussion in “opportunity rooms” where gifted students were grouped homogeneously. Stedman supported the use of acceleration and qualitative enrichment such as problem-based assignments rather than drill and memorizations, reduced time spent on content compared with non-gifted students, development of independent study skills, and flexible grouping based on ability/interest.

In the same decade, Professor Leta Hollingworth at the Teachers College in New York, wrote Gifted Children: Their Nature and Nurture (1926) which was one of the first textbooks about gifted children (Jolly, 2018). Like Stedman, Hollingworth also advocated
for adjusting curriculum in terms of rate and depth for gifted children: her student-centered, experimental classrooms were devoid of memorization drills in favor of project-based learning. In Hollingworth’s classrooms, the teacher’s role became that of facilitator of learning, rather than a provider of information. Both researchers proposed and practiced curriculum and instruction for gifted students that was distinctly different from the narrow and rigid standard practices of the early 20th century.

In 1972, the Marland Report gave the first federal government definition of giftedness and included a declaration about the type of education needed: “These are children who require differentiated education programs and/or services beyond those normally provided by the regular school program in order to recognize their contribution to society and self” (as cited in Jolly, 2016, p.29). Although this language clearly suggests a need for differentiated instruction, the report did not explicitly explain what gifted programs should include. After the release of the report, many models were developed for gifted education based on differentiated curriculum and instruction. In Providing Programs for The Gifted and Talented: A Handbook, Sandra Kaplan (1974) identified practical methods to differentiate classroom activities for gifted children:

**Input**
1. Accelerated or advanced content
2. Higher degree of complexity of content
3. Introduction of content beyond the prescribed curriculum
4. Student-selected content according to interest
5. Working with the abstract concepts in a content area
6. Level of resources (beyond those reserved for regular curriculum)
7. Type of resources available (multiple and varied resources)
 Expectancy
8. Appropriating a longer time for learning
9. Creating or generating something new (information, ideas, product)
10. Depth of learning
11. Transfer and application of learning to other and/or new areas of greater challenge
13. Formulating new generalizations
14. Development of higher-level cognitive processes
15. Stylizing and implementing own study design
(p. 127)

Kaplan’s methods focused on extending and enhancing the regular curriculum to meet the needs of gifted students. Based on the innovative ideas of early educators, and the continuation of evolving practical definitions and methods for differentiation, the progress appeared poised to make a meaningful difference in the educational journey of gifted students. However, the educational climate at the turn of the century was not ideal for gifted education (Jolly, 2016).

The momentum and progress of gifted education based on the Marland Report (1972), were subsequently undermined by legislative acts and budget cuts. The 1981 *Education Consolidation and Improvement Act* (ECIA) significantly deregulated education in the U.S and gave responsibilities—such as funding allocation—back to the state level (Jolly, 2016). Many services and programs for gifted students were eliminated; meeting the needs of gifted children would be taken care of in the heterogeneous classroom by regular teachers adapting the curriculum by changing product, process, or content. In practice, few curricular modifications were made (Jolly, 2016). The *No Child Left Behind Act* of 2001, further eroded the teacher and administrative attention to differentiation for gifted students. “Differentiation has been diluted and overpromised as a strategy by mainstream education to serve all students in regular classrooms” (Kaplan 2007, as cited in Jolly, 2016, p. 31).
In the 21st century, gifted education researchers continue to advocate for differentiation in both heterogeneous and homogeneous classrooms. Differentiation has become the standard of best practices in the literature of gifted education, and education experts have written books to train teachers how to differentiate in the classroom (Cash, 2011; Kingore, 2013; Winebrenner, 2012). Tomlinson and Jarvis (2009) outline six premises that modern differentiation is based on:

1. Learning takes place when students experience a moderate level of challenge
2. Because students differ in their skills and knowledge, moderately challenging activities will also need to differ
3. Students are more motivated and engaged when tasks and content are interesting to them
4. Students have the right to develop and explore their areas of interest
5. Students have multifaceted learning profiles that influence how they learn best,
6. Students learn best when they feel save, supported, and valued (pp. 600-602)

Differentiation is intentional; teachers consider students’ needs, interests, learning profile, and abilities and give students choices (Davis et al., 2011). “Differentiation relies on flexible grouping, clear expectations, and a shared understanding that different students might be doing different things at the same time” (Davis, et al., 2001, p. 155). Teachers can modify content, process, product, and the learning environment in response to learner differences. Although differentiating curriculum and instruction initially requires extra effort by the teacher, instruction can eventually become more efficient, effective, and equitable for all students. As differentiation has become the standard of best practices in the literature of gifted education, much research and many forms of training are now available to teachers.
Differentiated curriculum and instruction is essential for gifted students (Delisle, 2002). Typically, advanced learners show “a strong, interest-based intrinsic motivation; a capacity for understanding abstract concepts; and an ability to transfer knowledge from one learning situation to another” (Manning et al. 2010, p. 145). Some educators, administrators, and even parents may falsely believe that gifted students can differentiate curriculum on their own; however, gifted students should be guided by the expertise of highly trained teachers to reach their highest capabilities. Providing differentiated instruction that integrates substantive information across the curriculum in terms of content, process, and product supports a democratic learning environment (Manning et al. 2010). Many researchers advocate that offering advanced content is essential, along with instruction in information-processing skills to empower gifted students to produce products that match their intellectual abilities (Tomlinson, 2002; VanTassal-Baska, 1994; Winebrenner & Espeland, 2001).

In the past 100 years, much research has been done to examine the intended and operationalized use of differentiation in the classroom. Less research has been conducted on student perceptions of differentiation in the classroom; this study seeks to understand how gifted female students perceive differentiation.

**Self-Perception**

Current and past research on gifted education suggests that attention must be focused on the social and emotional side of gifted learners because they are vulnerable in many aspects of this dimension of development (VanTassel-Baska, 2009). The social-emotional needs of gifted learners are a significant part of their development: “talent
development and affective development are co-dependent” (Cross et al., 2009, p. 365). VanTassel-Baska (2009) explains that feelings drive thinking, so focusing on a gifted student’s emotional state can be an important motivational tool for enhancing learning. Many gifted learners have a problematic mix of characteristics that inhibit smooth cognitive development; this uneven development can create a feeling of being out of sync with the world around them (Neihart et al., 2002). Gifted students have the ability learn rapidly, but this rapid rate “when coupled with complex thought processes also contributes to these students’ experiencing disequilibrium in many social contexts” (VanTassel-Baska, 2009, p. 115). Other affective characteristics can stress their self-perception; sensitivity can lead to problems of being self-hypercritical (Cross, 2011). When gifted students question authority, feedback from adults may be negative; the feedback can lead to students feeling that they are not living up to expectations, which in turn can lead to the perception of inadequacy. Gifted students are also susceptible to disillusionment as described by Webb (2014):

Bright people tend to be more intense, sensitive, idealistic, and concerned with fairness, and they are quick to see inconsistencies and absurdities in the values and behaviors of others. They are able to see issues on a larger and more universal scale, along with the complexities and implications of those issues. Their sensitivity and idealism make them more likely to ask themselves difficult questions about the nature and purpose of their lives and the lives of those around them (p. 13).

Webb argues that the intense sensitivities combined with high intellect can lead bright people to experience existential depression. Many gifted learners struggle with social and intellectual complications stemming from their affective characteristics.
For some intellectually undernourished gifted students, a pattern of underachievement sometimes develops—pervading all areas of the student’s life—and possibly resulting in low self-esteem (Orenstein, 2013). Factors beyond a gifted student’s control, such as needing to sit in classrooms day after day without exposure to new content, or the need to do work that they feel is unimportant or repetitive, can result in a decrease of intrinsic motivation and poor academic performance (Kerr, 1994; Manning et al. 2010). As these students continue through the grades, they may become accustomed to the misconception that all schoolwork is easy. As they progress to higher grades, the work may become more challenging. Gifted students who have the intellectual capacity to excel but may not have developed intellectual risk-taking or problem-solving skills in elementary school, may not be willing or able to meet the challenges of high school/college curriculum (Archambault et al. 1993). This situation can sometimes lead to gifted students experiencing imposter syndrome, meaning they may doubt their intellectual abilities. “For unchallenged, but academically able students, imposter syndrome occurs when the curriculum requires effort and study to successfully complete it” (Manning et al. 2010, p.146). In other words, what used to be “simple” is now “difficult”—leading to the belief that “I am not as smart as I thought I was. I am an imposter.” Psychologists Suzanne Imes and Pauline Rose Clance (1978) first described the condition known as imposter phenomenon: “The term imposter phenomenon is used to designate an internal experience of intellectual phonies, which appears to be particularly prevalent and intense among a select sample of high achieving women” (p. 1). The female gifted student’s self-perception of being an imposter can lead to future academic underachievement.
Conversely, experiencing challenging, meaningful tasks in a gifted program, can lead to gifted students developing high self-esteem. In the 2003 study *Impact of Gifted Programs from the Students’ Perspectives*, Hertzog found that gifted students attributed their positive self-esteem to challenging academic experiences: “Others attributed their high self-esteem to having to work hard and overcome challenges such as mastering difficult material” (p. 139). Her findings show that gifted students felt positive about their pre-collegiate gifted programs which differentiated curriculum and instruction, leading to their positive self-perception.

Female gifted students are more susceptible to internal barriers of self-perception. Reis (2002) found that gifted women are more likely to face dilemmas that can turn into barriers to success. Reis describes dilemmas in self-efficacy, multipotentiality, feminine identity, resilience, fear of success, hiding abilities, imposter syndrome, perfectionism, unreal expectations of future careers, religious beliefs of gender roles, and self-criticism. For example, many women with multipotentiality—multiple academic, career and leisure possibilities based on interest and talent—find making choices difficult since doing all that they would like to do, and are capable of doing, is not possible (Kerr, 1994; Reis, 2002). Similarly, gifted women are more likely to experience imposter syndrome than gifted men are: “More talented males of all ages have been found to attribute their achievements to their own efforts, saying ‘thank you’ when they are complimented, while more girls attribute their accomplishments to external forces and not themselves” (Reis, 2002, p. 19). Meredith points out that adolescent gifted females rarely confront their
teachers when bored or unchallenged by class content—rather gifted females often
distance themselves from their education (2009).

Current research examining the lived experiences of gifted learners in post-
secondary education and their self-perceptions based on first-person accounts and
impressions is limited (Hertzog, 2003; Mendaglio, 2013; Sauder, 2015). Research of
gifted adults has shown that experiences in university can be pivotal in shaping how
gifted individuals perceive themselves as gifted, and how they subsequently approach
learning and education (Sauder, 2015). For example, failing a test in a course of
university, which may be their first encounter with academic failure, can lead to students
doubting if they were correctly identified as gifted in their K-8 years (Sauder, 2015). To
address this gap in the literature, this phenomenological study focuses on the lived
transitional experiences of gifted female students into college.

**Literature Review Purpose**

While the role of differentiation for gifted students in general can be found in
scholarly literature (Tomlinson, 1999), minimal research attention has been given to the
perceptions of gifted students (Coleman et al, 2015).

The impact of experiences in gifted programs on individual children has rarely
been addressed in the literature. Evaluators have typically assessed the quality of
students' experiences in the gifted program using teacher, administrator, parent,
and student questionnaires (Hertzog, 2003, p. 132).

The purpose of this review of the literature is to better understand identified female gifted
students’ perceptions of differentiation of curriculum and instruction for gifted learners.
Exploring gifted students’ perception of differentiation, its usefulness and benefits, can
provide insight into the efficacy of the received curriculum for female gifted students.
Looking at the lived experience of gifted students in the school context can offer understanding into whether gifted students’ educational experiences align with the best practices identified by Rogers (2007) and Coleman et al. (2015).

According to the Elementary and Secondary Education Act, the current definition of “gifted” is:

Students, children, or youth who give evidence of high achievement capability in areas such as intellectual, creative, artistic, or leadership capacity, or in specific academic fields, and who need services and activities not ordinarily provided by the school in order to fully develop those capabilities (National Association for the Gifted, n.d.).

States and districts are not required to use the federal definition, although many states base their definitions on the federal definition. For the purpose of this study, “identified gifted” defers to the students’ school districts; if the student was identified “gifted” by their pre-collegiate school district and therefore eligible for special services, then they are “gifted” in the eyes of this study.

The term “differentiated instruction” is eloquently defined by gifted education scholar Tomlinson (Tomlinson et al., 2003) as:

…a systematic approach to planning curriculum and instruction for academically diverse learners. It is a way of thinking about the classroom with the dual goals of honoring each student’s learning needs and maximizing each student’s learning capacity (p. 6).

This is a commonly accepted definition of differentiation, and Tomlinson’s book *Differentiation in practice: A resource guide for differentiating curriculum, grades K-5* (Tomlinson et al., 2003) has significantly influenced best practices in differentiation for gifted learners.
This literature review addresses two research questions: 1) What does the literature say about student perceptions of differentiation in the classroom for identified gifted students; and 2) What does the literature say about how differentiation impacts gifted female students’ self-perception? Previous research grounds the study.

**Literature Review Search Procedures**

The search methodology aimed at finding articles on student perceptions of differentiated schoolwork for identified gifted students. The search parameters did not specifically limit by gender because, based on a pilot search, limiting the search to only female participants yielded no results. This investigation was restricted to peer-reviewed articles published from 1980-2021 because gifted educational research and theories broadened greatly from 1980 onward. The following key terms were used to search Google Scholar and the Educational Resources Information Center (ERIC) database: gifted + students, women, female, higher education, college, university, perceptions, lived experience, self-perception, curriculum, differentiation, classroom differentiation, student voice. The initial search yielded very few articles, so search parameters were extended to include book chapters. Few articles were found with participants in higher education, so the search was expanded to include studies of K-12 participants. The reference list of two syntheses on gifted education (Rogers, 2007) and the lived experience of gifted students (Coleman, Micko & Cross, 2015) generated more potential sources. In total, eighteen texts met the search parameters; the inclusion criteria were:

1. participants were not home-schooled
2. participants were in grades 2-12 as gifted education rarely begins before 2nd grade
3. participants were identified gifted according to their school district’s criteria
4. research was qualitative or quantitative
5. research was US based.

From the original eighteen texts, the list became thirteen after excluding articles that either were not U.S. based (Lin 1994; Zeidner and Schleyer, 1999), or did not address the research questions (Haensley, 1980; Jeter and Chauvin, 1982; Sternberg and Davidson, 2005). The remaining ten texts were reviewed for any results or data around identified gifted students’ perceptions of classwork, especially their perceptions of differentiated schoolwork. Finally, the texts were grouped into three non-exclusive themes around modification of curriculum to meet the needs of gifted learners.

**Themes**

Differentiating curricula for the gifted implies modifying the curriculum to meet the student’s differing learning rates, styles, interests, and abilities (Tomlinson, 1999). Although the scope of this literature review includes only a limited number of articles (Adams-Byers et al. 2004; Archambault et al. 1993; Colangelo et al., 2004; Boazman, 2015; Gentry, Rizza and Gable, 2001; Hay, 1993; Kitsantas et al. 2017; Peine and Coleman, 2010; Shields, 1995; Vanderbrook, 2006), one synthesis (Rogers, 2007), and two book chapters (Csikszentmihalyi, Rathude, and Whalen, 1993; Delisle and Schultz, 2013) several themes emerged when looking at what the literature says about gifted student perceptions of differentiated schoolwork. Mainly, the research can be grouped into three themes: no differentiation, some differentiation, and insufficient differentiation (see Table 2.1).
These themes are further expanded below.

**No Differentiation**
Some of the texts examined in this study reveal no modification for gifted learners (Adams-Byers et al, 2004; Boazman, 2015; Delisle and Schultz, 2013; Kitsantas et al. 2017; Peine and Coleman, 2010) which usually results in boredom, lack of challenge, and sometimes underperformance. Students wanted active learning—that is learning by doing—grouped with peers who like to be challenged (Adams-Byers et al, 2004; Delisle and Schultz, 2013). The students also voiced a need for teachers and other students to understand them, notice them, and include them in the classroom (Boazman, 2015; Kitsantas et al. 2017). Even in high school AP and IB classes which offer advanced curriculum, the students in Vanderbrook’s study (2006) did not always believe that they were challenged in every class, and in some aspects the students felt “insufficiently challenged both academically and intellectually (most often through ‘busy work’ or through the repetition of concepts the participants already knew)” (p. 144-145).

The concept of instructional waiting—waiting in class for learning to occur—was mentioned in three of the studies (Coleman et al, 2015; Kitsantas et al. 2017; Peine and Coleman, 2010). According to Peine and Coleman (2010), all students experience waiting; sitting and waiting in class is not a phenomenon unique to the gifted. However, a gifted student may experience waiting differently, or significantly more often because of their ability to master and finish learning tasks quickly. Some elementary gifted students reported that waiting resulted in boredom, while others happily used the time for self-directed learning, such as reading or drawing (Peine and Coleman, 2010). Both elementary and middle school students reported that the pace of learning is slower in general education classrooms in contrast to homogenous gifted classrooms—which leads
to waiting (Kitsantas et al. 2017). Some students’ self-perception of their intellectual abilities was affected because the curriculum was too easy: “Because of this lack of attention to their exceptional abilities, the high-IQ children had unrealistic notions of their academic abilities, usually doubting or having low regard for them” (Coleman et al, 2015, p. 362). The researchers suggest that differentiation could reduce instructional waiting time and boredom for gifted students (Coleman et al, 2015).

**Some Differentiation**

Several of the texts reported nominal differentiation (Boazman, 2015; Delisle and Schultz, 2013; Gentry, Rizza and Gable, 2001; Kitsantas et al. 2017; Shields, 1995; Rogers, 2007) which was interpreted as positive, but also called for more and broader differentiation. Some gifted students, especially in rural areas (Gentry, Rizza and Gable, 2001) were satisfied with their learning experiences, but most wanted more challenge. In the massive study by Delisle and Schultz (2013), over 5,000 gifted students were surveyed online about their life experiences, including school. The students reported a wide range of school experiences—from horrific to dynamic. A common complaint was boredom in the classroom and lack of opportunities to be creative. At the same time, many students reported positive rapport with teachers, and they described positive experiences of project-based learning and community service. Given the large number of participants in the study, the wide range of experiences is not surprising. Another study which found positive perceptions of differentiation was Kitsantas et al. (2017) study of elementary and middle school students in homogenous gifted classrooms. Generally, the students’ experiences in the gifted program helped them to function better academically.
“They perceived that their intellectual needs were met because teachers engaged students in more challenging work, varied instructional strategies, provided opportunities for in-depth conceptual learning, and differentiated the instructional pacing” (p. 280). Their self-perceptions were enhanced and supported by the instructional differentiation.

**Insufficient Differentiation**

With the goal of making learning more challenging and improving the gifted learner experiences, and thereby improving their perceptions of learning, all the texts advocate for differentiation in terms of groupings and class work; three of the texts go further to advocate for acceleration and independence in learning (Delisle and Schultz, 2013; Kitsantas et al. 2017; Rogers, 2007). Although Delisle and Schultz (2013) found many positive examples of differentiation, their surveys also revealed many instances of little to no differentiation. Similarly, Kitsantas et al. (2017) noted that although the students in their study benefitted from their gifted program, the elementary and middle school students wanted more challenge, more topic variation, more breadth and choice about content, and more depth of understanding. Many gifted students want to challenge themselves and extend their learning beyond the classroom (Delisle and Schultz, 2013; Kitsantas et al. 2017; Vanderbrook, 2006).

**Conclusions**

Two research goals guided the review of the literature: looking for student perceptions of differentiation in the classroom for identified gifted students (RQ1), and searching for literature regarding how differentiation impacts gifted female students’ self-perception? (RQ2). Overall, few research articles which focus on gifted students’ voices
were found, but this small body of research reveals dissatisfaction with the lack of widespread differentiation for gifted learners in the classroom. While some of the studies reported student views of no differentiation or some differentiation, all the studies called for more differentiation. Even with opportunities to take higher level courses, such as honors classes, IB and AP classes, gifted students are often asked to perform the same tasks as non-gifted students (Vanderbrook, 2006). To a gifted student, classroom assignments are often redundant “busy work” and do not broaden their knowledge or improve their skills (Cross, 2011). Looking at the literature also reveals that significant instructional waiting time is occurring in classrooms; some students use it to be productive on their own while others report boredom which can lead to disengagement and low self-perception of abilities. (Coleman et al, 2015; Kitsantas et al. 2017; Peine and Coleman, 2010). Yet, gifted students want to be challenged; they perceive a lack of sufficient differentiation.

One interesting finding is that both quantitative studies (Delisle and Schultz, 2013; Gentry, Rizza and Gable, 2001) reported findings of positive perceptions of differentiation and overall satisfaction with school by gifted learners. Both of these studies used surveys as data collection instruments. Gentry, Rizza, and Gable (2001) used *My Class Activities* which is an instrument that can be used in both educational evaluation and research. It assesses four attitude dimensions identified through the literature as important: Interest, Challenge, Choice, and Enjoyment. How students respond to the items (Likert scale) can provide insight into classrooms from the students’
points of view. Is it coincidental that the quantitative survey instruments both yielded positive student perceptions? Coleman et al. (2015) argue that studies using closed responses ask children to choose among a list of statements that might mirror their thoughts. These choices reflect the investigator’s notion of what children might say. However, studies using open-ended questions where the children say whatever they choose are more appropriate for discovering their inner life (p. 359).

They advocate that gifted students’ unique perspectives told through their own voices need to be heard, rather than giving the students alternatives to choose from on a survey.

Another interesting finding is that the more recent studies showed more differentiation in the classroom, and thereby more satisfaction from students. Perhaps current classroom practices in gifted curriculum and instruction have been informed by past research and best practices in gifted education. Nevertheless, even the most recent studies still call for more differentiation to meet the needs of gifted learners in K-12.

Only one study interviewed college students reflecting back on their pre-collegiate gifted program experiences (Hertzog, 2003). Even though many of the participants could not clearly recall their elementary school gifted program experiences, they were able to reflect on their middle school and high school experiences. The students favorably reported a variety of types of instructional activities such as product choices, group work, authentic hands-on learning, and problem-solving. They described ‘thought-provoking’ classes with a more relaxed atmosphere and teachers who were eager to teach gifted students. Their classroom experiences provided activities that engaged them in higher level thinking, with less emphasis on discipline. They felt such
“opportunities gave them ‘a work ethic,’ an understanding of the meaning of overcoming challenges, enhanced self-esteem, and an introduction to areas they are currently pursuing in college” (Herzog, 2003, p. 140). This qualitative study supports the idea that instruction and student motivation are dynamically related: instructional strategies are a critical variable affecting student achievement and motivation (Hertzog, 2003).

**Literature-Based Rationale for Study**

Several limitations in the literature can be identified for this study. Most obviously, the studies did not segregate by gender, so discovering the gifted female experience was not possible. A second limitation could be the wide time span (1980-2021) used in the search of articles; some of the results could be outdated because many new research-based ideas have been implemented in gifted curriculum and instruction in recent years. Therefore, excluding older studies could move the results away from predominant “Insufficient Differentiation”. Indeed, the most recent study included in this literature review presented the most positive attitudes of gifted students toward gifted curriculum and instruction. A third limitation could be the low number of participants in most of the studies, except Delisle and Schultz (2013) who were able to collect data from thousands of online surveys. Most of the studies were qualitative with data collection instruments (interviews) that necessitated a small number of participants.

Future research could focus on the primary gap in the literature surrounding the perceptions of female gifted students on differentiation, or on the secondary gap in the literature of studies focusing on gifted students in higher education. More qualitative studies interviewing female students about their lived experiences can add to the
aggregate knowledge, especially when considering the development in gifted curriculum and instruction as a response to recent research. Secondly, most of the studies of student perceptions focused on elementary and middle school age learners. Future research could focus on high school or college students. Most gifted programs—whether full day or pull out—occur in the 2-8 grades; high school gifted students are usually offered “higher” level courses such as AP or IB, and some university students have the opportunity to participate in honors programs (Robinson, 1997; Sauder 2015). However, as Vanderbrook (2006) found, AP and IB teachers do not typically have special training in teaching gifted students. Future research could focus on high school or college gifted population perceptions with the goal of understanding the gifted experience in the high school context. This current study targets the gaps in the literature.
Chapter Three: Methods

Overview

A review of the literature on student perceptions of differentiation in the classroom for identified gifted students showed an overall dissatisfaction with the lack of widespread differentiation. Three themes emerged from a review of ten articles: no differentiation, some differentiation, and insufficient differentiation (see Table 2.1). While some of the studies reported student views of no differentiation or some differentiation, all of the studies called for more differentiation. Most of the studies of student perceptions focused on elementary and middle school learners, which reveals a gap in the literature focusing on high school and university/college gifted students. None of the studies focused exclusively on the female student perspective. Looking at the received curriculum in the instructional arc framework (Uhrmacher, Moroye, and Flinders, 2016), this study aimed to reduce that gap by focusing on the gifted female student experience in high school and university/college.

This study explored the lived experience of classroom differentiation for identified gifted female students using a transcendental phenomenological research design. The study addressed the following research questions:

1. According to gifted female students, what kind of differentiation strategies were received in secondary school and university/college?
2. In what ways did differentiation in high school and university/college classrooms influence gifted female students’ educational experiences?

3. In what ways did differentiation in high school and university/college classrooms influence gifted female students’ self-perceptions?

4. In what ways do gifted female students’ high school experiences influence their university/college experiences?

The participants were identified gifted students in higher education with less than five years since their high school graduation. Data was analyzed utilizing the phenomenological data analysis steps of horizonalization, developing clusters of meaning, and writing textural description.

**Research Design**

**Qualitative Research**

Qualitative research is an attractive research method for exploring an educational problem or issue. Although wading through data looking for gems of wisdom can be chaotic or messy, qualitative research can give a more authentic reflection of reality. According to Creswell (2013), qualitative exploration is warranted in the case of “a need to study a group or population, identify variables that cannot be easily measured, or hear silenced voices” (p. 48). In this present study, all three of these features exist: a variable that is not easily measured (the received curriculum) in a population that is usually not asked (gifted women) about their experiences with curriculum. Specifically, this study looks at the problem of a lack of challenging and accelerated content for identified gifted high school students, which can lead to boredom and disengagement from school.
(Callahan et al. 1994; Tomlinson 1992; VanTassel-Baska, 1988). The purpose of this phenomenological study is to describe identified gifted female students’ perceptions of differentiation of curriculum and instruction in order to find the essence of their lived experiences. Looking at the lived experience of gifted students in the high school context can offer understanding into whether gifted students’ educational experiences align with recommended best practices.

Furthermore, qualitative research is used when a researcher wants “to empower individuals to share their stories, hear their voices, and minimize the power relationships that often exist between a researcher and the participants in a study” (Creswell, 2013, p. 48). Participants (n = 10) in this study were recent, less than five years, graduates of high school who were identified gifted in K-12 according to the threshold for the student’s school district. Chosen based on opportunity and accessibility, participants were university/college students because they were asked to reflect not only on the full four years of their high school experience, but also on their transition into university/college. The present study seeks to empower the participants by creating space to tell their stories because their gifted female voices are not only important, but vital to understanding their lived experiences with differentiation in the classroom.

Qualitative research methodologies have broad variety to accommodate a range of research goals (Creswell, 2013). Tracy developed a structure of qualitative methodological best practices; in her words, “a parsimonious framework for qualitative quality can help us communicate value for our work to a variety of audiences” (2003, p.
She developed a theoretical framework of *Eight Criteria for Excellent Qualitative Research* (see Table 3.1).

### Table 3.1

**Eight Criteria for Excellent Qualitative Research**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Worthy Topic</td>
</tr>
<tr>
<td>2</td>
<td>Rich Rigor</td>
</tr>
<tr>
<td></td>
<td>a. no magic amount of time in the field</td>
</tr>
<tr>
<td></td>
<td>b. care and practice of data collection and practices</td>
</tr>
<tr>
<td>3</td>
<td>Sincerity</td>
</tr>
<tr>
<td></td>
<td>a. self-reflection</td>
</tr>
<tr>
<td></td>
<td>b. transparency</td>
</tr>
<tr>
<td>4</td>
<td>Credibility</td>
</tr>
<tr>
<td></td>
<td>a. Thick description</td>
</tr>
<tr>
<td></td>
<td>b. Crystallization &amp; triangulation</td>
</tr>
<tr>
<td></td>
<td>c. Multivocality</td>
</tr>
<tr>
<td></td>
<td>d. Member reflections</td>
</tr>
<tr>
<td>5</td>
<td>Resonance- Reverberate and Affect an Audience</td>
</tr>
<tr>
<td></td>
<td>a. Aesthetic merit</td>
</tr>
<tr>
<td></td>
<td>b. Transferability &amp; naturalistic generalizations</td>
</tr>
<tr>
<td>6</td>
<td>Significant Contribution</td>
</tr>
<tr>
<td></td>
<td>a. Does the study extend knowledge?</td>
</tr>
<tr>
<td></td>
<td>b. Improve practice?</td>
</tr>
<tr>
<td>7</td>
<td>Ethics – Procedural, Situational, Relational, Exiting</td>
</tr>
<tr>
<td>8</td>
<td>Meaningful Coherence</td>
</tr>
<tr>
<td></td>
<td>a. achieve stated purpose</td>
</tr>
<tr>
<td></td>
<td>b. accomplish goal</td>
</tr>
<tr>
<td></td>
<td>c. use methods aligned with theory</td>
</tr>
<tr>
<td></td>
<td>d. interconnect literature with research foci, methods, and findings</td>
</tr>
</tbody>
</table>

These eight points of qualitative quality can help researchers “engage in dialogue with power holders who might otherwise regard qualitative research as just a good story” (Tracy, 2010, p. 849). The present study follows these methodological best practices with
the goal of extending knowledge about the received curriculum and improving practice to support gifted learners.

**Phenomenology**

The research design is a transcendental phenomenological study using interviews as the primary data collection method. Phenomenological qualitative studies aim to collect individual experiences with a phenomenon, and then reduce those individual experiences to a composite description of a universal experience, (Creswell, 2013). A transcendental phenomenological study focuses on the experiences of the participants and seeing the phenomenon fresh, as if for the first time (Moustakas, 1994). In order to achieve this, the researcher must bracket her previous experiences and pre-figured ideas so that she can “see” the experiences of the participants (Creswell, 2013) expressed in their interviews.

A phenomenological research approach is suitable to explore the study’s research questions and describe the common meaning of pedagogical differentiation for a group of gifted female students. The basic purpose of phenomenology is “to reduce individual experiences with a phenomenon to a description of the universal experiences” (Creswell, 2013, p.76). The researcher collects data from individuals who have experienced the phenomenon and creates a collective portrayal of the essence of the experience for all the individuals (Moustakas, 1994).

Another important element of a phenomenological study is the positionality of the researcher; it is important for the researcher to disclose her experience with gifted
education and differentiation in the classroom. In addition to disclosing preconceptions, the researcher should try to bracket herself out of the study (Creswell, 2013) as part of epoché (Moustakas, 1994). Through an objective understanding of one’s own subjectivity, epoché is the act by which “the everyday understandings, judgements, and knowings are set aside, and phenomena are revisited, freshly, naively, in a wide-open sense, from the vantage point of a pure transcendental ego” (Moustakas, 1994, p.33). By setting aside bias, the researcher can have a fresh experience (transcendental) with the phenomenon as described by the study participants (Moustakas, 1994).

**Researcher Positionality**

Since a researcher’s positionality not only shapes their own research, but influences their interpretation and understanding of subjects’ experiences, open disclosure of researcher positionality is essential (Holmes, 2014; Moustakas, 1994; Tracy, 2010). I was unintentionally given an IQ test as a child; I was sent along to be tested with my brother who teachers suspected of having a learning disability (He didn’t—he was just bored in class.) My mother was surprised that my IQ results showed a high IQ, but she did not disclose the results to me until I was accepted to a prestigious university at age 17. In the 1970s, parents were told that children should not be told IQ test results “for their own good.” My mother also told me never to disclose to my brother that my IQ score was higher than his because “men don’t like it when women are smarter than them.” Although I was identified as gifted in elementary school, I have no experience with classroom differentiation from the student’s perspective, as gifted education was widely lacking in the 1970s California public school curriculum. My main strategy during instructional wait
time was watching the birds in the tree outside the classroom window. By middle school, I had learned to hide my intelligence because I wanted to fit in socially. When I headed off to college, my grandmother advised me, “be smart, but not too smart, or you’ll never get a husband.” My own K-16 educational journey strongly influenced my own self-perception of being unworthy; as both an adolescent and adult, I have struggled with imposter syndrome.

As a parent of three gifted children, I observed classroom differentiation in their Colorado K-6 classrooms while volunteering. I have also been party to their nightly recounting of their educational (grades 7-16) experience–both good and bad. (The opening quotation on page 1 of this paper reflects my gifted son’s high school experience.)

As a professor in higher education, I strive to differentiate process and product for my undergraduate students. However, I want to know how gifted female students perceive and value differentiation within the course context. Throughout my career, I have had interactions with first-year female students at various post-secondary institutions–including a private women’s liberal arts college. The institutions have represented a variety of educational philosophies, and all of them have had low to no support for gifted students. My experience with first-year female advisees–mentoring them through transition points in their lives–has inspired me to better understand the factors influencing their self-perceptions and choices in higher education.
Procedure

Participants

The participants (n=10) in this study are identified gifted female students who have recently graduated from high school less than five years since graduation. Since the study aimed to capture the full arc of the participants’ secondary school experiences and their transition into higher education in the US, current or former university/college students within 5 years of commencing undergraduate studies, including those on gap year or who graduated early, were interviewed. Five years is the average timeframe to completion for bachelor’s degree earners who entered college at the traditional age in the US (Dundar et al., 2016). Although a “typical” gifted student is difficult to define in terms of psychological aspects (Cross, 2011), for this study, the participants were defined as “gifted” according to the identification threshold for each participant’s school district. All participants reported that they were identified as gifted in grades K-8 by their school district; the researcher relied on the participants’ self-disclosure of their giftedness.

Recruitment

Recruitment started from a gifted program parent organization in a large suburban public-school district in the Rocky Mountain region. Initial emails were sent to three prospective participants (see Appendix C). From this starting point, a successful snowball sampling strategy (Creswell, 2013; Geddes et al., 2018) recruited diverse and more geographically dispersed participants (Heckathorn, 2011). Initial participants were chosen based on opportunity and accessibility (Uhrmacher, Moroye, and Flinders, 2016) and helped identify additional study participants. Recruitment proceeded according to the
research literature: “Rather than drilling down vertically through social networks, … the researcher can move horizontally across social networks and cast the sampling and recruitment net wide and shallow rather than deep” (Geddes et al., 2018, p.3). In other words, recruitment proceeded horizontally, using personal ties to bridge into new social networks of gifted female students. In this non-random, purposive sampling strategy, a group of participants was chosen who are diverse in terms of the types of educational institutions, geographic locations, majors, and race/ethnicity.

To facilitate the snowball process, a combination of several emails and a survey was used. An introductory recruitment email was sent to three prospective participants. The email also included a link to an online survey (see Appendix D) to gather demographic information and electronic consent. The demographic questions pertained to the study’s inclusion and exclusion criteria (see Table 3.2). Based on their responses to the survey questions, eligible prospective participants were sent a second recruitment email (see Appendix C) inviting them to voluntarily take part in the study and sign up for interview times. Participants were offered a $25 gift card for completing two interviews. These initial participants each suggested several eligible friends and provided the researcher with their email addresses—contact information was only obtained with permission. The researcher sent introductory recruitment emails to each of these potential participants, and the cycle continued. In this manner, the snowball strategy was successful in recruiting participants over the course of three weeks.
### Table 3.2
**Recruitment Criteria**

<table>
<thead>
<tr>
<th>Inclusion Criteria</th>
<th>Exclusion Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identified as gifted in K-12 U.S. education (self-reported)</td>
<td>Being under 18 years of age</td>
</tr>
<tr>
<td>Completed 1-5 years of college or university in the US (current or former students within 5 years of commencing undergraduate studies, including those on gap year, or who have withdrawn)</td>
<td>Home-schooled for 2+ years of high school</td>
</tr>
<tr>
<td>Attended high school in the US</td>
<td>Not wanting to be video and audio recorded</td>
</tr>
<tr>
<td></td>
<td>Identifying as male</td>
</tr>
</tbody>
</table>

Ten participants were selected for the study representing a variety of institutions, both secondary and post-secondary, in terms of private/public, size, type (liberal arts, research university, polytechnic), setting (urban/rural), and location (six states across the US); majors—humanities, STEM, and business; and racial and/or ethnic groups as self-identified by participants. These parameters were aspirational, not limitations, when selecting participants from the snowball sampling strategy. As Moustakas (1994) points out, in phenomenology, there are no limiting in-advance criteria for locating and selecting participants; essential criteria include:

- the research participant has experienced the phenomenon, is intensely interested in understanding its nature and meanings, is willing to participate in a lengthy interview and (perhaps) a follow-up interview, and grants the investigator the right to record the interview and publish the data in a dissertation (p. 107).
The snowball recruitment strategy was effective in enlisting eager volunteers for the study.

**Data Collection**

Data collection occurred through interviews with anecdotal notes generated by the researcher. Since the participants were geographically dispersed in five states, a synchronous distance interview technique was necessary (Opdenakker, 2006); interviews were video recorded using online meeting software (Marson & Ide, 2014; Opdenakker, 2006). In the spirit of giving the participants as much agency over the process as possible, interview times were offered on weekdays, evenings, and weekends. The scheduling software sent reminders one day before each interview, and students were able to reschedule interview appointments at any time via the software. The ease of scheduling at a time convenient to the participant yielded a 100% attendance rate for twenty (10 participants x 2 interviews) sessions.

Two in-depth interviews of participants employed an emergent foci strategy (Uhrmacher, Moroye, & Flinders, 2016). These interviews applied “an informal, interactive process utilizing open-ended comments and questions” (Moustakas, 1994, p. 114). The first interview began with establishing rapport and building trust so the research participant would feel comfortable to respond honestly and comprehensively (Moustakas, 1994). This session included introductions, background of study, and participant and researcher introductions. (See Appendix E for interview protocol.) The interview proceeded with questions regarding overall experiences with gifted education in elementary through secondary school, reflection, and insights (Moustakas, 1994). The
second interview focused on concepts of giftedness, experiences with curriculum
differentiation in higher education, as well as reflection on the first interview,
clarifications, final thoughts, and member checking (Moustakas, 1994; Rager, 2005;
Tracy, 2010). The interviews were semi-structured starting from participants’ perceptions
of giftedness and their classroom experiences; the questions were open-ended and were
not asked in the exact same way or order to each respondent. The primary goal of an in-
depth interview is to hear what respondents think about the topic at hand and to hear it in
their own words (Creswell, 2013). The interview procedure yielded copious anecdotal
data of the participant’s experiences.

The interview protocol was designed in response to the purpose and problem of
the study, the study’s research questions, and the review of literature in the previous
chapter (see Appendix F). The first interview took place synchronously via Zoom, which
has recording and transcription capabilities; this interview included approximately ten
open-ended questions aimed at understanding the participant’s pre-collegiate gifted
classroom experiences. The second interview also took place synchronously via Zoom;
this interview included more than twelve questions including three questions targeting the
participant’s understanding of giftedness and its personal importance, seven questions
aimed at understanding the participants’ collegiate experience, and at least two questions
aimed at member-checking or follow-up on themes, experiences, or anecdotes from other
participants’ interviews. Since the interviews used an emergent foci strategy, additional
questions were added during the interview process (Creswell, 2013; Uhrmacher, Moroye,
& Flinders, 2016). (See Appendix E).
Since the extraordinary conditions of a global pandemic necessitated moving many interactions to online formats, the virtual modality used in this study was familiar for participants and straightforwardly facilitated data collection. In fact, the participants in this study felt quite at ease with technology-mediated communication. According to Marson and Ide (2014), traditional qualitative research strategies need to be rethought when working with adolescents. As adolescent culture relies heavily on text-based communication and the generation of digital natives prefer interactions mediated through technology, adapting interviewing strategies to electronic environments is timely and relevant for researching adolescents (Marson & Ide, 2014). “Adolescents’ use of the internet and their preference for text-based communication makes a compelling support for modifying traditional face-to-face qualitative investigations to reflect these changing contextual conditions” (Marson & Ide, 2014, p. 1). Shapkaa et al. (2016) compared data quantity and quality of interviews conducted with adolescents in a face-to-face setting versus online. Their findings indicate that “data quality is unaffected by the mode of data collection (online versus face-to-face)” (p. 1). In fact, Marson and Ide (2014) found that adolescent and young adults were enthusiastic about technology-mediated interviews. During the data collection process, the participants seemed unaffected by the modality of virtual interviews and expressed gratitude at the convenience and privacy afforded by the online modality. Many of the interviews went well over the allotted 60 minutes. Moreover, using online meeting software to record the interviews came with the added benefit of producing written transcripts of the recordings (see Table 3.3).
Table 3.3

**Transcript Pages**

<table>
<thead>
<tr>
<th>Participant</th>
<th>Interview 1 Transcript pages</th>
<th>Interview 2 Transcript pages</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexa</td>
<td>46</td>
<td>50</td>
<td>96</td>
</tr>
<tr>
<td>Christina</td>
<td>81</td>
<td>73</td>
<td>154</td>
</tr>
<tr>
<td>Claire</td>
<td>32</td>
<td>36</td>
<td>68</td>
</tr>
<tr>
<td>Dara</td>
<td>35</td>
<td>45</td>
<td>80</td>
</tr>
<tr>
<td>Elisabeth</td>
<td>48</td>
<td>79</td>
<td>127</td>
</tr>
<tr>
<td>Ellie</td>
<td>42</td>
<td>45</td>
<td>87</td>
</tr>
<tr>
<td>Izzy</td>
<td>50</td>
<td>48</td>
<td>98</td>
</tr>
<tr>
<td>Jackie</td>
<td>33</td>
<td>64</td>
<td>97</td>
</tr>
<tr>
<td>Molly</td>
<td>66</td>
<td>58</td>
<td>124</td>
</tr>
<tr>
<td>Sarah</td>
<td>44</td>
<td>51</td>
<td>95</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1026</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Data collection took place over the course of five weeks. Intervals between the first and second interviews ranged from 72 hours to 14 days, as determined by each participant’s choice of scheduling. After each interview, the researcher immediately made notes in a reflective journal with anecdotal notes on the process and content of the interviews. Transcripts of the interviews were sent to each participant for review and possible corrections (see Appendix G). None of the participants requested any revisions to the transcripts. Classroom observations were not included as data collection because participants reflected on past events (Creswell, 2013). Overall, the use of technology-based synchronous interviewing strategies for data collection was advantageous for a geographically dispersed, young adult population.
Data Analysis

Data analysis began by watching the videos of the interviews, reconciling the transcripts, and expanding the researcher’s anecdotal notes. Reconciling the auto-generated transcriptions requires listening repeatedly to participants’ voices, which can assist in early analysis (Tracy, 2010). Intermediate analysis between interviews informed the interview protocol for the second interviews with each participant. Glesne suggests that “data analysis done simultaneously with data collection enables [the researcher] to focus and shape the study as it proceeds” (2011, p. 188). Looking for developing themes informed the second interview protocols by highlighting points that needed more clarification or exploration. Member checking, such as “Here’s what I heard you say, does that resonate with you?” was also informed by intermediate data analysis. After the second interviews, analysis continued by watching the videos, reconciling the transcripts, and beginning to highlight data applicable to the research questions.

The four research questions were analyzed utilizing the phenomenological data analysis steps of horizontalization, developing clusters of meaning, and writing textural description (Moustakas, 1994) (see Table 3.4). After all the interviews were completed, the transcripts were examined looking for clusters of information. The next step was coding the transcripts manually with “the goal of identifying the common themes from the phenomenon studied” (Creswell, 2013, p. 184). Coding is a way to systematically
organize and understand the data; codes are the basic elements of labelling and organizing the dataset (Tracy, 2003). Manual coding entailed marking the interview transcripts with colored highlights to identify themes that stood out. Portions of text were cut and pasted into a separate document organized according to pseudonyms and codes. The first cycle of coding focused on large chunks of text that addressed the research questions. The second cycle of coding focused on making connections between

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Data</th>
<th>Qualitative Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>According to gifted female students, what kind of differentiation strategies were received in secondary school and university/college?</td>
<td>Recorded interviews with anecdotal notes: questions about perceptions and experiences</td>
<td>Phenomenological – horizontal analysis with clustered themes</td>
</tr>
<tr>
<td>In what ways did differentiation in high school and university/college classrooms influence gifted female students’ educational experiences?</td>
<td>Recorded interviews with anecdotal notes: questions about perceptions and experiences</td>
<td>Phenomenological – horizontal analysis with clustered themes</td>
</tr>
<tr>
<td>In what ways did differentiation in high school and university/college classrooms influence gifted female students’ self-perceptions?</td>
<td>Recorded interviews with anecdotal notes: questions about perceptions and experiences</td>
<td>Phenomenological – horizontal analysis with clustered themes</td>
</tr>
<tr>
<td>In what ways do gifted female students’ high school experiences influence their university/college experiences?</td>
<td>Recorded interviews with anecdotal notes: questions about perceptions and experiences</td>
<td>Phenomenological – horizontal analysis with clustered themes</td>
</tr>
</tbody>
</table>

TABLE 3.4

Data Analysis
participants’ stories. According to Saldana (2013), the “second cycle coding requires the researcher to use their analytical skills through classifying, prioritizing, integrating, synthesizing, abstracting, conceptualizing, and theory building” (p. 45). The primary goal of the researcher during this stage of the data analysis process in a phenomenological study is to systematically organize and reduce the data. The analysis of the data proceeded through these steps of reducing the data via horizontal analysis (Creswell, 2013; Moustakas, 1994).

As the iterative process of coding progressed, recurring topics across interviews were pulled out from each participant’s interview and clustered into common categories (Moustakas, 1994). Topics included experience with gifted programming in K-12 schooling, differentiation in secondary school, perceptions of giftedness, evidence of agency and advocacy, differentiation in higher education, maternal role models, and experience with imposter syndrome. These categories were used to generate three clustered themes (Creswell, 2013; Moustakas, 1994): differentiation, agency, and self-perception. Ultimately, these collated themes were used for describing the experiences that gifted female students have in common with classroom differentiation—the essence of their experience (Creswell, 2013). The writing strategies for this study are theme-based: what (textural description) and how (structural description) did the gifted students experience differentiation (Creswell, 2013; Moustakas, 1994). These themes are used in Chapter Four: Findings to compose an articulate description of what differentiation the gifted female students experienced in their high school classroom, and how differentiation, or lack thereof, affects their self-perception. A composite textural
description interprets the essence of the students’ common experiences of the received curriculum.

**Conclusion**

Of primary importance in this qualitative study is the participants—the student voice. What are their experiences? What are their perceptions? The research literature craves their voices. High-ability learners are often self-aware, diligent, empathetic, and articulate (National Association for the Gifted, n.d.). They are able to synthesize information quickly and often have emotional sensibilities (Cross, 2011; Winebrenner & Espeland, 2001; National Association for the Gifted, n.d.). The qualitative nature of the study “describes ‘experience’ as told from the students' perspectives and provides windows into viewing intangible, unintended, or immeasurable outcomes of gifted education services” (Hertzog, 2003, p. 135). Qualitative design, specifically phenomenology, enabled robust data to be collected to facilitate understanding the collective experiences of the participants. Interviews provided rich material essential to generating themes and creating the textural and structural portraits characteristic of transcendental phenomenology as detailed in Chapter Four: Findings. Gifted students’ reflection on their own educational journey can be illuminating for the educational community.
Chapter Four: Findings

“Being gifted is an asset. It has enabled me to see a really high potential in myself... and afforded me such amazing educational opportunities.” – Molly

Introduction

The purpose of this qualitative phenomenological research study is to share the lived experiences of ten gifted women in higher education. The research project celebrates their diverse journeys through secondary and higher education. The empirical phenomenological approach focuses on participants’ experiences in order to obtain comprehensive descriptions that provide the basis for a reflective structural analysis which portrays the essence of their lived experiences. The aim is to determine what the experiences mean for gifted women who have experienced differentiation in secondary and higher education. From the individual descriptions, general or universal meanings are derived, in other words, the essence of the experiences. Chapter Four begins with a textural description of what each participant experienced based on their interviews, followed by composite description that presents the essence of the phenomenon (Creswell, 2013).

The overall purpose of this study is exploratory in nature and therefore the aim is to search for meanings and the essence of experiences rather than measurements and explanations (Moustakas, 1994). Thus, the findings of this study suggest the following:
Research Question 1: According to gifted female students, what kind of differentiation strategies were received in secondary school and university/college?

In high school, the participants described few instances of teacher-initiated differentiation. Examples of differentiation embedded in courses included choice of topics on writing projects (content), type of deliverable such as poem, song, poster (product), and agency over group dynamics (process). For the most part, participants reported not only a lack of differentiation in courses, but also a lack of any gifted programming or support specifically for gifted students. Most of the participants felt that the school administrators and teachers did not even know if a student was identified as gifted; only one participant reported a Gifted and Talented (GT) coordinator in the building. In terms of course options, all the participants self-selected into multiple Advanced Placement (AP) classes in search of rigor; at the same time, they perceived the course content and pedagogy of AP courses as rigid and primarily preparing students for the exam.

Regarding higher education, participants reported more satisfaction with opportunities for differentiation in courses, which led to more motivation for engagement. Examples of differentiation occurred in hands-on laboratory classes, project-based courses, problem-based courses, and music/art courses. Examples of differentiation embedded in curriculum included choice of topics on research projects (content), type of deliverable (product), agency over learning strategies (process) and variation in learning and research spaces such as field work (setting). Conversely, lecture-based classes with copious reading and note-taking were perceived as rigid and less
engaging. Participants also reported more opportunities for differentiation in small classes versus large classes.

**Research Question 2: In what ways did differentiation in high school and university classrooms influence gifted female students’ educational experiences?**

All participants exhibited deep curiosity and strong intrinsic motivation for learning. Participants did not experience much classroom differentiation in high school - teachers modifying their instruction to meet students’ varying readiness levels, learning preferences, and interests. However, all of the women in the study seized agency over their own educational experiences. Engagement in extracurricular activities to supplement formal academic classes reflects participants’ ability to independently control and regulate their learning. A predominant finding in this study is that each participant was an agent of her own learning and participated in multiple concurrent extracurricular activities–many of the participants reported that they spent more hours on extracurriculars than they did on formal schoolwork. The lack of systematic differentiation in the classroom prompted each participant to seek out other learning situations–in a sense, they practiced self-differentiation. This wide-ranging sense of agency persisted throughout participants’ secondary and higher education experiences.

**Research Question 3: In what ways did differentiation in high school and university/college classrooms influence gifted female students’ self-perceptions?**

Identified as gifted in childhood, all of the women experienced some degree of gifted programming in elementary school–such as all-gifted classrooms or pull-out programs. The participants equated being gifted with childhood. As they progressed into high school, the meaning of giftedness became opaque for many of the participants. No
longer did they experience systematic, differentiated instruction. No longer did they have a GT coordinator watching out for them. No longer did their schools acknowledge that gifted students may need additional support. In these circumstances, it is not surprising that some of the participants no longer perceived themselves to be gifted. Some perceived the label of “gifted” as elitist and tried to distance themselves from the term. Most of the participants equated the term “gifted” with “smarter than others” and “nerdy”, thus feeling the need to compartmentalize relationships in order to conceal parts of themselves from others.

As they progressed into higher education, many participants experienced feeling “average” or “inadequate” in their first year. Most experienced some degree of imposter syndrome, but that phenomenon did not persist past the first two years. As participants succeeded in classes and delved into extracurriculars, they not only survived the transition, but began to thrive. Attending high-level, competitive universities/colleges immersed the participants in communities of high achieving and gifted peers. Many participants found communities of peers and relished the opportunity to uncheck their intelligence in social situations.

For most of the women in the study, being “gifted” was not a conscious part of their core identity in secondary education; they viewed it as an asset or tool, but not an identity. However, for most of the participants, their narrow definition of “gifted” still equates to “smarter than others”. Although they characterized themselves as deeply curious, perfectionist, empathetic, competitive, idealistic, talkative, emotional, etc.—they did not necessarily recognize these traits as giftedness.
Research Question 4: In what ways do gifted female students’ high school experiences influence their university/college experiences?

Academically, the participants felt that their high school AP classes prepared them for the rigor of university/college classes. They perceived that they were prepared in terms of foundational content, study skills, learning strategies, and a basic understanding of critical thinking skills. A few notable exceptions were found in specific course content areas such as math or computer science—several of the participants were initially overwhelmed by the higher level of difficulty in these classes. Socially, the participants’ perceptions diverged in how their high school experiences influenced their university experiences. Both in high school and university/college, the women in this study were seeking their unique path. Some felt well-supported in high school with strong social groups, such as sports teams, choirs, orchestra, ROTC, etc. Others struggled with their identity. All of the participants presented as strong self-advocates; they attributed that particular skill to the strong female role models in their lives—mothers, aunts, teachers, coaches, and peers. Overall, the participants felt that their high school experiences set them up for success in university/college.

This study included ten women representing a variety of institutions, both secondary and post-secondary; geographic regions; majors, and racial and/or ethnic groups as self-identified by participants (see Figure 4.1).
<table>
<thead>
<tr>
<th>Participant</th>
<th>High School</th>
<th>College / University</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>pseudonym</strong></td>
<td><strong>race/ethnicity</strong></td>
<td><strong>location</strong></td>
</tr>
<tr>
<td>2. Christina</td>
<td>2 or more races Hispanic</td>
<td>Mountain region US</td>
</tr>
<tr>
<td>4. Dara</td>
<td>Asian</td>
<td>Mountain region US</td>
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<tr>
<td>5. Elisabeth</td>
<td>White</td>
<td>Midwest US</td>
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<tr>
<td>6. Ellie</td>
<td>White</td>
<td>Mountain region US</td>
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<tr>
<td>10. Sarah</td>
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**Figure 4.1 Participants’ Schools & Majors**
Meet the Amazing Women (Portraits)

Preface: the women who graciously agreed to participate in this research were tremendously thoughtful and purposeful with their responses to questions during the interviews. They were eager to share their stories and reveal the unspoken in their lives. Reflecting on their own giftedness was new for the participants—it is a topic that they have rarely discussed with others, except their own parents. Without exception, epiphanies punctuated each interview—for both parties involved. To humanize the data, the participants agreed to share creatively unidentifiable self-photos of themselves.

Alexa

Identified as gifted in early childhood, confident Alexa attended small, private schools from age two. Located in the Southeastern region of the United States, her elementary school did not specifically cater to gifted students; however, it was so small—with only two classes per grade—that teachers were able to differentiate content for a range of abilities in the classroom.

Like the first kind of differentiation, I guess, was that I was taken out to play games. I don't remember what the other students were doing. After that, I don't think I had any until fourth grade where the actual classes were different actually not until fifth grade, so we took an advanced math class for the gifted students. When everyone else had kind of normal math, like five of us would go to a room with someone else, and she would do more advanced math.
Supplementing her elementary school, Alexa attended summer camps for gifted students three summers (3rd, 6th, & 10th grade). At these boarding camps, Alexa felt excited to learn about subjects that were not available as part of her school’s regular curriculum. “Camp - I think it opened my mind to things that were available. I liked doing forensics as a third grader. I thought it was very cool and I wanted to be a medical examiner for a while - just kind of creepy for a child.” At this level (3rd & 6th grades), Alexa valued the thematic focus of each camp more than the all-gifted community of peers in attendance. Later, community would become more important to her.

In elementary school, Alexa was the only black student in her class; the other black student in her grade was always assigned to the other class. After a year of virtual school in 7th grade on which she chose not to elaborate, Alexa attended an elite 8-12th grade, private school for middle and high school. This academy had greater racial diversity with “a majority of Hispanic students, some white and black students, and almost no Asian students.” Alexa remembers that her high school had about ten black students who had mostly been recruited for athletics:

Maybe less than five black students in my grade of 120. It sounds bad, but our basketball team got serious, and they started recruiting, so maybe that increased to 10-12. There was a big cohort; our girls basketball team who won State for several years.

The middle school had honors classes into which students could self-select, but competition was fierce. Alexa tried to choose all honors classes, but because she was a new student, the school administration exhibited reluctance to allow her to enroll in the
honors classes. Alexa’s attorney mother, always a strong advocate, succeeded in persuading the school administration to allow her daughter to enroll in all honors courses. These classes motivated Alexa because students wielded choice over content and product. For example, Alexa fondly recalled an English project in which students “partnered with the daughters of the American revolution - we could write about anything.” Alexa also valued extra credit projects which offered full choice of the deliverable. According to Alexa, “I liked it [choice], I think I didn't like ridiculous constraints or feeling like things are unnecessarily constrained.” In middle school, befriending a cohort of advanced friends became more important for Alexa:

I think it [choice in learning] for me and my kind of cohort of friends who were like advanced, we would always just push each other to do more, so I think it was fun to be like competitive and do stuff.

Alexa added that this cohort of peers whom she continued with in high school is still her close group of friends.

Alexa described her high school—the continuation of middle school - as a wealthy school purportedly focused on the “whole student”, with substantial parent involvement. On paper, the school had a community service requirement. In practice, however, “many students faked it”. Parents, faculty, staff, and students were hyper focused on the college-bound objectives of all the students. Alexa recalled that, ironically, the school had no gifted programming. Moreover, Alexa does not recall any differentiation by teachers in classes in terms of content, process, or product. In fact, Alexa reported having frequently experienced boredom in class throughout high school. Alexa described three learning strategies that helped her succeed in school. First, listened carefully in class and took
notes, “I took notes, but I never really looked back at them.” Secondly, she studied with others, “I think, working with others, seeing what other people know that I might have missed, what they think is important and incorporating it. I was very friend-dependent growing up.” Finally, her main strategy was using tests as practice. Sometimes, Alexa treated the first exam in a course as a practice test. She admits that getting 60% on a first test in a class, especially math, may have initially given teachers the wrong impression of her abilities. However, Alexa enjoyed studying “what she had done wrong”, and the low grade always challenged her to do better. Alexa would “play games with herself” by first getting a low grade, only to raise it later.

Socially, Alexa was part of the “nerd” group and never felt pressure to hide her intelligence from peers:

I think it’s interesting, as I never felt peer pressure not to get an A or do well in school, but I definitely felt peer pressure not to speak intellectually all the time in conversation, so like the topics of discussion in casual settings, but in the classroom, it was pretty popular to be good at school.

Alexa did feel the need to hide her intelligence in social situations, especially amongst people who she perceived as “less intelligent” because she felt a sense of humility - not wanting to brag or make others feel inferior. Alexa reports that she personally did not experience imposter syndrome in high school. However, other people did not have high expectations for her, even after she was identified as gifted; she wondered if her race and gender factored into their low expectations. Alexa consistently held high expectations for herself and always aspired to challenge herself:
I did feel as though people have very low expectations of me all the time and I don't know how gender or race-based that was, but I would say that after like second grade I took advanced classes, but it didn't seem like anyone wanted me to perform to the level I expected myself to perform.

As a clarification of this observation, Alexa told the story of a male math teacher who did not recommend her to skip AP Calculus AB to BC because he did not think she was a serious student, despite having earned an A in the class. The teacher had recommended that all the other students with A grade to skip AP Calculus AB. Alexa self-advocated to enroll directly in AP Calculus BC, as she felt she deserved:

I remember, just like getting him to do it, but it took a decent amount of like me following up with him and raising my hand in class more and stuff like that. But then I was able to take [AP Calculus] BC my junior year of high school and then take multi-variable virtually. But I remember kind of thinking that was weird that he didn't do it [automatically recommend her along with the other students] himself.

Alexa felt that the math teacher’s behavior stemmed from her being the only black student in his class. Delving deeper, Alexa further hypothesized that perhaps she did not present as a “serious” math student due to her busy soccer schedule; she did not come in for extra help as other “serious” students did. Laughing, Alexa added that she did not actually need extra help with the content.

So long as she was performing academically at the top of the school, Alexa preferred to use any extra time on extracurriculars. She participated in sports (soccer and golf), served on the school community service board, founded the school’s Black Student
Union, and acted as campaign manager for friends who were running for Student Council office. Alexa was also active in and served as the president of the school’s National Honor Society chapter.

I think that maybe virtual school taught me this, but I think I realized that as long as I was at the highest level the school offered, I could do more, do other things… I valued like a challenge… but I wasn't pushing myself to the hardest thing I could at the moment.

Choosing to spend her time on extracurriculars meant that Alexa did not feel the need to ask teachers for more varied or challenging content. She felt satisfied with earning excellent grades in the courses as they were designed.

The summer after her junior year of high school, she attended an innovative summer program at [name of university] for people from underrepresented backgrounds who consider applying to the university. The free six-month program included several modules: an online STEM course in spring, an on-campus program in summer, and an online peer group in fall during the application cycle. This formative experience was the first time that Alexa was surrounded by people who look and think like her:

Okay um I met a lot - it's like mostly a minority program - and I met a bunch of black students and that was my first time being surrounded by people who look like me who are gifted. But I do think that that was a turning point for me… I don't think that everyone there was gifted, but it was kind of the same purpose to me.
Alexa chose to attend this elite, private, technical university in the Northeast based on her summer experience. She is currently majoring in Mechanical Engineering with an emphasis on product development, “with strong humanities pull to Black Studies.”

Alexa has experienced a smooth transition from high school to university. She used the word “prepared” to describe her transition. In the spirit of preparing students for college, Alexa’s high school teachers often referred to college expectations, and how to complete assignments in college. She had taken rigorous math classes; and she had experience with necessary academic tasks such as homework cohorts, group projects, and problem-solving tasks—all of which she immediately needed at the university. She reflected that being gifted has helped her transition to college in that she is able to keep up with rigor and still have time for work-life balance (“extracurriculars and having fun”). Alexa derives self-validation from her extracurricular activities at the university: soccer, activism, and leadership in student organizations. Her activism in high school helped her prepare for activism and leadership roles in student government at [name of university]. Alexa learned how to change policies in high school which gave her an appreciation and empathy for the administration’s position and the complexity of issues. As she put it, “solutions are not always a straight line.” Her understanding of the complexity of government and activism taught her importance of empathy for stakeholders and collaboration with decision makers.

According to Alexa’s experience, the university has no specific services for gifted students, but many services are designed to help all students including gifted students such as choice in grading modality and the emphasis on pursuing multiple areas of
interest simultaneously. Alexa has had positive experiences with pedagogy that gave free choice, including hands-on research, project-based courses. For example, Alexa was motivated by a class on slavery which focused on a research paper based on student-selected topics with unrestricted access to historical documents in the archives to “find” topics. She also prefers classes that allow for students to collaborate. Conversely, Alexa has had negative experiences with constrained class assignments that are prescriptive in math and physics. While Alexa was not bullied, at the university she experienced microaggressions based on race (racial slurs) and gender. Even some professors made comments about “don’t judge a book by its cover” because “stunning” (referring to physical appearance) women can also be smart. Alexa was shocked by a few occurrences of being ignored by all white male team members, and professors helping tables of male students before female students. Her resilience and self-confidence were not shaken. Alexa just saw them as having the problem, not her. She has only experienced the feeling of being an “imposter” in specific classes that are not her strength, such as physics. She has taken advantage of flexible grading modalities in the time of the pandemic in which 60% qualifies as a passing grade. Alexa only aspires to pass classes—while many students spend 10+ hours per week per class, she spends about three hours per week per class. She relies on study groups and cramming before tests to pass. Alexa carefully stressed in the interview that her cramming sessions are planned, not a symptom of poor time management.

As in high school, Alexa prefers to use time she “saves” from not trying to get A’s to differentiate her life experiences—soccer, activism (Black Student Alliance) and
serving as student government president. She explains that she prefers to put her energy and bandwidth towards what she is good at, instead of trying to spread herself too thin.

I’ve seen times, where I knew more work would have made it beneficial for me, but I wasn’t willing to put in the work because I wasn’t naturally gifted in those things… I’m definitely willing to put in the work to make sure it's good if I have a natural inclination and ability to succeed more than others. But usually if my skills aren't naturally better than others, I don't think it's worth it to put in the work there.

Alexa further explained that effort/confidence becomes a cycle: she wants to put in effort in areas that she already has confidence; that effort usually increases her confidence, which makes her want to put in more effort.

When asked about her gifted identity, she quickly acknowledged that being gifted is important to her. She definitely feels gifted or different from others in how she processes information and speed that she learns; being gifted is part of her identity.

I think, to me, my understanding of being identified as gifted means that at an early age, you have shown an ability to grasp understand information grasp and understanding of things quickly when given information.

Even though she thinks of herself as gifted, she is careful when/if she talks about the experience because she does not want to seem arrogant. When specifically asked about her gifted traits, Alexa, she says that in addition to learning and being able to synthesize information quickly, she is motivated by challenging herself, rather than the expectations of others. She thinks she is an empathetic person, but she does not necessarily associate
that with being gifted. Alexa credits her mother, a single mother and attorney, with being a strong, positive influence in her life: “my mom was actually labeled as gifted too, so I think, because of that she was very helpful on my journey.” Her mother helped Alexa learn to advocate for herself. Alexa is about to graduate with her degree in Mechanical Engineering; in the near-term she will be working as a consultant. In the future, she plans to attend law school to continue her activism on a professional level.

Christina

Christina was extremely voluble on the subject of her gifted journey. Vulnerably sharing her K-13 educational experiences; her interviews clocked over three hours—well more than the target two hours. She had clearly reflected on her experiences before the first interview and had organized her thoughts into a narrative of her life. At both interviews she took charge, requesting to “just tell my truth” in her own way. She wanted the list of questions read to her up front, so she could weave her answers into her narrative, if she missed any of the questions the researcher would have the opportunity at the end of the interview to ask those questions. Both her process and product were fascinating to witness.

For elementary through secondary, Christina attended school in a Large, urban, public school district in the Rocky Mountain region. She took gifted test in 2nd grade and was not identified, but her mom was not convinced and had her take the test again in 3rd grade and she was identified. Number logic and math came naturally and easy, and she
was two grade levels ahead in reading. She was often asked to help twice exceptional classmate in reading which she liked. School did not have funding for organized GT program, but a GT parent (one of Christina’s earliest mentors) volunteered to mentor GT students on individual research projects. One project Christina remembers choosing to make was a political party poster because her mom was involved in political campaigns and brought Christina along to political marches and rallies. Since being identified, Christina has been super-involved in GT education and has purposefully facilitated her involvement. Even today, she still volunteers in elementary reading partnerships to help students learn to read.

Her middle school was an IB school with an international focus—still no specified gifted classes. However, Christina discovered extracurricular activities with “started popping up” so she “rolled into” them. One of them was National History Day which tapped into both her competitiveness and creativity. She joined many other clubs and competitions, thrived on hands-on projects such as CAD designing in architecture class.

My school, it was fairly new I don't I don't think my school was equipped to start understanding what GT education was yet. They knew of it, but they didn't know how to integrate into the classroom.

Extracurriculars were an outlet for Christina’s extra energy and fulfilled her curiosity: “I added on the extra amount of work on those projects because that was my way of basically out putting all the energy that I had, all the extra energy that I had” She participate in the National History Day competition, an Architectural Design competition, and Link Crew Leadership Club. Raised be a single mom, Christina turned to many
mentors in school to help her—adults who were sponsoring the clubs, Rotary international mentors, etc. She actively sought out mentors in every activity.

Much of Christina’s story was punctuated with trauma including her parents’ toxic divorce, the poverty she has always experienced, food insecurity, the fear of going outside at night, fear of the “cops” because she is a woman of color, a tragic car accident, and more.

I grew up poor really for like my mom was a single mom in [city] working three to four jobs. With kids. With no child support or help and basically no support system, outside of my ability. So, as soon as I could um, like as soon as I could I got a job, I helped us, I started to pay rent and utilities. Resilient, Christina learned to advocate for herself; her mother was a fierce advocate from which Christina learned to speak up for herself and seek out mentors to help her navigate systems.

Like most of my mentor relationships level of involvement was as a result of me fostering that. I started that I kept in communication with them. I have reached out to them and networking even now to still meet up... Like all of these people were as a result, like all their involvement with my life and my giftedness was because I wanted to learn something from them and I knew that I needed to learn something from them, but I didn't know what, but I knew that by surrounding myself with them, that would be that's how I get to a place that needed to be. She credits her intelligence and gifted traits with helping her find a path out of her traumatic childhood.
Christina attended the local, public high school which had AP classes, but no gifted programming. She does not recall any differentiation by teachers in classes in terms of content, process, or product, beyond getting to choose some writing topics in Language Arts. Freshman year was pivotal for her. She had intended to jump into as many clubs and activities as possible, especially softball, but she had an unfortunate injury from a car accident and was on crutches the first half of the year. She pulled way back from extracurriculars, except for volunteering, and took some time to focus on herself. She spent time exploring who she was and wanted to be. She came out as gay and leaned into that identity.

I got straight A's. I did volunteer, that's basically it. I did like a little bit of self-exploration, because I was also coming out as gay during this year, like, I was just trying to find out who I was in that identity, so like I did theater for a little while - not my thing, not a theater kid.

At end of freshman year, she started to join more extracurriculars again such as a community service trip to Costa Rica (she was raised bilingual Spanish/English). In her sophomore year, she recalled “I hit the ground running. I needed things to do, I can't sleepwalk like through my freshman year anymore.” She was also drawn to the ROTC program at her school in part to understand her absent father.

Just me wondering why he left and why he became the abusive person that he was in the main reason that he was, and I attributed a lot of that to him being in the military um, so I had a deep dislike for military like everything related to it for a really long time but. There was an ROTC program at my high school, and I
thought that if I were to experience a small section of what it was like to be in the military, I would be able to understand part of my dad that I didn't understand. Christina’s career in ROTC was extremely positive; she loved the discipline and the rules. Her role in ROTC grew with her taking on progressively more leadership responsibility, culminating in her being promoted to Executive Officer (2\textsuperscript{nd} in command) of the district.

Another seminal moment came in 10\textsuperscript{th} grade when she serendipitously saw a school flyer for a GT info session with pizza. After many years with no formal GT programming and no GT community, Christina walked into a classroom full of pizza and GT students at her high school. More importantly, the district GT coordinator was talking about what being gifted meant. He wanted to foster a GT community in her high school—the largest, most diverse school in the district. Christina did not know it at the time, but this new mentor would have a profound positive effect on Christina’s self-awareness and the trajectory of her education. For Christina, the district GT coordinator helped her understand the characteristics of her giftedness and how gifted students need differentiation in education. Christina joined a small group of gifted students from the district who became involved in gifted education advocacy. They traveled across the state talking with teachers, parents, and administrators about their experiences. This activity was extremely fulfilling for Christina as she felt valued and heard. Out of this grew a local podcast by gifted students “spotlighting different educational, systemic, political, and social issues—or just things we were passionate about. And we had student and
college guests come in and talk about these topics.” Her experiences with GT advocacy not only enriched her own self-awareness, but also gave her voice an outlet.

Christina’s transition to the university was overshadowed by another distressing event spurred on by the pandemic. She experienced some trauma at home which necessitated her moving out early to first stay with friends, and then move into a dorm on campus. Luckily, the foundation that awarded her a full scholarship also has a strong support community for its scholars. Majoring in International Studies, Christina is attending a medium-sized, private university in her hometown. In her narrative, Christina barely touched upon her experiences in her high school and university classes. When prodded, she pointed out that busy work in high school was frustrating and she often asked teachers to be released from such useless tasks. “I hate busy work! I hated it so much in high school, like so much so, that I would talk to my teachers and make my case about why I shouldn’t be doing it because I hated it so much.” In contrast, she emphatically “loves” her university classes. Because she naturally seeks out mentors, she appreciates the accessibility of professors at her private university—professors are available and easy to talk to. Furthermore, the small classes facilitate collaborative learning with peers. The course pacing is positively faster in a 10-week quarter system as opposed to the slow 15-week semesters in high school. Christina loves feeling more challenged academically than ever before; every quarter, she takes the maximum credits allowed to “reach her full potential”.

Every time I’ve taken a class and every time I step into the classroom, and I step out of the classroom I’m reminded that I made the right decision - not only for my
major but for my school. Like I always feel better walking out of class than when I walked in. Sometimes in the morning (I’m not a morning person) like sometimes I’m like really, really dreading it, like getting to the class, but I always walk out, and I like, I love it more than I wanted.

Imposter syndrome does not resonate with her at all, neither in high school nor at the university. In fact, Christina has a strong sense of gifted identity “I am absolutely gifted every day”. She recounted a fascinating analogy about giftedness that her GT coordinator explained in high school:

GT kids are not like everybody else, not in the sense that they’re better or that they deserve more or whatnot, but that we just think differently. And then he made this analogy that just stuck with me through the entirety of my experience - he was explaining the brains of GT kids as a Ferrari compared to like the Ford brains that are everybody else's. You can have brains like Ford cars that are reliable and like heavy duty. But GT kids’ brains work like a Ferrari, just like in fast mode all the time, but not every story is the same as different types of engines, so he just made this analogy, I was like Ferrari! Ferrari brain! that makes sense to me. It made me feel valued.

Throughout her narrative, she showed traits of being a perfectionist, competitive, social, creative, and driven. Her strong sense of empathy shines through in so many examples, such as her co-parenting her younger sibling, volunteering to help young children learn to read, advocating for the needs of gifted learners, and choosing friends dissimilar to her to better understand their life experiences. High expectations for herself are her primary
motivator in all endeavors: “my biggest fear is not acknowledging and not reaching my potential - like I’m not tapping into that. So, if I know I can do more, and I know that I’m not putting my fullest into it, it doesn't make me feel good.” Christina views her giftedness as a path to a better education, especially her ability to get a fully-funded higher education.

Because my number one goal since I was in like in middle school was that I would go to college, but I wouldn't have to pay for it. So, everything I did throughout high school was so that I could get a scholarship to go to college for free, and I did it.

Full of lengthy anecdotes and details, Christina’s story of giftedness centered around three themes: positive relationships with mentors, full engagement in extracurricular activities, and resilience to traumatic life events.

**Claire**

Identified as gifted in language arts in 2nd grade, quiet and optimistic Claire was only offered minimal gifted language arts classes in elementary school. She attended a rural, public middle school in the Rocky Mountain region where her experiences with gifted programming were extremely positive. She considers herself lucky that her parents used “school choice” to place her in a school which had an amazing Talented and Gifted (TAG) coordinator. Claire avidly described four unique programs for gifted...
students at her middle school. First, the TAG coordinator taught a literacy course (reading Melville, Austen, etc.) for all the gifted students:

We got pulled out into that class and then we were together for all three years, whereas everyone else was switching classes, every year. So, it was a really deep community there and then pretty much everyone from that middle school fed into my high school, and so we all knew each other. We all ended up in the same classes, so we just kept going.

Second, the TAG coordinator ran afterschool clubs everyday specifically for gifted students.

Three or four clubs so basically every day after school there was gifted enrichment programs also so there was Community through that as well. In middle school, there was a board game club, photography club, A bridge club, and then a chess. I loved bridge. I still play bridge with that teacher from middle school and then two of my other friends that were also in that program for middle school; we still play like to this day.

Third, the school partnered with the nearby high school on a gifted peer mentorship program in which gifted high school students were matched in groups (3+3) with gifted middle school students.

It was advice about high school clubs, and honors and AP classes. A lot of it was focused on how to balance everything in a healthy way, because as TAG students, a lot of us tended to be very much overachievers. So, the mentoring kind of focused on how to take challenging classes, but not too many; and how do you
choose clubs, but not too many; and how to get all of that to balance out. It was a
group of three middle schoolers and three high schoolers, not one-to-one. It
fostered friendships.

The mentorship had a durable effect on Claire who participated for five years, first as a
middle-schooler, and later as a mentor. Fourth, in the TAG program, professional women
in STEM fields came to the school to speak about their daily work in hopes of inspiring
girls to study STEM subjects. The efforts of the TAG coordinator were successful in
creating a strong, supportive community of gifted students; Claire credits her
relationships with her peers and the caring support of the TAG coordinator with her
social stability in both middle and high school.

In the medium-sized, rural, public high school that Claire attended, the curriculum
targeted college-bound students (the other two high schools in the district focused on
vocational training); yet gifted programming—classes or clubs - was not specifically
offered. Through the TAG coordinator, the school did arrange an annual fieldtrip to visit
the State Legislature:

The big one we did every year was going to the [State] Association of Gifted and
talented annual lobbying day at the Capitol. I loved it! I got to shadow legislators
through that, which was so cool. I went for the first time in eighth grade because
again they collaborate with the middle school, so I went in eighth grade and then
every year, except my senior year because of COVID they canceled it. So really
cool opportunity. I met a lot of really, really interesting people there.
In addition to the field trips, Claire reflected on two other successful learning conditions in high school: higher level classes with peers and independent research projects. Along with her gifted peers, she took many AP classes, even though, according to Claire, those classes were mainly focused on preparing for the exams.

Being able to take those higher-level classes… because it could move really quickly. I was with other people who are willing to kind of go deeper and pursue that information, so then we're all bouncing off each other and it's a lot more engaging for me and for everyone involved, I think. Plus, we built that social community there as well, so that was really important.

Community was very important to Claire, but she also preferred working independently in which she had agency over content, process, and product. “I was always a big fan of like independent research projects when I could really take it in whatever direction I wanted and go as deep as I wanted, those were always my favorites.” Claire reiterated that working independently and being allowed to choose topics for research were important and motivating aspects for learning. Claire does not recall any differentiation by teachers in classes in terms of content, process, or product; furthermore, she did not ask for teachers to for special differentiation. The biggest challenge Claire faced in class was boredom:

Sometimes not getting the like attention that I needed, or I would just kind of sit in the corner and be done with my work and everyone's still going, and so I just kind of like sit there and twiddle my thumbs like I could be doing a lot more with this time, but there's just not enough resources.
Despite being bored, Claire did not feel comfortable asking a teacher for “special” help because she did not want to divert any teacher’s time away from struggling students:

I think teachers tried to help, but it was just hard, because sometimes they would really overload our classes in high school and so it's 30 or 35 students. Teachers don't have bandwidth to pay attention to everyone and address everyone's needs. I think, at least for me, I’m comfortable to sit back if someone else needs help more from a teacher; if they're struggling with something, I’d rather they get that attention because I know what's going on and I don't need it per se.

When asked about groupings, Claire remembered that teachers would usually determine groups in order to mix advanced students with struggling students. Perfectionist Claire did not particularly care for this practice which inevitably meant more work for her—either she had to teach other group members or just do the work herself. In general, Claire experienced both positive and negative aspects of learning in her high school.

Socially, Claire had strong gifted support group built on the foundation of the middle school mentoring program. The gifted cohort remained close and supported each other both academically and with balance of work/fun.

I think high school was just hard like balancing everything it was a lot of extracurriculars and classes and everything, but socially I didn't have any issues which is really nice. I know that's not a lot of people's experience.

She participated in multiple extracurriculars in high school including Knowledge Bowl (interdisciplinary academic quiz bowl-like competitions), National Honor Society, and community service projects. She also taught Bridge for the middle school club that she
had once benefitted from. Overall, Claire was eager to share details of her positive journey through middle and secondary school. She expressed several times that she understands that not every school district offers opportunities similar to the ones that she benefitted from; her optimism and gratitude were vibrant: “I have so much like respect and love for the TAG program in my district, because it did so much for me.”

Transitioning to the university has gone smoothly for Claire. Double-majoring in Anthropology and Public Policy, she is attending a medium-sized, private university on an urban campus in the Rocky Mountain region. The word she used to describe her transition from high school to university was “overwhelmed” because navigating the onboarding process over the summer was challenging with overlapping information coming from many different sources. Once she arrived on campus and met her fellow first-year students, she found solace and strength in everyone going through the process together. Claire feels being gifted has helped her transition to university because she is persistent in trying to find resources or answers. She also learned to be a strong advocate for herself in K-12 education, which is now an asset at the university:

I’ve had to advocate for myself since I’ve been in elementary school, and so I think I have a lot of practice of standing up for myself and also finding those resources when I need them. And even further, like going to the State Capitol to advocate for gifted education - I think I’ve just had a lot of practice with it on a lot of different levels and so that's been really helpful getting to college.

While the university does not have specific services for gifted students, Claire has found two valuable support groups. First, she has found intellectual peers in the Honors
program, although this program does not provide other logistical or advising support for
her. Second, Claire is the recipient of a prestigious scholarship from a foundation not
affiliated with the university. This foundation has many current and alumni scholars who
provide a powerful, supportive network for its members. Through this network, Claire
has found a collaborative on-campus community of current scholars:

[Foundation] students at university - they were the most helpful, I think, in just
checking in over the summer and connecting me with upperclassmen that can
answer my questions. They helped me with registration and navigating all of the
portals and any questions I have.

Curious to know more and driven to seek more knowledge, Claire engages in multiple
extracurricular activities at the university to supplement her academic classes. Through
the Honors program, she participates in a student led book club—a similar concept to her
middle school Literacy class for gifted students. Claire has also taken up a new sport:
curling, which she admits is surprisingly difficult. Finally, she is volunteering at an on-
campus COVID-19 testing site.

In her university classes, Claire has found a range of pedagogy that can be more
or less appealing. She prefers hands on projects; for example, she described a museum
curation project which increased motivation and her earning was deeper because of the
application to real world scenarios:

Then we're taking that and curating it on this website, and it's just been a really
cool experience, because I never thought I’d get to curate anything in college…it's
really rewarding, I think, because you can see the work that you're doing and the
things that you're learning in class you're taking and then applying to this project.

And, I can also go out into the real world and still see the impacts.

Conversely, she dislikes professors who assign busy work in terms of readings which are not referred to in class. She cited an example of an economics class with readings that were “not related to the curriculum–so it just made it hard for me to keep doing those readings.” Another example of frustration in class is when she does not understand the purpose of the assignment:

Definitely a lot less motivation, when I feel that way because I like to have a reason for everything that I’m doing, especially in school, and if there's not a reason, then I just kind of tend to disengage.

When she does not understand the content in class, Claire is self-reliant with different strategies including using the internet, going to professors’ office hours, or organizing group study sessions with peers.

Being gifted in her K-12 education was an essential part of her experience, but Claire no longer identifies as “gifted” as an adult. Being gifted was important for her because of the community of peers she had in middle and secondary school.

I would say being gifted was important, more than anything, just because of that community. I know I keep bringing it up, but it was like the most defining part of middle and high school for me by far. I’ve also been identified since the second grade, and so it's been very much like a part of my life for a very long time. My parents chose me into my elementary school for gifted education. I chose into middle school for gifted education, so it's been a purposeful part of my life.
However, the “gifted” label—that term used by TAG programming—does not really apply to her now. She does not overtly think of herself as “gifted”; she just is who she is without any labels.

I mean ‘gifted’ is not really a word that I use anymore. Not really an identity that I think of myself having. To me, that kind of ended in high school, but then, then I’m doing this interview and you're like ‘oh you're gifted’ and then, like you know, I didn’t think that way, but it's like making me think about it more… But, I don't know, yeah, so not really.

The process of interviewing in this research study caused her to reflect on what being gifted means. Later in the interview, Claire observed “I feel like I don't know anything about being gifted beyond what it meant in K-12 education so…” she trailed off without finishing her thought.

**Dara**

Initially identified as gifted in 4th grade, gracious and humble Dara attended a small magnet gifted program at a local public elementary school in the Rocky Mountain region. The magnet gifted program was one of four elementary schools in the district with a pod of gifted classrooms. The small classes were comprised of all gifted students with teachers specifically trained in gifted education.
Dara was motivated by project-based learning that allowed for many levels of differentiation in the classroom. Dara loved being part of a strong gifted community where everyone was respected and equal. While the gifted program ended in 6th grade, most of the students attended the same middle school which had advanced math and language arts; most of the gifted students from her elementary magnet school program were in those classes which provided continuity of gifted community started in elementary school. The Middle school did not have a GT coordinator; however, the parents of the gifted kids continued to organize unofficial activities—get togethers.

In her large, suburban, public high school, gifted programming was not offered. She chose activities and classes to build her resume for college applications. Her primary activity was playing cello in the school orchestra, which was competitive and time consuming. Her strong primary support group was her gifted peers. They intentionally chose classes together. In preparation for college, they chose many AP classes, which Dara feels provided her with rigor: “I think my AP classes, though, did a great job of making the work hard enough but not impossible and keeping me challenged and entertained.” One exceptional class which offered differentiation for the students was her art class:

I think art gave me a lot of freedom and independence to work on a project at my own pace, while also being something that I was really interested in. I really like drawing faces when I focus on my faces and then combine it with my passion for music and the instruments that was my portfolio.
One of the main challenges for her in high school was boredom in classes with many repetitions of content and slow pacing.

In math and our math classes are all always a lot of problems set usually I’d be able to grasp the concepts before you know the problems that was over…and get really bored. The same problems over and over, applying same concepts and I’d already figured it all out.

She also disliked teachers lingering “forever” over slides with no new content. She took minimal notes - only writing down new information - even though teachers directed her to take extensive notes. In one class, AP Macro Economics, she along with four other gifted students asked the teacher for differentiation in terms of process. The class pace was very slow, and the students were bored. They asked and were given permission to take the remaining quarter of the class as an independent study. They were allowed to study together in the library where they covered the content together, completed the daily worksheet, and took the tests–without a teacher. They were able to complete the tasks quickly, so they could move on to homework for other classes.

Overall, Dara perceived her high school experience to be efficacious and feels it prepared her for college. The rigor of the AP classes helped her become a skilled writer and gave her practice in reading many pages of required reading per week. She honed her study and time management skills:

I think overall it was really positive. I felt like, even if the school wasn't there to push me and be better, a lot of that pushed me into myself. I was okay with that high school really helps me to form drive as an independent and motivation to do
well, on my own, and do the things that are challenging to me, even if somebody
wasn't pushing me into it. And so...I didn't always feel stressed to meet the
standards. I could take breaks; I could find things that I enjoyed without feeling
like I was going to fail out of the program.

Most importantly, she feels she learned to advocate for herself and take responsibility for
her own learning.

Dara’s transition to college was positive. She attended a small, private liberal arts
college in the Rocky Mountain region; majoring in Molecular Biology with a minor in
Chemistry, she graduated early in 3.5 years. The word she used to describe her transition
from high school to college was “looking”:

I think I came to college not really understanding exactly what I wanted to do. I
had this idea that okay I’m probably going to be a doctor. You know, I think this
is what I’m interested in. Going into college, I didn't know anybody else; nobody
else from home and high school went to [college name] in my year. Starting
completely fresh, getting to, you know, pick all of my classes - it wasn't like the
set track like in high school where you know if you took this class, you know
getting to choose exactly what I wanted to do. And then having to keep myself
accountable for everything that I did really gives me a sense of what exactly I
wanted to be and want to enjoy it and what I didn't enjoy.

The college has an intensive block class schedule in which students take only one class at
a time: one class for 3.5 weeks, followed by a study day, a final exam day, and then a
one-week vacation. Students took eight classes per academic year, and each course was
concentrated into 3.5 weeks. This model built a strong class community for those four weeks. Dara highly valued the small, intense classes where she felt comfortable interacting with peers and professors; the positive atmosphere encouraged her to ask questions instead of just trying to “figure it out on her own later”. The college did not have specific services for gifted students; she attributes this to the fact that it is a selective college, and she perceived that most of the students may have been gifted. Strong community (students and faculty) of whom she perceived as gifted students supported her on her academic and social journey at college.

[community was] incredibly important, I felt like I always had like a good academic support system within my department and within a major all of my professors were very interested in me as a person, and what I wanted to do.

Strong female role models in her major, as well has her physician mother, empowered her to continue in science, leading to her medical school application.

Dara was excited to describe the differentiation in her college classes in terms of content and product; she felt empowered by the choices and the flexibility in the block system. She reflected that she was more motivated to go outside the expectations because she was engaged in the topic; her curiosity was tapped.

I had lots of options - lots of project options. going back to my freshman seminar, we had to write a 10-page paper by the end of the class. We chose the topic way beforehand, and then went on a field trip to a location, like a secondary campus site in [location] and we got to look at our topics in the context of that town area. In my nutrition class, every week we got to pick a different disease or topic that
had to do with what we've studied that week and choose to do a presentation or some kind of paper. Back to that senior capstone class, we got to pick the final for those classes: we had to teach a three-hour presentation or give a three-hour presentation basically to teach a class session on the topic we picked. I got to do a whole lesson plan on the topic of my choice.

Professors gave choice of topics on most “big” projects, which resulted in Dara feeling invested in assignments because she could choose what she was interested in. One of the biggest challenges in classes centered around professors assigning a lot of reading and then not discussing it in class. In her first year, Dara stayed up late reading every page, annotating, taking notes, and then sometimes the professor wouldn’t even discuss the reading in class. In later years, she put in less effort by just skimming and scanning assigned readings. Another frustration she reported related to student support services; she felt career development services were lacking:

So, one of the challenges was with my MED school applications. I never quite felt like I would be supported in that application process. And I felt like I was kind of striking out on my own and doing the best that I could, without being you know, without having someone to tell me, this is what you need to do, what you need to expect. I felt very much alone in that process.

Overall, Dara’s description of her college classes was much more positive than negative. She supplemented her academic courses with many extracurricular activities including orchestra, pit crew for college theater, and community engagement club (organizing volunteer opportunities for fellow students). She reported that these pursuits
greatly added to her college experience and made her feel “alive” rather than just studying. Her extracurricular activities were based on her passions, and helped her realize that she really did want to go into medicine to be involved with communities and people.

When asked about her gifted identity, Dara reiterated several times that she is uncomfortable with “gifted” label which feels “arrogant” or elitist. She feels she is smart and talented but does not want to be seen as better than others.

I think gifted kind of implies a comparison between me and others, and I think that's part of why it makes me a little bit uncomfortable almost to call myself that. I feel like that means I’m saying that I’m better than somebody else, or you know, saying that I, you know, am different in a positive way and that just doesn't only strike me as a good way to identify. That makes me feel very arrogant and, you know, not humble.

Dara was quick to defend that she does not feel like an imposter–she has always been confident and able to adapt to new situations. Even in her first year of college, when she recognized the abilities of others, she still was capable.

My first class was Intro Molecular Biology. You know, that was like my turning point, I was like okay wow I’m small fish in a big pond now and not top my class, this is not going to be as easy as high school. But I think I came out of it alive [laughing]. I came out of it not that overwhelmed.

Avoiding the label “gifted”, she characterized herself as naturally curious, talented in art and music, empathetic to the plight of others, wanting to alleviate injustice in the world, humble, and extremely optimistic.
Identified as gifted in 3rd grade, calm and thoughtful Elisabeth attended a medium-sized, suburban public elementary school in the Midwest. With about 100 students per grade, about six students were pulled out of regular classes for advanced math and reading; Elisabeth was the only girl. She remembers the first day, the six students were sent across the hall for math and reading, and they were introduced to their gifted and talented teacher—and Elisabeth did not know what GT meant or why she was there. She did not have positive experiences in elementary school with gifted education because she felt like an outsider; the program did not have a strong sense of gifted community.

I felt like an outsider because, especially in the math class, where I was the only girl, I remember, like the boys like kind of at times jokingly or maybe actually kind of like excluding me and. And so, like I spent so much time with those kids because were then even outside of those like gifted talented classes, we were often in the same grade classes, you know, we would be like put together, I didn't like it at the time…but I don't have a lot of memories of us being super like supportive of each other.

As she continued through high school with the same group; they were friends, but not a close supportive group.
At the larger middle school, Elisabeth continued in accelerated math, and a GT coordinator taught Language Arts. She recalls that students needed to retest in middle school to be in the accelerated math and GT Language Arts classes. The need to repeatedly test to stay in the advanced classes made her unsure of whether she was really gifted. She associated passing tests with being in the advanced math and GT Language Arts.

I think I maintained similar scores, so I think I was always in GT classes, but I never knew whether I was like I was permanently like labeled GT or whether it was like something that was dependent on my year-to-year performance. But yeah, so I think that in sixth grade I was scared that maybe this is last time that I would be a gifted kid. Looking back now, she realizes that by retesting perhaps the school was just giving other students the opportunity to join the advanced classes. Yet, at the time and still now, she is perplexed as to why she had to retest.

Elisabeth recounted an insightful story of her how her confidence morphed through the years from elementary school to high school. She describes elementary school as “fun and effortless” as school was a wonderful place to be; she did well on standardized tests, her parents were pleased with her progress, and schoolwork was easy. In middle school, her parents started to talk about going to college, and how classes and test scores were so important for applying to college. Elisabeth still had a “high-confidence mindset” but “Things weren't quite as just like effortless.” In high school, she
started to lose her confidence, specifically in her math classes. The content was “less intuitive” and she was not understanding the content as quickly as in middle school.

I realized, I was not, I did not know how to ask for help, I was like really I have a lot of shame about like not effortlessly picking things up, and I remember kind of like for me, I think, reading in English and other subjects kind of maintain like me feeling confident like I was really successful in them, but I think like math became a place where I really felt kind of embarrassed or just like I’m just not… I had a very fixed mindset of I’m not good at this.

She was in class with the same male students from elementary school; however, in high school the math class had one table of women, whereas in elementary school, she was the only girl in advanced math. While the boys in her high school math class were competitive and bragging about how they were not even studying, Elisabeth was struggling. Elisabeth formed a bond with the other female students in the class whom she felt she could relate to in a way that “I didn't as much feel I had with my male classmates, especially when I was like you know, the only girl.” Her advanced math classes in middle school and into high school continued with about a 4:1 ration of males to females.

I think gender was kind of always something that was, like, We were all in a way, thinking about because we were always kind of I think there was always that thing of like, oh, you know, ‘Just the girls table and answer this’ or you know, there was, like, I think we were kind of all aware of, like the gender dynamics in a way that like you know very young kids are like are totally aware of. But I don't think
like I had a sense of like - I don't really have memories of being treated differently.

Although her confidence waned in her math abilities, Elisabeth reflected that her interest and confidence in reading grew. She wondered if feeling like an outsider in math classes since 2\textsuperscript{nd} grade affected how she felt about math, compared to reading.

The large public high school (grades 10-12) Elisabeth attended was well-sourced in an affluent suburban neighborhood. The school was able to offer almost every AP class, and the aim of the school was on placing students into high level colleges, such as Ivy League schools. Elisabeth scoffed that her school was “a very academically rigorous, competitive place”

The high school environment and definitely this was, I can only speak from my experience at it, but definitely the from, from my perspective, high school then was a lot more of an academically kind of competitive stressful place because there was a lot more emphasis on performance and the grades you're getting and what activities you were doing what school were you going to apply to. When it got to be senior year, it was like really people talking about what colleges are people applying to, what SAT and ACT scores you got, who's like a National Merit Scholar… like things like that.

The high school had no gifted programming. No one–teachers, counselors, administrators, or students–referred to gifted students anymore. Elisabeth did not know who the other gifted students were, beyond the six students that she knew from her elementary school: “I don't think there was any discussion of gifted talented and school
kind of transitioned more into AP classes.” Elisabeth does not recall any differentiation by teachers in classes in terms of content, process, or product, beyond getting to choose some writing topics in humanities classes. School and students were focused on achieving high AP scores for college applications; AP classes were very prescribed with a set curriculum for exams. Elisabeth’s main frustration in her high school classes is that she often wanted content to move at a faster pace: “I was very participatory, and I think it was hard for me when things either had to like slow down or the teacher explained more and more.” In terms of successful learning situations, Elisabeth preferred efficiency; for instance, she liked more straightforward project, as opposed to open ended projects. “I just want someone to tell me exactly what they need me to do, and I’ll do it well, but I don’t want you to ask me to like you know to whatev\r\r\r or I want. I don’t have time to be creative in classes.” She also Preferred collaboration over working alone. Whereas she felt could learn about people and content in groupwork, when she was given solitary work, such a lesson packet to fill out, she would speed through the solo task as quickly as possible because she did not see “busy work” as a learning opportunity.

Part of the reason Elisabeth valued efficiency and speed in her classwork is because she sought time for her extracurricular activities. Elisabeth participated in the triad of A’s: athletics (primarily soccer, badminton, and Nordic skiing), art (piano lessons, tuba in marching band), and academics (French Club, Mock UN, Academic Decathlon). For her, these activities provided “important sources of other types of energy output, and leadership skills and doing things that were like a little bit more fun and
social - Learning new skills, mastering them and teaching other people – but not for a grade. I think those were meaningful experiences for me.”

In her competitive, achievement oriented high school, Elisabeth dedicated herself to earning good grades and beautifying her college resume with many activities, but the experience left her physically and mentally exhausted.

At the end of high school, I had just been through a very intense Just you know, like very intense many years of school being really important to me and being a huge part of my life, and I think. When I look back, I don't think at the time, I really understood this. But when I look back, I think, like, I really needed a break to have like a little bit more of a sense of myself and who I was.

Elisabeth decided to take gap year between her US high school graduation and first year of college to be a high school exchange student in South Korea. She lived with a family and attended a Korean high school. The experience was low stakes because she had already been accepted to college in the US which she had deferred for a year. She enjoyed the low stress academic experience, or rather a different kind of stress from her achievement focused US high school experience.

My gap year - getting to go, you know, to experience a new place and meet a lot of new people and then also to be like really taking care of myself in a way that I never had to before. I was obviously lucky that, like my host families were super generous and taking care of me, but then you know I’d never been away from my family in that way, where I was just living much more independently than I had
before. So, I think I learned a lot about myself and matured a lot and got to kind of know myself without the context of academics.

In South Korea, her “good kind of” stress came from learning a new language and exploring a completely different culture. The immersive experience challenged her brain and taught her to interact with a variety of people.

After her pivotal experience in a new culture, Elisabeth enrolled at a small, liberal arts college on the US West Coast to study History. She intentionally chose a “laid back” non-competitive college with small classes and much engagement between students and with faculty. She was not interested in attending a top tier, competitive university that her high school experience had been grooming her for. Meeting many “incredible intelligent people” at college, Elisabeth is so content with her life choice. The word she used to describe her transition was “smooth” because she had had the benefit of maturing during her gap year. She felt that her high school had academically prepared her well for college. The main area of growth for Elisabeth has been “starting to learn to be more critical and learn how to understand really complex ideas—not just regurgitate them, but to really use them and demonstrate my knowledge.” Because the classes are small, students have many opportunities to engage in discussion, which is very positive for Elisabeth as it feeds her natural curiosity and need to deeply explore subjects. She likes students being required to lead class discussions, with the professor adding questions and participating in the discussion. She loves “engaging with academic work and just understanding yourself as in conversation with the text.” The biggest frustration she met in her college
classes was having virtual classes for 1.5 years during the pandemic; she felt intellectually disconnected from her professors and peers.

Reflecting back to the first year of college, perfectionist Elisabeth reports she did have feelings of being an imposter, but the feelings were different from how she felt in high school “losing her math abilities.” In her college classrooms, sometimes she perceived other students were more intelligent or better at critical analyzing content.

I would see other students who would participate way more, seem to have way more background knowledge, seem to understand the same content we've both consumed way better, I think I definitely had some imposter syndrome. And moments like that, where I think part of me also felt like oh, I should be like a student that understands it, but I don't think I am right now.

This feeling did not persist throughout college as she learned to stop comparing herself to others and just be proud of her own abilities.

When asked about her gifted identity, Elisabeth bluntly stated that being gifted is not important to her now. As a child, she felt special because she was identified as gifted, which for her meant that she was good on standardized assessments that test for certain aptitudes. Being intelligent was an important part of her identity. Elisabeth reflects, “as I got older and kind of experienced the school system and have now been exposed to more things, I think now I don't think of… I guess I just don't assign that bucket importance anymore. I think of myself in a more nuanced way now.” For Elisabeth, her identity of being gifted meant being “smarter than others”. However, she now sees her abilities in a broader context.
Ellie

Identified as gifted in 2nd grade, soft-spoken and resilient Ellie attended a small magnet gifted program at a local public elementary school in the Rocky Mountain region. The small classes were comprised of all gifted students with teachers specifically trained in gifted education. Ellie was motivated by the hands-on learning that allowed for many levels of differentiation in the classroom—planning, obtaining supplies, building, testing, refining, implementing (volcanos, set design, etc.). Reflecting back on her successful time in the gifted elementary program, she realizes now that aspects of the gifted classroom were also well adapted for neuro diverse students:

So, I have ADHD, the hyperactive and attentive combination type, and I didn't know at the time, but a lot of the things that were implemented into the GT program were helping with that, before I even realized, like the yoga balls.

According to Ellie, being around people, both gifted students and gifted teachers, who have the “same sort of mental structure was really nice to be able to relate to.” She especially appreciated the strong support community for her giftedness and neurodiversity.

In her large, urban, public high school, gifted programming was not offered, but she did need to sporadically fill out an Advanced Learning Plan. Ellie does not recall any
differentiation by teachers in classes in terms of content, process, or product; however, she did occasionally ask for teachers to alter an assignment for her in terms of the deliverable or ask for due date extensions. She struggles with test-taking anxiety, so she often found herself in challenging situations in the classroom. “More academically… just the environment, like I remember getting a lot of test anxiety it and there really wasn't a lot of support for how to manage that other than through like my personal connections outside of school.” Ellie reports that she did not experience peer pressure, which she attributes to her shyness and not needing to fit in with social groups. As for successful learning situations in high school, she thrived with teachers who had highly structured classes which promoted a predictable routine for Ellie:

I set up a whole experience for myself, I would start studying like two weeks before a test for these many hours a day, and I would go to the same place and studying the same method. And building in that routine was really helpful for me, and that was also supported by the fact that he was one of the really organized teachers.

Although Ellie’s neurodiversity (ADHD) was undiagnosed in middle school and high school, looking back, she now sees how she was developing learning strategies through trial and error.

Another significant aspect of Ellie’s high school learning experience were her extracurricular activities which unbeknownst to her at the time were suited to accommodating her neurodiversity needs. At school, she found a home in the theater tech department managing props and designing sets.
It’s really a vibrant group of people I would say they're very outgoing and interesting to talk to, so I like the group a lot in terms of the actual job I think I excel with like organizing and managing things, so I enjoyed that. And it sounds bad, but I just enjoy feeling really good at something and I felt like that was something that I excel that.

Outside of school, she found comfort in working as a summer zoo intern, where she interacted with both people and animals by helping with the summer camp for kids and running an interpretation station for guests. In addition to working with like-minded environmentalists, the zoo program helped her become less shy:

I think it helped me be more outgoing to some extent, because I was very shy at that time, and I had to be like perky and excited to get people interested in the animals. Also, just the skills are so applicable to my area right now. I'm a marine biology major.

Ellie’s love the environment both stems from and inspires her extracurricular adventures in mountain climbing (Kilimanjaro while in high school) and scuba diving. All of these activities are Ellie’s way of controlling her own narrative in learning. She is intentionally differentiating her educational experiences in terms of content, process, and product.

Ellie now attends a large public university with an urban campus on the West Coast of the US and is majoring in Marine Biology. The word she used to describe her transition from high school to college was “unsure” because she started attending the university during the quarantines of COVID-19 pandemic. Classes were online, she had no friends, and was unsure how to navigate university systems (housing, disability
services, food, etc.). One significant hinderance to her education has been the lack of ADHD support, lack of disability services. At this university, all responsibility is on the student to approach professors, negotiate accommodations, and get signature approval. This task can be challenging for a shy first-year student. She suggests adding course modality, learning styles, and assessment style to course description to give students informed choice when registering for classes.

Luckily, Ellie’s first semester was at a smaller, satellite campus on an island with 50 students and a few professors. The program included hands-on marine biology classes, student driven choice of topics (organisms to study), teamwork, and practical skills— which all equated to invested and interested students. Impressionable first-year Ellie was positively influenced by her female marine biology professor who shared research and tried to include students in her research of whales.

Back on the main campus now, Ellie has had several challenging classroom experiences. Firstly, she tells of “difficult, incompetent professors who cultivate competition” in the classroom by curving grades and purposefully making classes hard to fail students. According to Ellie, departments need to weed out students in first two years because upper division class seats are more limited. Secondly, her successful time management skills are fragile in the face of the pandemic; needing to navigate when classes are pivoting to online and adapt to constant changes in course modality due to COVID is challenging for Ellie who thrives on routine. After the bonanza of differentiated learning on the island, she has not experienced any differentiation in her classes on the main campus.
As in high school, Ellie finds joy and social happiness in her extracurricular activities. She has found a weekly social dancing club:

[Dancing] is free joyful physical exercise that I really enjoy, but mostly I love that it's both social and fun. And I enjoyed it so much that I am trying to get my art credits through dancing classes now. So, for next quarter I’m taking an African style dance class.

She is also training for “scientific scuba” which is advanced scuba training for marine biologists. These activities are adding to the completeness of her college experience. She feels that these extra activities sustain and nourish her mental and physical wellness.

When asked about her gifted identity, Ellie perceives that her transition to college has been hindered by being gifted because she is now “average” while some students are more advanced. She does not have a lot of experience being “average” which made her lose self-confidence in her first year. Socially, she is excited to have like-minded peers at the university.

They're so exciting, to be able to just have a sense of unity in casual conversations about like… the potential cures for this disease or, you know, like in a social setting. I think being around people whose minds function similarly to mine creates this this really interesting environment where the conversations are more engaging all the time, obviously. I am really being more present here, as opposed to before.
She adds that she has not experienced feeling the need to hide her intelligence, despite some gender discrimination in science class when she is only or one of few women in the room—when she felt like her ideas/solutions were not taken seriously because she is a woman. She is learning to advocate for herself, inspired by her strong female role models, most notably her mother who is a psychiatrist. Perfectionist Ellie is driven to learn and has a strong sense of justice. Ellie concludes by explaining that giftedness does not define her identity, but it influences how she interacts with the world.

**Izzy**

Identified early in preschool as gifted, Izzy attended a private, urban, K-8th grade school for gifted children in the Rocky Mountain region. All the students in this small, private school were gifted. As Izzy animatedly described her educational experiences at this school, her face was beaming with a smile—“so many fond memories.” The school cultivated a strong, supportive community of parents, teachers, and students.

After the wonderful, supportive environment of her gifted K-8th grade years, Izzy had a shock transitioning to a large public high school where she had few acquaintances. She experienced difficulty finding a community of peers in high school; in fact, Izzy felt peer pressure from other high school girls to not be smart.
I couldn't be as popular if I was smart, like a lot of the girls, like you know, there probably can be beautifully intelligent women but - and there are - but there were moments where I was like, maybe I like I like, I was really conflicted within myself at times.

Academically, she also was challenged understanding the logistics in high school: “I just had no idea where to begin my education in high school so that's something that I definitely struggled with.” At first, she tried to work hard, ask for extra work, get ahead on chapters, etc. After her freshman year, she slowly stopped pushing herself:

I think in freshman year I would say stuff [asking for more from teachers]… but, as I was - like sophomore junior senior - I was like what's the point at that point. I just wanted to finish this class. I think my drive to like to do more, I was like ‘why bother?’ You know I’m enjoying my high school career… I don't really want to push it. But freshman year, I definitely would be like ‘Is there extra credit?’ or like I’d just email and be like ‘Are there more worksheets? Can I practice more?’

Looking back, Izzy reflects that she was experiencing imposter syndrome - she believed she stopped being gifted at the end of 8th grade when she moved from a “gifted” K-8 to a “regular” public high school. She did not think she was smarter than others. Izzy does not remember any specific examples of teacher’s differentiating content, process, or product in high school, which was a massive change for her compared to the supportive wonderland of an all-gifted elementary and middle school.
Izzy attends a large public university in the Rocky Mountain region where she is majoring in Communications with two minors in Sports Media and Leadership. The words she used to describe her transition from high school to college were “overwhelmed”, “lost”, and during the COVID-19 pandemic “displaced”. Graduating high school and transitioning to higher education virtually, when she finally got to campus, she did not know what to do at the university, or how to find her path.

Academically, Izzy felt confident because her high school experiences prepared her well; however, socially she felt overwhelmed, lost, and displaced. Because of the pandemic, the university did not offer the same range of freshman orientation programming, and even Greek life was abbreviated. Izzy feels that being gifted helped her transition to college because she was self-confident in academic abilities; classes were not hard (except math). Compared to high school, she no longer feels the need to hide her intelligence or love of learning because she feels other undergrads around her have similar feelings and a shared goal of studying at university is to learn.

Izzy shared one positive example of differentiation at the university. Firstly, she has a group-interaction communications class that is using a Harvard Business Publishing wildfire mitigation simulation. Each student has a role (ranger, mayor, water supervisor, etc.) and must solve problems together (similar to Young AmeriTowne); this kind of activity is practical and motivating for her. Izzy also had some negative classroom experiences to share. Some of her frustrations come from professors who assign busy work (worksheets, essays, turning in notes) which is demotivating. Her main frustration comes with professors who do not want to teach, are not passionate about the subject, or
do not have good presentation skills (monotone, reading from slide). Similarly, due to the pandemic, many of Izzy’s classes were online in her freshman year. She reported that virtual learning basically shut her down. Usually an engaged, participatory student in-person, online Izzy had no incentive or desire to ask questions. To supplement her formal education, Izzy feels she self-differentiates learning outside of class by skiing, volunteering, choosing meaningful internships, and participating in sorority activities.

Izzy’s main goal in life is to make a difference, to use her skills to have a meaningful impact, evidenced by multiple volunteering activities with non-profits in local communities. In elementary school and middle school, she sang in a regional, professional children’s choir that toured locally and nationally performing at elementary schools in assemblies to help teach singing and dancing. The choir had both professional performances with the city symphony, ballet, and opera, as well as charity performances in the community. The chorale was a non-profit; the children were not paid to sing. In high school, Izzy volunteered 500+ hours at local non-profit philanthropy organization. “Something I want to do just in life is just to give back, and so it really is one of my core values, and so this leadership program allowed me to do that.” At the university, she is continuing to volunteer at a local domestic abuse shelter. She also interns for the university football team administration helping to recruit players. She credits her drive and philanthropy to her parents’ training: “I think my mom and my dad are definitely my inspiration. I value my mom’s leadership and my dad’s volunteering, so I had like 500 plus hours of community service.”
When asked about her gifted identity, Izzy was ambivalent. In the first interview, she said that she knew she was gifted in K-8\textsuperscript{th} grade because she went to a special school for “gifted” children. She also admitted that she did not really know what being “gifted” meant. When she went to high school, Izzy felt she was no longer “gifted” because she was at a regular school. Between the interviews, she reflected on what being gifted means. In the second interview, she responded:

Izzy: I haven't really reflected on myself that much, like I don't identify as gifted. To me, higher education, like after our last meeting, I am just… I’m remembering this. I think I definitely have this dynamic urge to learn. I really enjoy my education and I think that that's something that I would include in identification of being a gifted person. The original, the excitement around learning.

Ann: Do you think of yourself as gifted?

Izzy: Good question. I’m… like honestly, yes and no. Just because I’m… I honestly before our meeting, I would say no. After this, I probably say yes.

Izzy seemed to have a moment of clarity as she was deeply searching for an answer; she was not sure if she identifies as gifted or not. After the interviews Izzy asked for more information and resources about characteristics of giftedness.
For vivacious Jackie, being identified as gifted in elementary school was not consequential in terms of programming. She only remembered that math for gifted students was self-directed and paced. During the classroom math lesson, the Gifted and Talented Education (GATE) students were sent outside with other gifted kids to independently study math under a tree. Jackie loved the ability to set the pacing and socialize with other gifted kids while rest of class was inside with teacher doing math lesson.

My third-grade classroom, which is like the normal third grade classroom that everyone is in, you would go outside, and you would read the textbook by yourself. And you would accelerate at your own pace, like however far you want it to go in this math textbook, you could just keep going, and you have to do like 10 problems per chapter. But it was really great because I could just sit outside and talk to my one friend, and then go through like this math book, so I really enjoyed that.
Jackie was excited to tell this story of early independent learning in which she had agency. Later in the interview, she described similar experiences in high school and university.

In her large, suburban, public high school, gifted programming was not offered. Jackie does not recall any specific differentiation by teachers in classes in terms of content, process, or product. Jackie: “there were advanced math and science classes that you had to test into, but yeah but there was no specific programming for gifted students, it was more like you choose your own path.” Wanting to protect her GPA, Jackie never asked for differentiation—she just completed required work. She voluntarily did more work only in the subjects that she loved and were easy: math and computer science. One of her main frustrations in high school courses was what she perceived to be unfair grading. Particularly in Language Arts classes, she felt the grading was subjective: “so I think it was hard that I was being graded on kind of an objective rubric on a subjective topic in those classes, I remember being very frustrated about that.” When asked about successful learning situations in class, Jackie explained that she preferred self-paced learning opportunities. For example, one math teacher would teach for 25 minutes and then give students 25 minutes to self-study; in science class students were given freedom to design their own experiments. Jackie happily recounted multiple examples of learning without direct instruction from a teacher. Preferring to learn on her own, Jackie reported that her most successful strategy (both in high school, and later at the university) was making a ‘cheat sheet’ by writing down all the important content for a class on one piece
of paper— it helped her “visualize” the content. In another example of intense focus, Jackie liked working on her own during an internship learning a computer language, python.

And it was a very independent internship, so I would like work with my mentor for like an hour and then the rest of the seven-hour day, I was set free to do whatever I wanted. Once again, like back to the learning at your own pace, I could get stuck on a bug for hours and keep progressing, I don’t know, however fast I wanted. So, I think that’s another example of that type of successful thing I’m trying to think of more in my other classes.

This example shows not only agency, but also her ability to focus on one task for an extended period. Overall, Jackie reported that high school academically prepared her well, but college onboarding was steep and hard

Socially in high school, Jackie identified with the cool and athletic students more than the “nerdy Asian” students, as she put it. She participated in many extra curriculars, including volunteering at the daycare center inside the school, internships, Chinese school, and most importantly, soccer. Wanting to fit in with peers led her hiding her abilities, dressing and acting like someone “popular” not nerdy: “I’d hide abilities to be with “cool” kids, never choose groups with gifted kids, rather chose to be in groups with cool kids.”

Jackie attends a medium-sized private technical university in the Northeast where she is majoring in Mechanical Engineering. The word she used to describe her transition from high school to college was “steep” referring to both the level of difficulty of the courses compared to high school, and the quick ascent she needed to make in order to
succeed. Jackie articulately explained the slope of difficulty in high school slowly and minimally increased, whereas the level of difficulty at the university steeply increased ten times from classroom content to homework to assessment (see Figure 4.10). At first the challenge was shocking, but as she succeeded, Jackie appreciated the steep slope. This growth mirrored her experience with imposter syndrome at the university. In the beginning, university was jarring, “Oh my god! How am I here?” After several years, Jackie no longer experiences imposter syndrome; she has earned good grades, understood material, and realized “I do belong here!” As she succeeded academically and in internships, her feelings of being an imposter decreased.

When thinking about differentiation in her university classes, Jackie has multiple examples. She reports two kinds of classes—theory classes which are prescribed with little room for differentiation, and project classes in which students are given much room for creative problem solving as they design and built projects. Jackie described an influential learning experience: the theory classes had problem sets based on real life scenarios needed in job interviews; puzzle problem-solving was so hard because she started with

![Figure 4.10 Level of Difficulty (Jackie)](image)

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zero knowledge. She struggled, and then succeeded which taught her to persevere even in tasks that require “maximum brain power ever”. Another influential learning experience was a group design project. Jackie loved freedom within limits. She felt completely validated by the group when they picked her idea to develop, plan and learn to build. In this project, the professor was so engaged–he would sit on the floor with students teaching both high level and mundane (how to use a screwdriver) tasks. The teaching assistants would personalize name tags for each student. The professor and TA’s put in so much effort that students also felt accountable for their efforts. Overall, the class was super motivating for her.

A P/NR grading option gave temporary relief to perfectionism in her freshman year, but for Jackie earning good grades was an attempt to prove to herself that she was not an imposter. Although her university offers the Pass/NR grading option during the pandemic, Jackie has opted for letter grades instead; she challenges herself to get good grades despite P/NR option

Jackie thrives socially at the university; being surrounded by intellectual peers is refreshing. Her group is nerdy, athletic, and well read - she can talk soccer, world problems, and academics with same friends. Still as important as it was when she was younger, she derives self-worth from soccer–she likes the friendships and physicality.

Her additional extracurriculars include sorority life, campus tour guide, internships, teaching STEM in Ghana & Peru, and skiing. Her university community has pushed her to be more successful; college discussions are deeper with more rigor. At the same time, the level of intensity in conversation can be mentally exhausting. As an ambivert, Jackie
loves being involved with peers, but she also reaches a point of mental burnout.

Unleashing her “nerdy” side has had a silver lining: Jackie has developed a closer relationship with her parents; in high school she was ashamed of parents with PhDs from Stanford; however, the knowledge she gained at university enabled her to ask parents questions about their work. As she is embracing her “nerdy side” at the university, Jackie reports that she also struggles with boundaries of work/life balance. She wants to participate in so many different activities, plus soccer, plus academics, plus internships.

When asked about her gifted identity, Jackie was very humble; she did not want to appear gifted or better than others. Not wanting to brag, she said that among her peers, even gifted peers, she is never the first one to talk about her accomplishments. When reflecting on her characteristics of giftedness, she used the words “feisty”, “competitive” and “perfectionist”. She has very high expectations for herself; she feels she needs to have a career worthy of the level of opportunities she has been given. Even though her university had about 1:1 ratio of women to men in STEM, she knows that is not the case in industry.

I grew up with like a really strong mother. Woman now she liked does supercomputing for like combustion, so she’s like a computer scientist now, so I feel like I had a really good role model. A woman can definitely succeed in stem, so I didn’t feel that way and I like I always grew up seeing pictures of my mom at her conferences with like all of her colleagues and they’re always all men.
She has other strong, intelligent women in her life as role models: soccer teammates, sorority sisters, and professors. Being gifted is not a defining identity for her, in fact, she was hesitant to use the word when talking about herself.

**Molly**

Articulate and loquacious, fast-talking

Molly candidly shared her educational experiences; her concentrated interviews clocked over three hours—well more than the target two hours.

Initially only identified as gifted in mathematics, Molly attended a French immersion elementary school in a large urban Midwest community. Several times during the interview, she commented that “I was only gifted in math.” She later was also identified as gifted in language arts, which meant that she was pulled out for higher level instruction in only math (taught in French) and language arts (taught in English). She remembers her elementary and middle school having a dedicated gifted coordinator, whom she would “meet for two hours once a week and then you would have a lot of homework”. Her identity of being gifted in math was further strengthened in middle school by attending an accelerated mathematics program at a local university with other gifted students from her school. This small community group of GT kids from her elementary school stayed together as they
progressed through the math sequence in middle and high school—they were always younger than other students in classes, so the GT kids stuck together.

In her large, urban, public high school, gifted programming was not offered. Molly does not recall any differentiation by teachers in classes in terms of content, process, or product, beyond getting to choose some writing topics in humanities classes. She notes that she strongly disliked being forced to follow processes that she considered unhelpful; for example, she eschewed the requirement of taking notes in a certain way (Cornell Notes). Although AP classes were rigid and focused on preparing for the test, she took many AP classes to build up her college application. Ever competitive, Molly was motivated by the carrot of becoming an AP National Scholar. Additionally, she self-differentiated by seeking out supplementary content (self-taught herself and earned scores of 5 on AP Psychology, AP French, and AP Physics - Electricity and Magnetism exams).

One of Molly’s biggest frustrations came from the way teachers answered questions. Molly was talkative, always raising her hand, asking questions, and engaging in class. She would be frustrated with teachers who would not answer her questions and motivated by teachers who answered questions beyond the prescribed content:

I remember, I would ask questions, a lot in the science class. And I would often get the answer of like you don't need to know that... And I hated that about that teacher, like I was just genuinely curious and like wanted deeper answers, and she would always say like ‘oh that's like outside of the scope of this class’.
Molly preferred learning activities with a choice of topics which increased motivation for doing the work, but such options appeared infrequently. In class groupings, Molly preferred working with other gifted or high-achieving kids but was okay with “teaching” when paired with low ability groups. Given the rigidity of AP courses’ curriculum, she did not feel that asking teachers for more choice was an option. Instead, Molly differentiated her learning by participating in extracurriculars. She played competitive soccer on a traveling team, played the cello in a large urban youth symphony in the highest-level orchestra, and participated in student leadership (orchestra president). Molly was inspired by the prospect of winning a AAA (art, athletics, academics) school award: “I just liked being in competitive spaces… I want to be the best at things.” At the time, Molly was motivated to build a diverse portfolio of activities for college applications, but reflecting back, she admits that the extracurriculars positively helped her develop her whole self.

Academics went well in HS, but Molly struggled with social groups; she identified as a “floater” who floated between different groups–soccer team, orchestra, nerds, and other groups. She describes her experience as “an identity crisis between wanting rigor (in sports, academics, music, etc.) and fitting in with mainstream social groups”. Molly was bullied by female peers to fit in and not be so smart. “I had like a very nerdy side of myself, but then I also just had a very like social - want to be cool - side of myself, and so I was often lost.” At the same time, Molly did not strongly identify with the gifted students: “I also think socially [I] didn't super identify with the nerdy kids. I didn't like to do the nerdy activities.” In her junior year of high school, she found an
enduring friendship with an older soccer teammate who advised her to just find her own path; this advice had a powerful impact on her at a pivotal moment. In fact, Molly reflected that she had many strong female role models during high school including her (architect) mother, teammates, coaches, and orchestra conductors.

Molly found her tribe at the university, a medium-sized private technical school in the Northeast where she is majoring in Mechanical Engineering. The word she used to describe her transition from high school to college was “intimidated”. Academically, her transition was fine because she was expecting to not do well at such a top-level school. However, socially, being “average” when applying to join clubs surprised her.

I think I wasn't intimidated going into it, but I think soon as I got to college, like that true transitional period in the first few months I felt just like overwhelmed by the success of people around me. And it was definitely the first time I was feeling like some rejection. I was applying, you had to apply to get into clubs… just looking back I think silly clubs… They had an undergraduate business club that you had to apply to get in to, and I didn't even get an interview… it was intimidating being around people who had accomplished more than me already… I think that's where it hit me harder than in classes because in classes I was ready to not do well.

At the same time, Molly was in awe of all the amazing people and opportunities at the university. She recalls that she initially experienced imposter syndrome with basic computer science skills since she had little experience, and more than 50% of the students are computer science majors. However, Molly felt more confident after taking three
computer science classes and acquiring useable skills. She quickly learned to be humble in a high-ranking school that she perceives to be nearly an all-gifted community—faculty, staff, and students. During her first year, Molly had an epiphany when she realized that she was absolutely responsible for her own learning; she always wanted to challenge herself. She describes two types of classes at the university: lecture/problem-set classes which do not have room for differentiation, although students can choose to do additional problem-sets; and project-based classes that allow for much more differentiation in terms of content, product, and process. According to Molly, project-based learning is fun, creative, and supportive, but still extremely challenging. An example of a semester long course project she enjoyed was planning, designing, prototyping, and manufacturing a toy. The university does encourage exploration with grading system of P/NR (pass or no record on the transcript) and allows double majors and triple minors, which most students take advantage of.

Molly participates in multiple extracurriculars organizations at the university to fulfill being a whole person: soccer, sorority, voter registration organization, student leadership, student representative on faculty committees, and internships. She feels liberated by being around women with whom she can be athletic AND nerdy AND social (going to parties); Molly no longer needs to hide parts of herself or compartmentalize relationships. In terms of gender, the peer group at this university offered a new experience in that it is socially acceptable to be nerdy around guys in a flirty way; she reported that her high school put pressure for girls to not be smart in situations with potential romance:
You could end up in a super nerdy conversation with guys - unlike in high school, like in the heteronormative high school world that I grew up where you would never talk about something nerdy when you're also kind of flirting with someone. At [the university] was so different because it was okay to talk about what you thought was really cool in class or what you're interested in even in a romantic or social situation like a party environment. That was just so liberating; you didn't have to shut down the side of yourself wherever you were.

Being around incredibly talented and intelligent people makes Molly feel less unique, while at the same time liberating her to more genuinely be herself. At the university, she has blossomed both socially and academically. Similar to high school, she reports having many strong female role models, specifically older soccer teammates and sorority sisters who have given her clear ideas of possible paths in terms of classes, internships, future jobs, etc.

When asked about her gifted identity, Molly does not strongly identify as “gifted” as an adult; she felt more gifted as a child because of the perks she benefitted from in elementary school. As an adult, she sees being gifted as an asset that helps her set and achieve challenging goals, so being gifted is important in that it led her to a top-ranked university which gives her opportunities even before she earns them.

Having grown up being gifted and having a lot of opportunities, because of that and loving, just I love learning and challenging myself and working hard. I’m very much a very motivated person who like achieving a lot is important to me.
So, if I were to list, things are important to me, I wouldn’t list gifted, but it probably plays a role in other things that are important to me.

When reflecting on her characteristics of giftedness, Molly started by explaining how she excelled at traditional school, exams, etc. She described herself as a perfectionist and extremely competitive with herself and others. She was motivated by building a packed resume: National Merit Scholar, National AP Scholar titles, and winning other awards and competitions. Fiercely curious, she actively cultivates her thirst for knowledge. Molly told examples of having strong empathy for others, especially gifted students who may not be identified. She is acutely aware of her own privilege being identified early and having access to good schools, extracurriculars, and travel. Her strong sense of justice compels her to look for ways to participate in civics, campus voter groups, leadership roles in student organizations, and faculty advising committees. Overall, while being gifted is not a defining identity for her, she acknowledges and appreciates the educational opportunities that arose from being identified in elementary school; the early identification of being gifted in math set her on a path to where she is today—a successful engineering student at a top technical university.
Initially identified as gifted in 3rd grade, Sarah thrived in an all-gifted program at a local public elementary school in the Rocky Mountain region. The magnet gifted program was housed in one pod (four classrooms) in a building with non-gifted classes in the other parts of the building; the gifted students were segregated from the non-gifted students. The small classes were comprised of all gifted students with 1-2 grades in combination classrooms with teachers specifically trained in gifted education. According to Sarah’s mother’s stories, the teachers were all gifted themselves, and therefore were helpful in helping parents understand the needs of gifted students. Sarah remembers that grades felt inconsequential, since everyone was performing “above grade level”. Sarah was highly motivated by creative, project-based learning that allowed for many levels of differentiation in the classroom. Highlights for her included researching, planning, building, and testing trebuchets, mini hot air balloons, and egg-drop protective devices. The curriculum also included Chinese instruction taught twice a week by a guest Chinese instructor. Sarah loved being part of a strong gifted community where everyone was quirky and empathetic. These same students continued to middle school together, and then open-enrolled in the same high school to stay together. While the gifted program ended in 6th grade, the support community has endured over the years; the core group was always in touch as they took higher level math classes together and eventually AP classes.
in high school. “I liked that we kind of kept the group of people that I had known since elementary school, … were also on my [middle school] team, so I kind of have that gifted community continue now as well.” She notes that although they have all gone off to new adventures across the US, she is still friends with many of the gifted students she met in elementary school.

In Sarah’s large, suburban, public high school, gifted programming was not offered. The school did not have a GT coordinator, but she met with her counselor annually to fill out an “Advanced Learning Plan” every year for the State. According to Sarah, no one actually read the learning plan—it was just a bureaucratic formality. Her counselor tried to discourage her from taking too many advanced classes and AP science classes (Sarah took 7: biology, chemistry, calculus, physics, history); she had to strongly advocate for herself, against the counselor and teacher, in order to take multiple physics classes.

I kind of felt like there was like unnecessary barriers…I like kind of felt like there was just like no path to what I wanted to do, regardless of like how prepared I showed that I was… obviously I was able to figure it out, but I felt like that was kind of putting barriers in a place that like maybe didn't need. You don't necessarily need to take intro and then AP.

In the end, she took the course at a neighboring high school as a concurrent enrolment class with the local community college. She credits her self-advocacy skills to her strong female role models: her mother and her aunt (both engineers) and her coaches who all pushed and believed in her.
I think that was something that I really sought to find in high school too, since we didn't have like a GT cohort in a sense. I think that was something that I definitely like tried to find - people that were similarly curious and driven and passionate.

Despite lack of gifted services in high school, Sarah sought out gifted/high achieving peers and advocated for herself.

Sarah does not recall much differentiation by teachers in classes except in language arts where she had choice of type of deliverables—song, poem, etc. “I don't remember much like kind of choice in curriculum. I think a lot of the classes I took had kind of set things that had to be covered, and so I don't remember a lot of options in that.” She did not ask for differentiation in terms of content, process, or product because she did not like too many open-ended choices. She preferred having set guidelines, so she could know exactly what was expected of her. Too much freedom triggered anxiety because of her perfectionism. She expressed frustration with high school classes that were lecture-based with a great deal of reading, such as social studies classes, which for her translated to a need to self-teach. Preferring hands-on learning such as in science labs, Sarah favored tasks with clear objectives and follow-up tasks focusing on reflection of learning—a post activity that connected learning to the real world or other classes.

In general, Sarah strongly enjoyed the processes of learning. She enjoyed group work—either with other advanced students to be both efficient and effective, or in a tutor role to help others understand material. Her successful learning strategies included taking copious notes, making flash cards, and in general “over preparing” for tests. Instead of seeking differentiation in the classroom, Sarah supplemented her learning by
participating in extracurriculars. She played three varsity sports (softball on a traveling team, track, and diving), served in several student government roles, tutored for National Honor Society, and participated in community service. She opted to fill her free time with these activities, not only to build a strong college application, but also to expand her own personal learning.

Sarah chose college based on opportunities to pursue both athletic and academic interests: softball and engineering. She attends a small, public technical college in the Rocky Mountain region. The word she used to describe her transition from high school to college was “nervous”:

The one word that comes to mind, like the night before I left for school, like everything was packed and I sitting in my room like crying to my mom that I wasn't going, and I didn't want to go and, like, yeah, um, I was worried I wasn't going to make any friends. I was scared that I wasn't going to get a 3.0 to keep my [full 4-year]scholarship. Those are the main ones I was worried about; I was gonna be really bad at school and I wasn't gonna make it.

Imposter syndrome did resonate with Sarah during her transition from high school to college. During her first year, Sarah’s confidence was low, so she over-prepared/studied to ease her apprehension. Doubting her abilities motivated her to study even more, rather than paralyzing her: “I convinced myself that I didn't know what I was doing, even if I did, and it caused me to kind of like over prepare.” After her first year, when she found that she did in fact understand the material and earned good grades, she began to feel confident again. She reported no specific support from her high school to help with
transition to college, but she felt that AP classes taught her HOW to study and what
college expectations would be in terms of depth of analysis and synthesis. The college
did not have specific transitional support for gifted students beyond freshman orientation.
As in high school, Sarah joined many extracurricular activities in college to develop her
whole, multi-dimensional self with academics compromising only one facet of her life.
She continued to play competitive softball and participate in student leadership and clubs,
such as Women in Engineering. She reported having many strong female role models in
college—coaches, advisors, professors, Women in Stem (guest speakers: female engineers
coming to speak about their experiences). Despite the perceived lack of institutional
support, Sarah successfully managed the transition from high school to college.

Sarah’s main frustration in her college classrooms is with courses that are
predominately lecture based with little interaction. For example, one of her professors
lecturing to 100+ students provided a transcript of lecture for students to follow along. In
the document, some of the important words or equations are redacted, so students needed
to fill in those blanks while listening to the lecture:

So, she would like give us notes. It was basically like typed up notes that had
everything that she was talking about, but then like a word would be like redacted
and we would have to fill it in when she got to it, or like an equation would be
taken out. We would write the equation ourselves. It was kind of an outline, but
like I just felt like some of the time she would give us the skeleton notes and I was
wondering what are we supposed to be doing? So, it's just a very confusing
class... and the tests were always like 10 times harder than anything we did in class.

This type of disengaged class and “artificial” note-taking causes stress for Sarah, who then seeks other avenues to understand the content. Sarah prefers hands-on lab activities with progressively more choice as weeks in the course go by: the first week students follow a model set by teacher, while subsequent weeks allow for more experimentation and choice by students to incorporate and test theories from other classes (synthesize information). For Sarah, this cadence of progressive learner independence increases motivation for the project and learning is deeper because of application to real world scenarios. On another positive note, she feels that she has learned to self-regulate her perfectionism—learned to know when to say “it’s good enough even if it’s not perfect” from a rigorous summer field work class.

When asked about her gifted identity, Sarah does not strongly identify as “gifted” as an adult; she felt more gifted as a child because of her early success in math and science. Being in a “gifted” program made her feel special, but she did not exactly know what it meant to be gifted. She has a deep curiosity to know more, not just for grades. According to Sarah, being gifted means “Just like wanting to learn more and wanting to understand and I’m just kind of like wanting to get things and do things on a deeper level.” She credits her parents with sowing a love of learning in her: “My parents were very curious people and kind of raised us to be curious, and then it was also encouraged because I’d be curious in ways that maybe my dad wasn’t as curious, but then they would kind of encourage that as well.” Being “gifted” is not important to her—it feels like a label
that others see her as–always the smart one, doing well in school. For Sarah, researching information, being excited about learning, asking why or how things work–is fundamental in her life experience.

I was always good at school, and that was like kind of the core of what they saw, but I think for me it's like more of the like inquisitive side of things. I think that's what leads me to do a lot of the other things I do in my life like getting really excited about climbing like 14ers mountains and kind of like getting focused on that and researching that and kind of like… It [being gifted] shapes my life, not through school, but in my everyday activities.

She does not really feel gifted until she notices that other people are not as curious as she is and not searching for knowledge. In college, Sarah did not feel gifted because everyone seemed similar to her in terms of intellectual curiosity:

I don't know I don't really notice it in like in college, when I was like at a hard school and like around a lot of really, really smart people. And I felt like I was still excelling and still like be like going beyond, but like everyone else was, and I feel like where I went to school, I was, like everyone here is [gifted].

For her, being gifted means being inquisitive, not just in school but every activity of every day such as reading maps on vacation, or planning a 14er hike with research, maps, equipment, etc. Sarah’s deep curiosity, ability to synthesize information, and perfectionism have helped her become a successful engineering student at a competitive technical college.
Themes of Lived Experiences

Some experiences in secondary and higher education resonated with multiple participants: differentiation, agency, and self-perception. This section will describe these themes with examples from the interviews in a composite description that presents the essence of the phenomenon.

Differentiation

In high school, few instances of teacher-initiated differentiation were described by the participants. Humanities courses, such as history or English, were most likely to have choices of writing topics for research projects (content), or the type of deliverable such as poem, song, poster, video, podcast, etc. (product). STEM classes were portrayed as being taught lockstep, with all students doing the same tasks at the same time. Many teachers required a specific style of notetaking, vocabulary cards, or worksheets that many of the gifted participants perceived as not useful. They did the “busy” work as required, but they feel it was not useful for their learning—especially in the case where they had already mastered the material. Such mundane and inflexible tasks are demotivating for many gifted students. One exception to this view is the neuro-diverse gifted learner who thrives on routine.

Regarding course options, all the participants self-selected into multiple AP classes in search of rigor. The accounts of the AP classes were mostly positive but revealed that most AP teachers do not offer options in terms of content, process, product or learning environment. Some teachers used high-impact practices, such as Socratic Seminars, but even these activities felt constraining to some of the participants. The
women were hesitant to ask teachers to differentiate the curriculum because the AP courses were seen as packed and rigid with the goal of preparing students for the test. Additionally, several of the women explained that they did not want any “special treatment” or “extra assignments” in their courses. They wanted to apply any extra time or brain bandwidth that they had to their passions—their chosen extracurriculars. Dara reported asking and receiving permission to differentiate her process of learning by completing an AP course as an independent study with a group of gifted students. Molly simply bypassed the need to involve a teacher at all in her learning: she self-studied and took three AP exams on her own.

I didn't take AP French, so I also had to get the French book and, like, learn the structure of the exam and practice for the exam. So, I did that for French and there were a handful of us that did it. And it was kind of against, well the teacher didn't want us to take the test on our own because he tried to keep everyone in the French class. (Molly)

For the most part, participants reported not only a lack of differentiation in courses, but also a lack of any gifted programming or support specifically for gifted students in high school. Most of the participants felt that the school administrators and teachers did not even know whether a student was identified as gifted. A few of the participants were required to make an Advanced Learning Plan to comply with state requirements for school funding; however, this practice was sporadic, and their school counselors were not even sure of the purpose or procedure. Most of the participants felt
that gifted services, programming, or support was not available in their secondary schools.

In higher education, the participants reported more satisfaction with opportunities for differentiation in courses, which led to more motivation to engage. Examples of differentiation were described in hands-on laboratory classes, project-based courses, problem-based courses, and music/art courses.

For my marine biology class, we visited a bunch of different interesting areas on the island. So, there's one sea coral which during the daytime it looks like a whole huge fan and during the nighttime completely different, so we examined it at the two different hours, and took, like, population density samples - that kind of thing… I loved it. (Ellie)

Differentiation embedded in courses included choice of topics on research projects (content), type of deliverable (product), agency over learning strategies (process) and variation in learning and research spaces such as field work (setting).

On the other hand, I had some very hands-on classes like I mentioned my intro mechanical engineering, it was a toy design class my freshman spring… it was like 40 students in the class. Very well staffed, so supportive, such an amazing environment to learn, it was so okay to not have done mechanical engineering before. They just wanted to support us in that space and taught you everything. There were so many TA’s that you can ask questions to, and I think that was really influential because it made me feel okay about being a mechanical engineer, even though I wasn't a stereotypical mechanical engineer, like other people were. And that was also just fun and creative. (Molly)
Participants also reported more opportunities for differentiation in small classes as opposed to large classes. Small, discussion-based classes build rapport between professors and students; as professors become acquainted with the students’ interests, they are more likely to tailor course content and discussions towards student interests.

I think part of it was, I don't think I’d ever been in a class that small, and so it was really nice to have that one-on-one kind of help, and also that incentive to do good, because there were so few of you that… people will notice - the Professor would notice - if you were behind or slacking off, and so I felt really a push to do well. (Dara)

Conversely, large, lecture-based classes with abundant reading and traditional notetaking are perceived as rigid and less appealing.

Differentiated instruction is a teaching philosophy based on the premise that teachers should adapt instruction to students’ differences (Tomlinson, 2018). While a few occasions of differentiation were experienced by participants in secondary school, the frequency and efficacy of differentiation is dependent on the classroom teacher. In higher education, professors offered more opportunities for students to be agents in their own learning processes; the gifted participants in this study preferred these project-based, hands-on learning courses.

**Agency**

The most surprising finding which emerged from the interviews was the level of agency (Mudrak and Zabrodska, 2015) in which all the women engaged in to control
their own educational experiences. The lack of systematic differentiation in the classroom influenced each participant to seek out other learning situations—in a sense, they practiced self-differentiation. Their ability to independently control and regulate their learning is reflected in the extracurricular activities which supplemented their formal academic classes.

Listening to the participants talk about their experiences, a narrative of two personas emerged. First, each gifted student, driven by her perfectionism and competitiveness, played by the rules to build a pretty transcript and beautiful resume for college applications. Over and over, each participant described being motivated in secondary school by the perfection of her future college application. High school academics were seen as a means to an end: get accepted to a top-ranked college/university. This persona was willing to do busywork; sit silently bored in classrooms; take classes that were not interesting; do homework late into the night and on weekends; take and re-take standardized tests; complete work for other group members so everyone can get an A; and forgo taking some “soft” classes such as art, cooking, or choir that could negatively bring down a GPA because they were not weighted as honors and AP classes. The second persona, burning with deep curiosity and radiating with multipotentiality, threw her leftover, tired self into her passions to be energized. This persona chose extracurriculars not only to decorate a resume, but also to find meaning and community: soccer, archery, softball, track, scuba diving, climbing, skiing, dancing, orchestra, singing, theater, drawing, photography, volunteering in the community, travel,
working… and on and on - tales of amazing adventures, bonding, learning, growing, and developing. These two personas coexist in each of the amazing women in this study.

Each participant was an agent of her own learning and participated in multiple concurrent extracurricular activities–many of the participants reported that they spent more hours on extracurriculars than they did on formal schoolwork. For example, Izzy accumulated 500+ hours volunteering at one regional non-profit organization, in addition to singing in choir, traveling on missions, skiing, and working two part-time jobs. Christina worked part-time to help pay rent, in addition to serving in ROTC, founding her school’s LGTBQ association, and participating in National History Day competitions, a Jr. Architect National competition, and her state gifted association as a student ambassador.

I would always do my extracurricular stuff before my schoolwork, which is kind of funny to confess afterward, because I knew that the practice and the experience that I’d be getting in those supplemental extracurriculars would be more useful to me than the schoolwork that I was getting. And I think that is because of the lack of, like, I would I guess you could say, the lack of getting that programming. I found my giftedness in those activities, rather than in the special kind of gifted curriculum in my school (Christina).

Agency (Mudrak and Zabrodska, 2015) is also present in how the participants’ relationship with grades evolved. As discussed above, high school grades were paramount, and the secondary school transcript was to be protected at all costs. Similar to research findings by Siegle et al. (2014), when content was not challenging or
meaningful, the students were motivated by grades. Several of the students mentioned that they did the minimum amount of work required to get an A, which in some cases meant spending less time on homework than their classmates did.

However, as these ambitious women transitioned to higher education - many during the pandemic - grades began to lose their glitter. Acknowledging the difficult transition that many top students face in their first year, some universities give students choice in grading outcomes. For example, some universities use Pass/No Record (P/NR) grading for first-year students. The student either receives a Pass on the transcript or there is no record of the student even attempting the class. This grading scheme aims to relieve the pressure of grades on first-year university students. In years 2-4, students may designate one class per semester as P/NR (after final grades are posted); this encourages students to take courses “outside their wheel-house” to diversify their knowledge and try new subjects. Other universities offer Pass/Fail for first-year classes. During the pandemic in 2020-2021, many universities offered all non-major classes as Pass/Fail. The participants in this study had many positive comments about being given agency over their grades: “It was a game-changer for me” (Molly) and “I should have taken advantage of it earlier” (Alexa).

In higher education, agency over both extracurricular activities and grades empowered the women in this study. They reported that their activities supplement classes more significantly in university/college than in high school; the activities are more purposeful and relevant to their identity. The agency over grades has lessened the importance of maintaining a pretty transcript. They come to realize that they have already achieved their goal of attending a top university/college. Ironically, several of them
reported that when they stopped worrying about grades, their grades were still fine—no sudden plummeting of GPAs.

I mean, I was top 5% but there are always people who get better grades than me and understand the material better than me, so I don’t feel like that was something that being smart or with being identified gifted. I valued it but getting the best grade on everything was never something I cared about. And I think that was also because I was focused on other things; like I cared way more about activism, or [sorority] house things, and soccer and how our games are going, and sports and stuff. (Alexa)

Learning without worrying about grades was a new state for all of them, and most of them happily described the joy in stoking their curiosity or learning just to learn.

**Self-perception**

When unpacking the women’s experiences with imposter syndrome (Kolligian and Sternberg, 1991), the findings vary, ranging from none to pervasive (see Table 4.1). Three of the women reflected that they have never felt inadequate or like an imposter in educational settings. Christina stated “I feel gifted every day. Being gifted is a very important part of my identity.” Similarly, Dara said she is always quietly confident in her abilities. While she does not like the label “gifted”, even when she is challenged in a class, she knows that she will eventually rise to the challenge. Most of the women recalled occasional bouts with feeling incompetent in an academic situation in their university/college. For example, many felt anxious or inadequate going into their freshman year. After being at the top of their class in their K-12 education, living and
studying with intellectual peers was a scary - yet exciting - experience. Most recognized that they were average in the new peer group—and they had never really been average before (even if they secretly wanted to be average in social situations). Engineering majors Jackie, Molly, Sarah, and Alexa all noted that they felt like imposters specifically in math and computer science classes, while marine biology major Ellie questioned her abilities in biology and chemistry. In these examples, their experience with imposter syndrome was limited to specific subjects. Two of the women, Izzy and Elisabeth, had more pervasive perceptions of suffering from chronic self-doubt. In fact, Izzy declared in the interview that she does not think of herself as gifted anymore, after finishing gifted education in 8th grade. Claire had a similar story; being gifted in her K-12 education was a core part of her identity, but at the university, she no longer thinks of herself as gifted. She explains, “I don't think I would mind still being considered gifted, but it's just not something that I think about anymore.” Elisabeth took a gap year between high school and college to be an exchange student in South Korea. She said that the year abroad gave her a new perspective and renewed confidence in herself. After the ultra-competitive high school years in a high achieving environment, she purposefully chose a “laid back, small liberal arts college in California” instead of another ultra-competitive university on the East Coast. For her, the choice was excellent and helped her to appreciate her giftedness.
Table 4.1

Participants’ Experiences with Imposter Syndrome

<table>
<thead>
<tr>
<th>Participant</th>
<th>Experience With Imposter Syndrome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexa</td>
<td>Physics</td>
</tr>
<tr>
<td>Christina</td>
<td>None</td>
</tr>
<tr>
<td>Claire</td>
<td>None</td>
</tr>
<tr>
<td>Dara</td>
<td>None</td>
</tr>
<tr>
<td>Elisabeth</td>
<td>Pervasive</td>
</tr>
<tr>
<td>Ellie</td>
<td>Biology/Chemistry</td>
</tr>
<tr>
<td>Izzy</td>
<td>Pervasive</td>
</tr>
<tr>
<td>Jackie</td>
<td>Math/Computer Science</td>
</tr>
<tr>
<td>Molly</td>
<td>Math/Computer Science</td>
</tr>
<tr>
<td>Sarah</td>
<td>Math</td>
</tr>
</tbody>
</table>

For those whom imposter syndrome resonated (Kolligian and Sternberg, 1991), the experience did not persist past the first two years of university/college. As they succeeded in classes and delved into extracurriculars, self-confidence and a healthy understanding of limits slowly replaced feelings of inadequacy and false accomplishments.

Freshman and sophomore year, I was like, ‘Okay, I know I’m as smart or as gifted as these people, so I don’t need to continuously keep pushing myself to try to be on the same level as them because I am on the same level as them. I’m getting the same grades or better.’ (Jackie)

In fact, attending high-level universities/colleges immersed them in communities of high achieving and gifted faculty, staff, and fellow students. Many of them “found their tribe” and appreciated the opportunity to explore their giftedness in social situations.

I think being around people whose minds function similarly to mine creates this really interesting environment where the conversations are more engaging all the
time, obviously. I am really being more present here [at university name], as opposed to before. (Ellie)

Molly went further to explain how she was pleasantly surprised to find intelligence to be a desirable part of the flirting process: “That was just so liberating; you didn't have to shut down the side of yourself wherever you were.”

All the participants presented as strong self-advocates; they attributed that skill to the strong female role models in their lives—mothers, aunts, teachers, coaches, and peers. All of the participants referred to their mothers advocating for them in early childhood, pushing for GT testing, and helping them navigate gifted education from elementary school through middle school and high school. Maternal role-modeling in STEM was also evident (Kahn & Ginther, 2017); by coincidence, six of the women in the study are majoring in STEM subjects (see Table 4.2).

**Table 4.2**

*Maternal Role-Modeling*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Major</th>
<th>Mother’s Job</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexa</td>
<td>Mechanical Engineering/Computer Science</td>
<td>Attorney</td>
</tr>
<tr>
<td>Christina</td>
<td>Communications/Rhetoric</td>
<td>Retail</td>
</tr>
<tr>
<td>Claire</td>
<td>Anthropology/Public Policy</td>
<td>N/A</td>
</tr>
<tr>
<td>Dara</td>
<td>Molecular biology</td>
<td>Physician</td>
</tr>
<tr>
<td>Elisabeth</td>
<td>History</td>
<td>Professor (aunt)</td>
</tr>
<tr>
<td>Ellie</td>
<td>Marine biology</td>
<td>Physician</td>
</tr>
<tr>
<td>Izzy</td>
<td>Communications</td>
<td>University Vice Provost</td>
</tr>
<tr>
<td>Jackie</td>
<td>Mechanical Engineering</td>
<td>Supercomputing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Scientist</td>
</tr>
<tr>
<td>Molly</td>
<td>Mechanical Engineering</td>
<td>Architect</td>
</tr>
<tr>
<td>Sarah</td>
<td>Chemical Engineering</td>
<td>Engineer</td>
</tr>
</tbody>
</table>
Identified as gifted in childhood, all of the women experienced some degree of gifted programming in elementary school–homogeneous all-gifted classrooms or pull-out programs. They equated being gifted with childhood. As they moved into high school, most of them equated the term “gifted” with “smarter than others”. Most of them either did not want to use the label “gifted” or did not consider themselves to be gifted any longer. Dara considers the term to be elitist: “I think gifted kind of implies comparison between me and others, and I think that's part of why it makes me a little bit uncomfortable almost to call myself that.” Izzy, who attended a private, K-8 all-gifted school, said she was not gifted in high school because she was no longer in a gifted educational program: “My elementary school had the word ‘gifted’ in the name, so I felt I must be gifted, whatever that meant. My high school didn’t have the word ‘gifted’ in the name.” Without gifted programming, without a GT coordinator, without a cohort of gifted peers, without systemic differentiation in classes, many of the women did not perceive themselves to be gifted. Giftedness seemed to be something they outgrew. For most of the women in the study, being “gifted” was not a conscious part of their core identity in secondary education; they viewed it as an asset or tool, but not an identity.

During the interviews, some of the participants heard “smarter than others” whenever the interviewer asked about what being “gifted” meant to them and whether being gifted was important to them. Changing the vocabulary, participants were asked to list traits that reflected who they are. Although they characterized themselves as deeply curious, perfectionist, empathetic, competitive, idealistic, talkative, emotional, etc.—they did not recognize these traits as giftedness. One glaring exception in the group is
Christina, who had an incredible GT coordinator at her large, public, urban secondary school. She was explicitly taught about the nature and needs of gifted students. She even served as a student ambassador for her State Gifted Association; she traveled to conferences and schools to speak on panels about the gifted student experience. Her understanding of giftedness is so much more than “smarter than others” and being gifted is an unextractable core of her identity: “I don't know, for me specifically it's [giftedness] just been like an outlet, or like a way to describe or to categorize my level of assertion or my determination or my involvement level. Like, that was the way that I explain it - I’m just a gifted kid.” All the other women in the study admitted that they have never been taught or have researched for themselves what being gifted means.

**Conclusion**

This chapter provides highlights to interviews with ten gifted women in higher education. Transcendental phenomenology focuses on participants’ experiences in order to obtain comprehensive descriptions that provide the basis for structural analysis. For this study, portraits were constructed utilizing participant quotations to provide descriptions of their experiences, perceptions of gifted identity, and how participants experienced differentiation in secondary and higher education. The experiences of the participants are clustered into themes which portray the essence of their lived experiences: differentiation, agency, and self-perception.

Collectively, the findings reflect a group of gifted women who, for the most part, reported not only a lack of differentiation in courses in secondary education, but also a lack of any gifted programming or support specifically for gifted students. The lack of organized differentiation in the classroom prompted each participant to seek out other
learning situations. A prime finding in this study is that each participant was an agent of her own learning by participating in multiple concurrent extracurricular activities. All of women had experienced some kind of classroom differentiation in elementary/middle school; however, in secondary education some of the participants no longer perceived themselves as gifted.

Transitioning into higher education, some of the women experienced feelings of being an intellectual imposter, but not all of them. Attending advanced institutions of higher education immersed the women in communities of high achieving and gifted peers; they found communities of peers and embraced the opportunities to decant their intelligence in social situations. Regarding their experiences in higher education classrooms, the women reported more satisfaction with opportunities for differentiation in courses, which led to more motivation for engagement.

Overall, the women felt that their high school experiences prepared them for success in university/college. They felt academically prepared in terms of foundational content and study skills. However, emotionally, the participants had varying levels of preparedness. Collectively, their gifted identities—indeed, their reflection and understanding of their own giftedness—showed wide variance.

Chapter Five explores the findings from a more critical lens, providing interpretations and implications of the findings, along with limitations of the study.
Chapter Five: Discussion

“Teachers don't know that there's more than one type of GT kid because there's two experiences. There's the GT kid that's high achieving, overachieving like me, who are assertive and look for opportunities because they're just constantly bored in class. And then there's kids that just don't know how to do that and don't have the opportunities... they just sit in the back of the room and get yelled at by teachers. They're not paying attention because they're just disinterested. So much so that they don't even know how to start, and those are the kids that are being failed by the educational system.” – Christina

Introduction

According to Callahan, Hertberg-Davis, and Missett (2018), two common beliefs about the purpose of gifted education are

1) We should provide educational programs to gifted students so that they may fully realize their potential and become happy and productive adults.
2) The gifted population represents our nation’s greatest resource and hope for the future so we should endeavor to ensure full development of their potential for the good of the nation. (p.19)

These two beliefs are not mutually exclusive. Scholars and advocates of gifted education urge educators to incorporate the needs of gifted learners into their curriculum and pedagogic philosophies. Lack of challenging and accelerated content for identified gifted students often means that their learning needs are not being met which potentially leads to boredom and disengagement in class/formal schooling. Gifted adolescent females, who
are less likely to address barriers to realizing their potential (Kerr, 1994; Meredith, 2009; Reis, 2002), can especially suffer or thrive depending on curriculum. Since programming arrangements for gifted students vary widely across the country, understanding female students’ perceptions of their academic and social-emotional functioning based on their experiences within many different gifted settings may lead to suggestions for educators (Kitsantas, Bland, & Chirinos, 2017) to incorporate the needs of gifted learners into their curriculum and pedagogic philosophies.

The purpose of this phenomenological study was to describe identified female gifted university students’ perceptions of pre-collegiate and collegiate differentiation of curriculum and instruction in order to find the essence of their lived experiences. Four research questions guided the study:

1. According to gifted female students, what kind of differentiation strategies were received in secondary school and university/college?
2. In what ways did differentiation in high school and university/college classrooms influence gifted female students’ educational experiences?
3. In what ways did differentiation in high school and university/college classrooms influence gifted female students’ self-perceptions?
4. In what ways do gifted female students’ high school experiences influence their university/college experiences?

The purpose of the study was to share the lived experiences of a diverse population of gifted women in higher education. This research study accomplished that goal through interviews of ten diverse women from various geographical locations and
types of secondary and higher education institutions. The participants were encouraged to share their views regarding the challenges and benefits of gifted education services (Davis & Douglas, 2021). The similarities and differences were clustered into themes to describe the essence of their lived experiences. Some areas of the literature were reflected in the data collected, while other aspects of the women’s experiences revealed nuances not aligned to perhaps dated research or not yet explored in the literature. Ultimately, the women were empowered to share their personal stories for the specific purpose of this study (see Table 5.1.).

Data analysis mainly focused on general themes but also identified nuances that set participants apart from others. For example, Alexa had a much deeper and broader understanding of giftedness than the other participants due to her exposure to training on the nature of giftedness by a district GT coordinator. In another example, the two Asian participants, Dara and Jackie, preferred not to use the term “gifted” because they felt using the term implies that they are “better than others.” In another example, Elisabeth reported that her gap year between high school and college helped build her self-confidence and alleviate feelings of inadequacy (feeling like an imposter). Different from the other participants, Ellie experienced a significant amount of differentiation in her university field study semester – differentiation in terms of setting, process, and content. While these unique nuances are woven into the discussion of the findings, the main focus of the data analysis is on the clustered themes (Creswell, 2013; Moustakas, 1994) that arose from the participants lived experiences.
Table 5.1

Research Questions and Findings

<table>
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<tr>
<th>Research Question</th>
<th>Findings</th>
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| 1. According to gifted female students, what kind of differentiation strategies were received in secondary school and university/college? | In secondary school, few instances of teacher-initiated differentiation were described by the participants.  
In university/college, differentiation embedded in courses included choice of topics on research projects (content), type of deliverable (product), agency over learning strategies (process) and variation in learning and research spaces such as field work (setting).  
In university/college, more opportunities for differentiation occurred in small classes as opposed to large classes. |
| 2. In what ways did differentiation in high school and university/college classrooms influence gifted female students’ educational experiences? | In secondary school, lack of systematic differentiation in the classroom prompted each participant to seek out other learning situations.  
Each participant acted as an agent of her own learning and participated in multiple concurrent extracurricular activities.  
In university/college, agency persisted throughout participants’ higher education experiences. |
| 3. In what ways did differentiation in high school and university/college classrooms influence gifted female students’ self-perceptions? | In secondary school, most of the participants did not have a full understanding of their giftedness.  
Some no longer identified as gifted.  
In university/college, most experienced some degree of imposter syndrome, but that phenomenon did not persist past the first two years of higher education.  
In university/college, most found a community of intellectual peers and leaned into their giftedness. |
| 4. In what ways do gifted female students’ high school experiences influence their university/college experiences? | Academically, high school AP classes prepared participants for the rigor of university/college classes in terms of foundational content, study skills, learning strategies, and a basic understanding of critical thinking skills.  
Social-emotional preparation varied across participants.  
All were skilled in self-advocacy. |
The findings are reported in Chapter Four and briefly summarized here. While describing few instances of teacher-initiated differentiation in secondary school, participants reported more satisfaction with opportunities for differentiation in courses in higher education, which led to more motivation for engagement. A predominant finding in this study is that each participant was an agent of her own learning and participated in multiple concurrent extracurricular activities—many of the participants reported that they spent more hours on extracurriculars than they did on formal schoolwork. In secondary school, most of the participants did not have a full understanding of their giftedness, and some no longer identified as gifted. In university/college, most experienced some degree of imposter syndrome, but that phenomenon did not persist past the first two years of higher education. Several of the women referred to feeling “humble” rather than feeling like an “imposter.” All of the participants presented as strong self-advocates. Overall, the participants felt that their high school experiences set them up for success in university/college. In contrast to previous research in the field, the higher education experience for the participants in this current study did not align with Kerr’s (1994) description of campus climate: “The typical American coeducational campus is a chilly climate for women, with inequities in and out of the classroom” (p. 136). While a few of the participants described random incidents of gender discrimination, the theme was not universal in their lived experiences.

**Discussion of Findings**

During the data collection process—the interviews—the women in this study charmingly shared their life journeys through reflective and purposeful responses. The depth of their vulnerability was unanticipated and admirable. Each was eager to share her
story, almost relieved to be able to speak candidly about a guarded subject: giftedness. For several of the women, their stories effortlessly spilled out, as if they could not stop the flow. For others, their memories toggled back and forth as they reflected on their experiences, with stories going off on interesting tangents and eventually circling back. Articulate and animated, each participant shared life episodes of frustration, exhilaration, uncertainty, advocacy, persistence, and triumph. Without exception, revelations punctuated each interview—for both the interviewee and interviewer. As a result of participating in the study, nine of the ten participants requested more information about giftedness—the one exception was Christina who has worked as a student advocate for her state’s Gifted Association of educators, parents, and students.

Clustering the women’s experiences together, three themes emerged: differentiation, agency, and self-perception. Each of these themes will be discussed below followed by implications for practice.

**Differentiation**

Differentiation is the systematic adjustment made to curriculum assessment and instruction for gifted students so that they can experience challenge, choice, and opportunities for acceleration that may be lacking in the regular classroom (Jacobs & Eckert, 2017). Operationally, differentiation can take many forms. Differentiation relies on flexible grouping (Cash, 2011; Davis, Rimm & Siegle, 2013) by interest, ability, learning style, academic strengths/weaknesses, or social-emotional needs. One effective instructional strategy is the use of tiered instruction: creating different levels of entry based on student readiness (Tomlinson & Jarvis, 2009).
The field of gifted education is based on the almost universally accepted reality that some learners demonstrate outstanding performance or potential for superior performance in academic, creative, leadership, or artistic domains when compared with their peers. From preschool through college and even at graduate and professional school levels, a range of learning potentials justifies an examination of differentiated opportunities and services (Renzulli, 2012, p. 150).

While scholars and advocates of gifted education have recommended differentiation as best pedagogical practice for meeting the needs of gifted learners, the research literature shows a lack of systematic differentiation in secondary schools; gifted programming is primarily entrusted to elementary and middle schools. The findings of this study support the literature. For the most part, participants reported not only a lack of differentiation in courses, but also a paucity of any gifted programming or support specifically for gifted students in high school (See Figure 5.1). While they did report isolated occasions of choice with respect to class assignments in terms of content or product, most participants felt that gifted services, programming, or support were not available in their secondary schools.

![Figure 5.1 Perceived Levels of Differentiation](image-url)
The dearth of gifted programming translated into the participants taking multiple Advanced Placement classes in search of academic rigor. Offering AP classes is the most common strategy that American high schools use to support the unique learning needs of advanced students (Foust et al., 2009). The women in this study reported feeling that their AP classes prepared them academically—in terms of foundational content and study skills (notetaking, exam preparation, and time management)—for higher education. This finding is consistent with the literature; students who have taken AP courses attribute their feelings of academic preparedness for university/college to these courses (Callahan & Hertberg-Davis, 2018b). Overwhelmingly, students taking AP courses believe that these courses are the most challenging offered in high school and served to relieve some boredom in school. However, although participants in this study and previous studies (Foust et al., 2009) expressed satisfaction with AP courses, they felt AP courses are rigid and place emphasis on preparing for the exam. Therefore, they did not feel comfortable requesting differentiation from the teacher in terms of content, process, or product. Participants “perceived that the increased workload induced high levels of pressure to succeed, as well as emotional stress and fatigue” (Callahan & Hertberg-Davis, 2018b, p. 337). As is the case for many US high school students, the participants in this study felt pressure to take AP classes—fueled by the belief that a glittering transcript of AP exams is a pre-requisite for admission to a top university/college and earning competitive scholarships (Callahan & Hertberg-Davis, 2018b). Even with opportunities to take higher level courses, such as honors and AP classes, gifted students are often asked to perform the same tasks as non-gifted students (Vanderbrook, 2006).
Beyond the academics, the women in this study also benefitted from social-emotional aspects of AP classes. Similar to previous research findings, (Foust et al., 2009), the women in this study appreciated the informal cohort of advanced students they joined in AP classes. Additionally, they found a receptive class atmosphere—“it was okay to nerd out” (Molly)—and accelerated pacing, “we flew through the content” (Sarah). The participants also expressed pride and self-confidence derived from completing more challenging work. When considering the negative aspects of AP classes on their social-emotional well-being, the participants emphasized the added stress and fatigue that the heavier workload demanded, “high school, especially APs, was one long grind” (Elisabeth). This finding is consistent with the literature. Whereas another finding in previous research states that gifted students in AP classes sometimes suffer from the stigma of being smart (Foust et al., 2009); this experience did not resonate with the gifted women in this study, perhaps due to the circumstance that they all attended secondary schools with many high-achieving students as reported by the participants. While the participants may have tried to occasionally hide their intelligence in social situations, none of them reported that their social status aspirations would have suffered from taking advanced classes.

With respect to higher education, the participants predictably reported more differentiation in university/college classrooms. Experiences of differentiation were described in hands-on laboratory classes, project-based courses, problem-based courses, and music/art courses. Differentiation embedded in courses included choice of topics on research projects (content), type of deliverable (product), agency over learning strategies
(process) and variation in learning and research spaces such as field work (setting). This finding is not surprising given that instructors/professors in higher education have more agency over course syllabi than secondary teachers have in planning their courses in accordance with educational state standards (Davis & Arend, 2013). The learning opportunities that the participants described as being most motivating (see Chapter 4 Findings) reflect several theories of curriculum design for post-secondary education: Universal Design for Learning (Rose et al. 2006), Taxonomy of Significant Learning (Fink, 2003), and Seven Ways of Learning (Davis & Arend, 2013). Universal Design for Learning (UDL) is a set of principles that provides instructors with a structure to meet the diverse accessibility needs of all learners. Rose et al. (2006) champion using the Universal Design for Learning principles in postsecondary education:

1) Multiple means of representation to give learners various ways of acquiring information and knowledge; 2) multiple means of expression to provide learners alternatives for demonstrating what they know; and 3) multiple means of engagement to tap into learners’ interests, challenge them appropriately, and motivate them to learn (p. 136).

Principles of accessibility are ultimately beneficial to all learners, whether disabled or not disabled. These UDL principles can be applied to content, form, process, and modality—all of which translate to differentiation for learners. L. Dee Fink’s Taxonomy of Significant Learning (2003) similarly overlaps with the literature on K-12 educational best practices for differentiation (Cash, 2011; Kingore, 2013; Tomlinson, 2002; VanTassal-Baska, 1994; Winebrenner & Espeland, 2001). The categories of learning How to Learn, Application, Integration, Human Dimension, and Caring encourage differentiation in a university/college course (see Figure 5.2). Fink’s taxonomy is a useful, popular reference for university/college instructors when determining course
objectives and articulating their teaching goals. Finally, Davis and Arend’s Seven Ways of Learning (2013) is a more recent addition to best practices in higher education curriculum design; they offer another categorization that university/college educators can use to determine which teaching methods are best suited for different learning outcomes:

- Building Skills—supported through practice and feedback
- Acquiring knowledge—supported through presentations and explanations
- Developing critical, creative, dialogical thinking—supported through question-driving inquires and discussions
- Cultivating problem solving and decision-making abilities—supported through group activities and team projects
- Practicing professional judgement—supported through role-playing, simulations, scenarios, and games
- Self-discovery and personal growth—supported through reflection on experience

The types of learning activities the participants in this study described as meaningful and motivating in their university/college classes can be seen in Davis and Arend’s list of
categories. For example, the participants consistently reported being motivated by hands-on projects, discussion-based inquiry, simulations, feedback by instructors and peers, and reflection on their learning outcomes. The findings of this study suggest that many instructors/professors in various academic settings are implementing the above or similar theories of curriculum design and embedding differentiation into courses.

**Agency**

This phenomenological study grew out of a deficit found in the literature—a lack of widespread, systematic differentiation and support for gifted learners in secondary education. This study listened to first-person, lived experiences of gifted women who have recently graduated from high school. What did they experience and how do they perceive their giftedness? From this place of deficit came amazing stories of resilience, self-advocacy, and agency. The most surprising finding which emerged from the study was the level of agency in which all the women engaged to guide their own educational experiences. The lack of systematic differentiation in the classroom influenced each participant to seek out other learning situations. The findings of this study are consistent with the findings of Mudrak and Zabrodska’s (2015) study of how identified gifted adolescents interpret their giftedness and develop a sense of agency:

The participants who showed the highest level of achievement and motivation in early adulthood perceived themselves as “agents of their learning” and made sense of their extraordinary outcomes as resulting from effortful, proper, and self-directed practice. Our findings indicate that a sense of agency is critical to maintaining gifted-level achievement through adolescence (p. 55).

The idea of agency is not new in gifted education. Long associated with gifted students, agency is a concept closely related to motivation and the power to act (Willcocks, 2017).
Dewey (1916) describes ideal learners as agents involved in determining their own outcomes. Gagne’s Differentiated Model of Giftedness and Talent (2012, as cited in Davis, Siegle, & Rimm, 2011) describes how gifts (natural abilities) can be developed into talents (specific skills) through a process that is moderated by personal and environmental influences, including motivation and volition.

Starting in high school (or even earlier) and continuing into university/college, the participants in this study all exhibited agency by actively choosing and participating in multiple, concurrent opportunities outside of the classroom. Dixon writes:

> as multipotentialed gifted adolescents wrestle with their identities, they benefit from opportunities to better understand and explore their abilities, interests, preferences, styles, choices, careers, and values before they commit to directions that may limit future opportunities (2018, p. 237).

The growing research base on talent development demonstrates the importance of outside-of-school experiences and the contribution of different kinds of experiences to the development of high levels of academic talent (Olszewski-Kubilius, 2015). This study contributes to the research base by spotlighting the importance of agency for gifted students to explore their multipotentiality and develop their talents. Each participant’s ability to independently control and regulate her learning is reflected in the extracurricular activities which supplemented her formal academic classes (see Table 5.2). When asked in the interview if they had ever asked a teacher for differentiation in terms of content, process, product, or setting, only a few of the participants had indeed asked, but rarely.
Table 5.2

Participants’ Extracurricular Activities

<table>
<thead>
<tr>
<th>Participant</th>
<th>Extracurricular Activities in High School</th>
<th>Extracurricular Activities in University/College</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexa</td>
<td>Competitive soccer, golf, HS Community Service board, founded high school’s Black Student Union chapter, Chapter President of National Honor Society, Summer Gifted Programs at [university]</td>
<td>Student-athlete: soccer, activism, President of Undergraduate Student Government, Student Representative on Faculty Advisory Committee, internships,</td>
</tr>
<tr>
<td>Christina</td>
<td>ROTC, Community Service in Costa Rica, Student Representative in State Gifted Advocacy organization, literacy tutoring</td>
<td>Literacy tutoring, activist in LGTBQ organization, activist for gifted education organization</td>
</tr>
<tr>
<td>Claire</td>
<td>Knowledge Bowl (interdisciplinary academic quiz bowl-like competitions), National Honor Society, community service projects. She also taught Bridge for the middle school club</td>
<td>Honors program student led book club, curling, volunteer at campus COVID testing site</td>
</tr>
<tr>
<td>Dara</td>
<td>Played cello in orchestra, National Honor Society, hiking,</td>
<td>orchestra, pit crew for college theater, community engagement club (organizing volunteer opportunities for fellow students)</td>
</tr>
<tr>
<td>Elisabeth</td>
<td>Math Olympiad, Academic Decathlon, soccer, badminton, Nordic skiing, tuba in marching band, piano</td>
<td>Year-long study abroad in South Korea, ultimate frisbee intramurals</td>
</tr>
<tr>
<td>Ellie</td>
<td>theater tech department managing props and set design, summer internship at local Zoo, mountain climbing, scuba diving, archery</td>
<td>advanced scuba training for marine biologists, social partner-dancing club</td>
</tr>
<tr>
<td>Izzy</td>
<td>Choir, volunteered 500+ hours at local non-profit philanthropy organization, skiing</td>
<td>volunteer at a local domestic abuse shelter, internships, skiing</td>
</tr>
<tr>
<td>Jackie</td>
<td>Competitive soccer, volunteered in daycare inside HS building, computer science internships, Chinese school (Saturday school)</td>
<td>Student-athlete: soccer, sorority, campus tour guide, internships, teaching STEM in Ghana &amp; Peru, skiing.</td>
</tr>
<tr>
<td>Molly</td>
<td>competitive soccer on traveling team, academic decathlon, cello in large urban youth symphony, canoeing</td>
<td>Student-athlete: soccer, sorority, internships, Student Representative on Faculty Advisory Committee, voter registration organization volunteer, skiing</td>
</tr>
</tbody>
</table>
Sarah: three varsity sports (softball on a traveling team, track, and diving), several student government roles, tutored for National Honor Society, community service.

Student-athlete: softball, participates in student leadership and clubs, such as Women in Engineering, hiking

Several participants responded that they preferred to merely complete required coursework, regardless of the work’s difficulty or lack thereof. The participants preferred to put any extra energy or time towards chosen tasks/activities that they perceived as meaningful and enjoyable. Their choices are reflected in the literature on talent development:

Feminine talent development occurs when women with high intellectual, creative, artistic, or leadership ability or potential achieve at high levels in an area they choose, [and] make contributions they consider meaningful to society; these contributions are enhanced when these women develop personally satisfying relationships and pursue what they believe to be significant and consequential work, resulting in the betterment of some aspect of society or their personal work (Reis, 2005, p. 217).

Beyond padding a college application resume, the participants’ chosen extracurricular activities consumed as much time as school, sometimes more. Alexa explained that she prioritizes extracurriculars over school and she “prefers to put her energy and bandwidth towards what she is good at, instead of trying to spread herself too thin.” On their path to self-actualization (Maslow, 1968, as cited in Davis, Siegle, & Rimm, 2011), the women in this study show an astonishing breadth of talent; these “significant and consequential” pursuits were emotionally, psychologically, socially, and physically nourishing.

Self-Perception

Based on the literature reviewed in preparation for this study, the topic of imposter syndrome was expected to be a pervasive experience for a population of gifted
women in higher education, especially in STEM majors (Kolligian & Sternberg, 1991). However, the degrees of feeling like an imposter varied between the ten women interviewed. Three of the women—Christina, Claire, and Dara—did not report experiencing imposter syndrome in high school or university/college. Five of the women—Alexa, Ellie, Jackie, Molly, and Sarah—narrowly experienced imposter syndrome in specific subjects in school, most notably in the foundational courses of their STEM majors. However, for these participants, the feeling of being an imposter in class did not persist past the first two years of university/college. As they succeeded in classes and delved into extracurriculars, self-confidence and a healthy understanding of limits slowly replaced feelings of inadequacy and false accomplishments. Nine of the ten participants presented strong self-esteem in higher education. “Girls with healthy self-esteem have an appropriate sense of their potential, their competence, and their innate value as individuals” (Orenstein, 2013, p. xxii). Only two of the women—Izzy and Elisabeth—reported pervasive perceptions of suffering from chronic self-doubt in high school, and for Izzy continuing into university. In Izzy’s case, her misunderstanding of giftedness may have contributed to her feelings of “not being gifted anymore” (discussed more below). For the others, perhaps years of strong advocacy (by their mothers and other strong mentors) helped the participants to feel empowered and confident in their abilities.

The findings of this study strongly support previous research findings that female students in STEM majors are often strongly influenced by a female role model/mentor/mother in STEM (Dawson et al., 2015; Kahn & Ginther, 2017). Six of the women in this study are majoring in STEM subjects (see Table 4.2) with mothers who are
occupied in STEM careers. Eight of the participants have mothers with advanced degrees and high-achieving careers. Craig et al. (2018) report that parent attitudes, actions, and advocacy influence undergraduate students’ choice in entering STEM disciplines and careers. All of the women in this current study reported having strong role models—parents, coaches, GT coordinators, teachers, etc. The one participant in the study who self-identified as growing up in a low socio-economic status household, Christina, repeatedly emphasized that her “superpower” was seeking out and taking advantage of mentors: “if there's anything that my giftedness has helped me to do is create those systems and those networks. That is ultimately what connects me to feeling so heavily supported by my giftedness.” Raised by a single mother, Christina has benefitted from meaningful mentors: GT Coordinator, ROTC Commanding Officer, and a point-person from the scholarship program from which she received a full 4-year scholarship (tuition, room, and board). Mentors encourage, guide, and support gifted young women and are especially valuable during critical periods of development (Kerr, 1994). Christina, along with the other participants, claimed that the strong role models and mentors in their lives helped them learn to advocate for themselves.

The most unexpected finding related to self-perception in this study centers on the participants’ conceptions of giftedness. Identified as gifted in childhood, all of the women experienced some degree of gifted programming in elementary school–homogeneous all-gifted classrooms or pull-out programs. Surprisingly, several of the participants equated being gifted with childhood, a characteristic they believed they eventually outgrew in high school. They knew that they were receiving different or faster-paced content in
elementary (and possibly middle) school, but they did not know why. Some of the women understood gifted to mean “smarter than others” and viewed the term as elitist. The two Asian-identifying participants in the study both felt strongly against using the word “gifted” (“smarter than others”) and humbly preferred to not boast their intelligence to others. They were very sensitive about appearing to be “better than others.” Few participants had a GT cohort with whom they progressed through the years, mainly in advanced math; only a couple of the participants had a GT coordinator who supported them in middle school. One participant, Christina, was blessed with an industrious district GT coordinator who enticed cohorts of GT students together with free pizza and seized the opportunity to teach them about the nature of giftedness—specifically how they might better understand their own giftedness.

Most of the women still identify as being gifted, without fully understanding the nature of their own giftedness. Three of the women—Claire, Dara, and Elizabeth—do not think of themselves as gifted; it is not part of their core identity. One of the participants, Izzy, admitted that before the interviews, she no longer considered herself as gifted; however, after experiencing the reflection process of the first interview, she was beginning to see herself as gifted again. Several of the women—Molly, Alexa, Christina, Sarah, and Jackie—view their giftedness as a privilege that has presented them educational opportunities.

When participants were asked to describe the characteristics of giftedness, the concept of “deep curiosity” and “wanting to always know more” was repeated by multiple participants. When asked about their own gifted traits, most were at a loss for an
answer. Prompted by the researcher to just describe themselves, they came up with words such as perfectionist, empathetic, competitive, idealistic, talkative, emotional—yet they did not associate these traits with giftedness.

For all of the women, the community of peers they have found in university/college has inspired them to release their inner “nerd.” Molly happily explained the experience of being around incredibly talented and intelligent people makes her feel less unique, while at the same time liberates her to more genuinely be herself. Most of the women shared stories of enjoying having friends and partners with whom they can be social AND intellectual. All of the women expressed positive experiences with intellectual peers and stimulating classes in higher education. While all of them reported the level of academic challenge was higher than high school, they did feel prepared for the academic rigor.

These findings clearly suggest is that the participants, with the exception of Christina, have not received training or instruction on the traits of giftedness or the social-emotional challenges that may manifest. The circumstance that nine of the women interviewed requested more information on the nature and needs of giftedness underscores their genuine yearning to better understand themselves.

Educators working with gifted students should be conscious of their students’ affective needs in addition to their intellectual and academic needs. Gifted students are generally more sensitive, more intense, more empathetic than others. Interactions with gifted students need to honor their diverse social backgrounds, interests, and needs (Davis & Douglas, 2021). As Joy Davis writes: “Gifted students, like all students, have multiple
and overlapping identities that result from the varied social constructs that affect their lives: cultural or ethnic group, family and community, how society perceives them, gender, income level, academic strengths, interests, language, and more” (Davis & Douglas, 2021, n.p.). This concept is called intersectionality; overlapping social identities may be both empowering and oppressing. This study primarily examined the intersectionality of giftedness and gender; however, the participants are navigating multiple identities. For example, Ellie reflected at length on the intersectionality of her giftedness and her neurodiversity – she attributed her giftedness with helping her develop strategies for coping with her ADHD in the classroom. Christina talked about the intersectionality of her giftedness and low socioeconomic status; she explicitly called out her giftedness as an advantageous tool to financially enable her college education. In another example, Alexa described her experiences of attending school with only a few black students in the school; her race was marginalized, so she decided to act by founding her high school’s Black Student Union chapter. At the university, she served as President of the Student Union. She reflected that her giftedness and race intersected in that her race opened opportunities for her, and she was able to capitalize on these opportunities because of her giftedness. Educators working with gifted students should be cognizant of students’ multiple identities, and how those identities can support or be in conflict with each other (Kerr & Gahm, 2018).

Limitations of the Study

The strength of a phenomenological research approach is that it can describe the common meaning for a small group of participants (Creswell, 2013)–in this case, a group of gifted female students reflecting on their lived instructional experiences in secondary
and higher education. Data collection via open-ended interviews enables the researcher to capture unforeseen opinions and anecdotes which can be rich with meaning. However, no study is without limitations. One limitation of this qualitative phenomenological study is that the snowball method of recruitment led to an imbalance in the majors represented. Six of the ten participants are majoring in STEM subjects. A similar study with a majority of humanities majors, for instance, could have led to different findings. For example, several of the participants in this study referred to having imposter feelings surrounding their advanced math and computer science classes. Perhaps students in other majors would not have borne similar narrow experiences with imposter syndrome. The snowball method of recruitment also resulted in a disproportion in terms of race, ethnicity, and socioeconomic status. While the race, ethnicity and socioeconomic status of the participants reflect the institutions from which they were enrolled, a similar study with varied proportions of diversity might reveal different findings. Another limitation is that the results only reveal the students’ perceptions of received curriculum without knowing the intentions of the teachers’ operationalized instruction. For example, a teacher may have intended to differentiate curriculum, but the student did not recognize or remember it as such. However, teacher intentions are not the focus of this study. Which leads to a third limitation: the participants may not be able to remember all types of differentiation that they experienced or may not connect the impact of their high school experiences with their transition into university/college. The shared stories arise from the participants’ perception of past events from this moment in their lifespan. Phenomenological research utilizes multiple focused interviews that rely on the participants’ memories and reflections to revisit experiences (Moustakas, 1994). Despite
these common limitations of qualitative research, the findings, while not generalizable, offer valuable complements to quantitative findings in the body of research. In this study specifically, gifted female students’ perceptions can be best understood by asking them directly.

**Implications for Practice**

**Differentiation**

After benefitting from gifted programs in elementary and middle school, the women in this study recalled very few instances of classroom differentiation in secondary school. Implications for secondary educators point to a need for more systematic adjustments made to curriculum instruction and assessment for gifted students so that they can experience challenge, choice, and opportunities for acceleration that may be lacking in the regular classroom activities (Jacobs & Eckert, 2017). Students differ from each other in educationally significant ways; these differences should be addressed in the learning experiences they are offered. The findings in this study also show that students are not likely to demand differentiation even when experiencing boredom in class or frustration with slow pacing. Thus, the responsibility falls to course planners and instructors. Furthermore, teachers should be explicit with their differentiation strategies and potentially enlist gifted students’ input as to the type of differentiation—the participants in this study exhibited their ample abilities to take agency over their own learning when allowed. Perhaps, given the opportunity to collaborate with teachers on course differentiation, gifted students would have useful insight. For example, in one of the few instances in this study when a participant asked for differentiation, Dara successfully worked out a mutually satisfactory plan with her AP Macro Economics
teacher to self-study the content at an accelerated rate (process) in the library (setting).

Differentiation for gifted students should not be abandoned in high school—as most of the participants experienced. An unexpected side effect of a lack of gifted programming or differentiation in the classroom was that some of the women in this study perceived that they were no longer gifted in high school, since the school no longer provided them with support for their unique needs.

Similarly, the participants lamented gaps in effective academic counseling in high school. They reported a lack of support or encouragement to take rigorous classes. For example, Jackie complained that she was not properly advised on which science classes she could accelerate. Dara, Molly, Sarah, Jackie, and Alexa all described examples of either not being informed of rigorous course plans, or actually being discouraged from taking multiple, concurrent AP courses. Looking back from their university/college perspective, they expressed a desire for better academic counseling in high school. According to their stories, they were able navigate course plans based mostly on peer group advice; however, most of them felt dissatisfied by the counseling they received. They felt the guidance counselors did not understand their capabilities. The implication for practice is that secondary school counselors also need training in the nature and needs of gifted students.

In higher education, instructors who have extensive depth and breadth of content knowledge are better able to foster student motivation. “These teachers have the background to be comfortable differentiating content, straying from the familiar textbook territory, and delving into a variety of instruction strategies, such as in-depth discussions,
with their students” (Siegle et al., 2014, p. 35). While faculty in higher education may possess extensive content knowledge, professional development could enable faculty to increase their pedagogical awareness and effectiveness in meeting the needs of all students, including high-ability learners (Imbeau & Beasley, 2017). Faculty training could focus on characteristics of giftedness and differentiation strategies; for example, workshops on Universal Design for Learning (Rose, 2000) could be modified to highlight elements to help gifted learners.

Implications for Policy

Agency

All of the women in this study described their deep sense of curiosity and love of learning. They immersed themselves in restrictive and prescriptive courses of formalized education; they met major/minor requirements and aced standardized tests. Concurrently, the participants all demonstrated the ability to supplement their academic journeys with other sources of learning and talent development. By engaging in multiple, parallel extracurricular pursuits—sports, arts, employment, activism, community service—they explored their multipotentiality on paths of self-actualization (Dixon, 2018). Their skills in self-advocacy combined with curiosity and multipotentiality naturally implies that gifted students should be capable of designing their own academic course of learning. Joy Lawson Davis strongly advocates: “give students agency and voice in the creation of instructional designs that meet their interests, strengths, and needs” (2021, n.p.). While she is primarily advocating for traditionally underrepresented gifted students, this principle could benefit all gifted students. Beyond interdisciplinary majors, an open
curriculum in which students design their own major could lead to extraordinary opportunities for learning.

Brown University has successfully offered this rigorous innovative approach to education for more than fifty years. According to Rashid Zia, Dean of the College at Brown University, “When students are given the choice to define their own pathways, it helps to empower them not only in exploring their interests, but in advancing the frontiers of knowledge” (Celebrate 50 Years of Brown’s Open Curriculum, 2019). Instead of taking a prescribed set of general core requirements, Brown’s open curriculum allows students to be the architects of their own educational experience. “It gives students the freedom to tap into their own interests and shows them how studying different subjects develops different ways of learning—whether they want to explore many interests or delve deeply into the subject they love” (Brown’s Open Curriculum, n.d.). Brown students work closely with a skilled advisor in designing their own educational experience. This type of open curriculum may not be practical for a university-wide program, as it may require a complete reimagining of collegiate programming. Nevertheless, perhaps an open curriculum or design-your-own major concept could be offered to a limited population of students such as Honors Program students or gifted students who self-select the option.

Self-Perception

As nine of the ten participants in this study did not fully understand the manifestations of their own giftedness, a glaring implication for students, parents, and
educators is that gifted students need explicit training in the nature, development, types, and needs of gifted individuals.

We must teach gifted young people to accept their own imperfections and eccentricities so they can find the freedom to explore themselves with a sense of security and self-assurance. This can be accomplished by teaching gifted students about giftedness, itself (Clemens, n.d., n.p.).

The National Association for Gifted Children (NAGC) has published “Pre-K to Grade 12 Gifted Programming Standards” (2019) which are essential for providing systematic programs and services to gifted students. The first Standard, Learning and Development, lists three essential outcomes related to student self-understanding (see Table 5.3). Living as one’s most authentic gifted self requires a great deal of self-exploration, understanding, and courage. The inherent emotional sensitivity central to the gifted experience can lead to anxiety and self-doubt, as some of the women in this study have experienced.

Table 5.3

NAGC Gifted Programming Standards

<table>
<thead>
<tr>
<th>STANDARD 1: LEARNING AND DEVELOPMENT</th>
<th>Student Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1. Self-Understanding.</td>
<td>Students with gifts and talents recognize their interests, strengths, and needs in cognitive, creative, social, emotional, and psychological areas.</td>
</tr>
<tr>
<td>1.2. Self-Understanding.</td>
<td>Students with gifts and talents demonstrate understanding of how they learn and recognize the influences of their identities, cultures, beliefs, traditions, and values on their learning and behavior.</td>
</tr>
<tr>
<td>1.3. Self-Understanding.</td>
<td>Students with gifts and talents demonstrate understanding of and respect for similarities and differences between themselves and their cognitive and chronological peer groups and others in the general population.</td>
</tr>
</tbody>
</table>
Some graduate teacher training programs offer courses in gifted education; the content of such courses could be modified for undergraduate courses in higher education, perhaps offered as an elective course/seminar in honors programs. The development of a well-supported and intentional affective curriculum is essential to care for gifted students (Wiley, 2018). University/colleges could provide affective education (social and emotional development) which focuses on identity, self-efficacy, and peer interactions; affective education should consider cultural aspects such as ethnicity, language, race, gender, and socio-economic background of students (Wiley, 2018). Affective curriculum could take place in many university units, including but not limited to health & counseling centers; honors programs; residence hall groups; offices of diversity, equity, and inclusion; and student outreach and support programs.

Secondary school teachers should receive training on the needs of gifted learners as recommended by the NAGC Teacher Preparation Standards in Gifted and Talented Education (2019). Another potential source of support could come from GT specialists; a district GT coordinator could advise a cohort of gifted students in high school, as Christina described in her interview. She embraced not only the opportunity to learn about the nature of giftedness, but also the supportive group of gifted students in her high school. “Each high school should have an individual designated as the coordinator of its gifted services. This individual should have some training in gifted education” (Olszewski-Kubilius & Limburg-Weber, 1999, p. 7). In addition to GT specialists, students could also benefit from guidance on curriculum plans. Some states already have
a recommended protocol for Advanced Learning Plans (ALP) in secondary education in which gifted students can participate in setting their learning goals. Two types of goals are included for gifted students in the ALP: achievement and affective (Colorado Department of Education, 2018). Implementing systematic use of ALPs as designed could significantly benefit gifted high school students by not only providing mentor support, but also cultivating agency. The women in this study expressed interest in learning about giftedness; the clear implication is that gifted students should be taught about giftedness in secondary and/or higher education, as recommended in the NAGC Standards.

**Future Research**

Concerning implications for future research, this work foregrounds further inquiries into the experiences of gifted students. The data collected in this study (nearly 25 hours of video = 1000+ pages of transcripts) is rich with intriguing ideas that the women touched on as their stories swirled and diverged from the interview protocol. Moreover, the findings that address the research questions regarding differentiation and its effects on self-perception could be further explored. Six future research projects are suggested here.

**Longitudinal Study**

Firstly, a qualitative longitudinal study of the same 10 participants at 10-year intervals would give insight into the continued arc of their education and beyond. In a longitudinal study, researchers repeatedly examine the same individuals to detect any changes that might occur over a period of time (Saldaña, 2003). The emergent nature of
qualitative research permits interchange of research methods; this study could provide a basis for comparison with future datapoints in a longitudinal study. Thus, extending this phenomenological study to a longitudinal one would enable understanding of the participants’ future experiences; specifically, will the participants’ sense of agency as demonstrated with their extracurriculars persist post-graduation? Saldaña writes, “Deep reflection on past change sometimes serves as a stimulus for future change” (2003, p. 38). In other words, the process of participating in this research study may affect the participants in the future. Already, their deep reflection on their educational experiences and the nature of their own giftedness sparked revelations for Izzy, Jackie, Ellie, and Dara during the study. Perhaps other participants will be motivated to further seek agency, advocate, or better understand their own giftedness.

**Agency in Higher Education**

Secondly, future research could examine gifted students’ agency in higher education. How do gifted students exhibit agency in taking responsibility for their education in higher education and beyond? Based on the findings of this study, the ten women all exhibited agency by supplementing their academic classes with extracurricular campus activities, as well as study abroad programs and internships. A broader study with more participants could better understand and expand these findings.

**Needs Analysis: Nature of Giftedness**

Thirdly, further research could focus on a systematic needs analysis for a formal training/course for gifted students about the nature and needs of giftedness. Such a course could aim to help gifted students understand the conceptual foundations and definitions of giftedness; how intelligence, creativity, and other factors are related to giftedness; and
how the characteristics of giftedness positively and negatively manifest (Hafenstein, 2014). A needs analysis for a university/college course could lead to eventual course offerings—perhaps in honors programs.

**Alternative Grading Options**

Fourthly, future research could aim to better understand the implications of grades for gifted students in higher education. All the participants in this study experienced alternative grading formulas during the COVID-19 pandemic and several (Alexa, Molly, Jackie, and Dara) attended schools with alternative grading formulas already in place. Collectively, the women reported positive reactions and increased motivation as a result of alternative grading options. For example, they appreciated the agency they had over choosing whether to take a traditional grade (A, B, C, D, F) or use some kind of Pass/Fail/No Record formula for a course grade.

[Traditional] grades can dampen existing intrinsic motivation, give rise to extrinsic motivation, enhance fear of failure, reduce interest, decrease enjoyment in class work, increase anxiety, hamper performance on follow-up tasks, stimulate avoidance of challenging tasks, and heighten competitiveness (Schinske & Tanner, 2014, p. 161).

Future research could interview gifted students not only at universities/colleges that previously utilized some form of alternative grading, but also at the many additional universities/colleges that temporarily implemented alternative grading in 2020-2022. This unique moment in history provides a much larger pool of potential participants for this topic of research.
**Parent Education/Occupation**

Fifthly, future research could probe the influence of parents and role models on undergraduate and graduate students’ entering STEM disciplines and careers (Craig et al., 2018; Kahn & Ginther, 2017). How does parent achievement influence gifted young adults? Does economic privilege affect the educational experiences of gifted women? Based on the findings of this study, all the participants spoke of strong female role models in their lives—mothers, aunts, teachers, coaches, and peers. Six of the women in this study are majoring in STEM subjects (see Table 4.2) with mothers who are occupied in STEM careers. Eight of the participants have mothers with advanced degrees and high-achieving careers. Due to the small sample size and design of this phenomenological study, a correlation cannot be determined between high-achieving parents and children. A mixed-methods study with more participants could better understand and expand these findings.

**Survey on Differentiation in Secondary School**

Finally, gifted high school students could be surveyed on their experiences with differentiation in courses. If resources were available, a regional or national online exit survey could target gifted seniors leaving high school on their experiences with differentiation. While online surveys do not provide the same level of detail and understanding as qualitative interviews, surveys do have the advantage of scalability. Online surveys allow a researcher to reach thousands of people with common characteristics in a short amount of time, despite possibly being separated by great geographic distances (Wright, 2005). As this current study found few instances of
differentiation in secondary school classes, a broader study with more participants could confirm or expand upon these findings.

**Summary of Future Research**

To summarize, the opportunities for future research of gifted women’s experiences are numerous. Surveys, longitudinal studies, focus groups, qualitative, quantitative, and mixed methods research are appropriate and necessary to explore the experiences, strengths, and needs of gifted women. Although research on gifted females has advanced throughout the generations (Callahan, & Hertberg-Davis, 2018a; Kerr, 1994; Reis 2002, 2005; Rimm,1999), more research is needed to continue the momentum in understanding common strategies and characteristics of gifted women. In this way, research can aspire to inform practice and policy to help support future generations of blossoming, gifted women.

**Conclusion**

The seed for this qualitative study of ten amazing, gifted women came from my own gifted experience—a seed of hope that gifted and talented daughters raised in the new millennium would have a better educational experience than I did in the 1970s and 1980s—a hope that they would not know the inescapable sexism and subsequent imposter syndrome that I experienced—an optimism that a half-century of research on giftedness and advocacy for equitable GT education would have a positive effect on the development of Gen Z gifted women.

While the findings expose deficit, they also reveal power. Found wanting was the lack of differentiation and overarching gifted support services in secondary education, along with a weak self-understanding of giftedness for most of the participants. Different
degrees of imposter syndrome were found lurking in their lives. Despite these challenges, the participants are thriving in higher education. Each participant has developed her own strategies to cope with academic and social stress, and each has learned to be a strong self-advocate. All participants reported strong mentors and role models, including their advocate mothers. Auspiciously absent from the findings is experience with sexism in school. Even when pressed on the subject, sexism did not generally resonate for the participants as an issue in their education.

After being identified as gifted in childhood, the participants all benefitted from some level of gifted programming in elementary school—either in homogeneous gifted classrooms or pull-out programs. Each participant has exhibited agency by taking control of her participation in extracurricular activities and talent development. As a result of taking multiple AP classes, the participants felt academically prepared for university/college. In higher education, they described both rigid (lecture-based) and differentiated (labs, discussion, project-based) opportunities for learning. The dual persona in each of the women has enabled them to succeed in both types of classes, even while preferring one type of learning over the other. They are adept at navigating the business of educational institutions.

In conclusion, this study endeavors to better understand the lived experiences of ten gifted women in higher education. Their recollections and sharing of their personal paths through gifted education illuminate the divergence and similarities in their journeys—the convergence of their experiences form the basis for the themes discussed in this chapter. Through the process of the interviews, the women reflected vulnerably on their earlier educational experiences; my heart was warmed by hearing how changed their
educational journeys were from my own. As a result of getting to know the women in this study, I was awed and empowered by the rich stories of their lived experiences. They graciously and thankfully contributed to the growing volume of research on student perception of gifted education.
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Appendix A

Poem

The Gifted, You Know
By James Delisle
Gifted Child Today (July/August 1999)

“What’s wrong with enrichment for all?” you might ask.
“Young minds are astir, committed to task.
It’s all well and good, and our schools have a mission
That every child’s gifted—that’s part of their vision.
Computers are buzzing, minds are awhirl.

Proclaiming all kids, every boy and each girl
Are learning the things they will need to succeed
What’s wrong with enrichment for all, I do plead?”

I sit and I think, and I think as I sit
Why this fitness for all is a really poor fit.
For our children in schools who used to be gifted
Now sit untouched, ‘cause the focus has shifted
To schoolwide enrichment and plans that equate
One’s mind to a project on which one can rate
A child’s depth of knowledge from zero to eight.

Eight! That magic number that changes quite often
When Gardner and friends begin their a coughin’
Up a new intelligence for this talent or that,
“Naturalist!” “Spatial!” with the drop of a hat,
A new way to be smart, a new way to be lifted
Into this land of enchantment we used to call “gifted.”
But no more, not now, never again, for you see
With these new kinds of smarts, “you ain’t better than me”
(Or should I say, “aren’t,” and should I say “I”-
My linguistic panache has just gone bye-bye.)

When everyone’s smart, per Gardner’s rules
Something big needs to happen in everyone’s schools.
Talents need to develop, products emerge
So we can all handle the on-coming surge
Of projects and puppets and plays and productions
And other concoctions and various functions
That prove gifts are present in everyone’s mind. 
Just one thing’s the matter, does anyone find...

That the gifted are missing from this rosy picture? 
The gifted, you know, the kids whose main fixture 
Is a presence of mind that’s more complex than most. 
It’s not that they’re show-offs; they don’t mean to boast 
But their minds race ahead while others just coast. 
The gifted, you know, those kids whose emotions 
Are more up-and-down wavy than the world’s greatest oceans.

The gifted, you know, those kids with a passion, 
To question and probe in their deep need to fashion 
A world in their minds and a world in their hearts 
That doesn’t distinguish itself into parts 
Like “arsty” or “mathy” or “wordy” or any 
Of those multiple intellects that can’t hold a penny 
To an overall sense that few are like you, 
Alone in your feeling, alone in your view 
Of a world built for many tho’ you’re one of the few.

I’m afraid for the gifted, the ones we once knew 
As vibrant a bunch as this Earth ever grew. 
They’ve gone underground, to escape from the masses 
Who think that all students belong in all classes 
Be you smarty-smart Suzy or not-so-apt Sammy, 
Our gifted, in schools, are receiving a whammy 
From those who have come to the foregone conclusion 
That all can get served by this beast called “inclusion,” 
Or “enrichment for all” or “multiple talents,” 
Whatever you call it, we’ve now lost out balance, 
For when all are as many, and all are as one 
The kids who lose out on all of the fun 
Are the kids on the edges, the ones on the side 
The gifted who ask, “When’s the end of this ride?”

“What’s wrong with enrichment for all?” you declare. 
Ask a gifted child somewhere; the answer lies there.

Click to return to Chapter One.
Annex B

Key Definitions

**acceleration** - A strategy of progressing through education at rates faster or ages younger than the norm. This can occur through grade skipping or subject acceleration (National Association for the Gifted, n.d.).

**cluster grouping** - A grouping assignment for gifted students in the regular heterogeneous classroom. Typically, five or six gifted students with similar needs, abilities, or interests are “clustered” in the same classroom, which allows the teacher to more efficiently differentiate assignments for a group of advanced learners rather than just one or two students (National Association for the Gifted, n.d.).

**Common Core State Standards (CCSS)** - A set of academic standards in mathematics and English language arts/literacy (ELA) proposed in 2013 that outline what a student should know and be able to do at the end of each grade. The standards place emphasis on helping students obtain skills and knowledge necessary to succeed in college and careers (National Association for the Gifted, n.d.).

**curriculum compacting** - An instructional technique that allows teachers to adjust curriculum for students by determining which students already have mastered most or all of the learning outcomes and providing replacement instruction or activities that enable a more challenging and productive use of the student’s time (National Association for the Gifted, n.d.).

**differentiated instruction** - a systematic approach to planning curriculum and instruction for academically diverse learners. It is a way of thinking about the classroom with the dual goals of honoring each student’s learning needs and maximizing each student’s learning capacity (Tomlinson et al., 2003, p. 6).

**enrichment** - Activities that add or go beyond the existing curriculum. They may occur in the classroom or in a separate setting such as a pull-out program (National Association for the Gifted, n.d.).

**flexible grouping** - An instructional strategy where students are grouped together to receive appropriately challenging instruction. True flexible grouping permits students to move in and out of various grouping patterns, depending on the course content. Grouping can be determined by ability, size, and/or interest (National Association for the Gifted, n.d.).

**gifted** - Students, children, or youth who give evidence of high achievement capability in areas such as intellectual, creative, artistic, or leadership capacity, or in specific academic fields, and who need services and activities not ordinarily provided by
the school in order to fully develop those capabilities (National Association for the Gifted, n.d.).

**heterogeneous classroom grouping** - Grouping students by mixed ability or readiness levels. A heterogeneous classroom is one in which a teacher is expected to meet a broad range of student needs or readiness levels. Also referred to as inclusion or inclusive classrooms (National Association for the Gifted, n.d.).

**homogeneous classroom grouping** - Grouping students by need, ability, or interest. Although variations between students exist in a homogeneous classroom, the intent of this grouping pattern is to restrict the range of student readiness or needs that a teacher must address (National Association for the Gifted, n.d.).

**magnet schools** - A public school program that focuses on a specific learning area such as math, science, technology, or the performing arts. Magnet schools have been established to meet the specific learning needs of the gifted (National Association for the Gifted, n.d.).

**overexcitability** - A theory proposed by Kazimierz Dąbrowski, a Polish psychologist, psychiatrist, and physician, that suggests that some individuals have heightened sensitivities, awareness, and intensity in one or more of five areas: psychomotor, sensual, intellectual, imaginational, and emotional (National Association for the Gifted, n.d.).

**pull-out program** - A program that takes a student out of the regular classroom during the school day for special programming (National Association for the Gifted, n.d.).

**social-emotional needs** - Gifted and talented students may have affective needs that include heightened or unusual sensitivity to self-awareness, emotions, and expectations of themselves or others, and a sense of justice, moral judgment, or altruism. Counselors working in this area may address issues such as perfectionism, depression, low self-concept, bullying, or underachievement (National Association for the Gifted, n.d.).

**student agency** - agency implies a sense of responsibility as students participate in society and aim to influence people, events and circumstances for the better. Agency requires the ability to frame a guiding purpose and identify actions to achieve a goal. It is about acting rather than being acted upon; shaping rather than being shaped; and making responsible decisions and choices rather than accepting those determined by others. (OECD, 2019, p. 4)
Appendix C

Recruitment Emails

Email 1

Dear [potential participant name],

I am a PhD student from the Department of Curriculum and Instruction, Morgridge College of Education at the University of Denver. I obtained your contact info from [name].

I am inviting you to participate in my doctoral dissertation research about the educational experiences of gifted women. You are eligible to participate if you were identified as gifted in your K-12 schooling and have attended at least one year of higher education (college or university). The purpose of this qualitative research is to learn about the lived experiences of gifted girls/women in secondary and higher education. Understanding gifted students’ perceptions of how curriculum and pedagogy are meeting their needs can hopefully inform best practices in classroom differentiation.

Participation in the study is completely voluntary. If you are interested in participating, you can access the initial Qualtrics survey here [link].

Participants who take part in the research interviews will be given a thank you $25 gift card.

If you have any questions about the study, please email me.

I look forward to hearing your story!

Best,

Ann Makikalli

Email 2

Dear [participant name],

Thank you for taking the Qualtrics survey. Good news–you meet the inclusion criteria for the study of gifted women in higher education.

I would like to set up times to conduct individual interviews with you; please use this link:
[calendar link]

The process includes 2 interviews of approximately 1-hour each. The first interview will mainly focus on your high school experiences, and the second interview on your college/university experiences. I am hoping to conduct the interviews over the next 2-3
weeks.

I do have one question now:

1. How old were you (or what grade) when you were identified as gifted? Do you remember the process? If so, can you tell me about the identification process (test, interview, evaluation of your schoolwork, etc.?)

I look forward to hearing about your experiences as a gifted woman.

Best,
Ann
Appendix D

Recruitment Survey

Consent to Participate in Research

Study Title: Gifted Female Voices: Perceptions of Differentiation in Secondary and Higher Education
IRBNet #: TBD

Principal Investigator: Ann Makikalli, MA, PhD. Candidate. ann.makikalli@du.edu

Faculty Sponsor: Norma Hafenstein, PhD. Norma.Hafenstein@du.edu

You are being asked to participate in a research study. Your participation in this research study is voluntary and you do not have to participate. This document contains important information about this study and what to expect if you decide to participate. Please consider the information carefully. Feel free to ask questions before making your decision whether or not to participate.

The purpose of this form is to provide you information that may affect your decision as to whether or not you may want to participate in this research study. Please read the information below and email/call the researcher, Ann Makikalli (ann.makikalli@du.edu; 303-871-xxxx), to ask any questions you might have before deciding whether or not to give your permission to take part. If you decide to be involved in this study, you will be asked to give your permission at end of this form and this will be used to record it.

You are being asked to participate in this research because you are a gifted woman who has attended 1-5 years of higher education in the U.S.

Purpose

If you participate in this research study, you will be invited to share your experiences with gifted education in secondary school and higher education.

The purpose of this study is to understand the lived pedagogic experiences of female gifted students.

The total expected duration of this of the project is four months (February-May 2022); however, your involvement will be concentrated at the beginning of this study (February - March). If you choose to participate, you will be invited to:
- Participate in email exchanges and two Zoom interviews about your gifted educational experience (approximately 2 x 60 minutes).

**Interview:** The interview will focus on your gifted educational experience, with a few questions about your general experience and understanding of the gifted experience. The first interview will mainly focus on your high school experiences, and the second interview will mainly focus on your college/university experiences. The interview will include questions such as: "Tell me about some of the biggest challenges, obstacles, or frustrations you faced with learning in school? In classrooms?" and "Do you think of yourself as gifted? Is being gifted important to you?" Each interview will last approximately 60 minutes and will be done via Zoom at a time convenient you. After your interview is transcribed, you will be invited to read and edit for accuracy.

**Risks:** Participation in this study is associated with minimal potential risk. You may experience boredom or fatigue from looking at a computer screen for the length of participation. You may also feel discomfort at some of the questions asked about your thoughts, feelings, or behaviors; or during the social interaction portion of the study. These risks are not expected to be greater than anything you encounter in everyday life. You do not have to answer any questions you do not want to and may stop participating in the interview at any time. You may speak with Ann Makikalli to discuss any distress or other issues related to study participation.

**Incentives:** For your participation, you will receive nominal compensation in the form of a $25 Amazon gift card for participating in this research project. If you choose, you may also meet with the researcher after the conclusion of the study to debrief your experience.

**Recordings:** You will be video and audio-recorded at each Zoom interview. The recordings will be transcribed for the purpose of data analysis. Three years after completion of the study, the video-audio files will be destroyed. Transcripts (without use of any identifying information) of your interview may be reproduced in whole or in part for use in presentations or written products that result from this study. Neither your name nor any other identifying information will be used in presentations or in written products resulting from the study.

**Consent to video and audio recording solely for purposes of this research**
This study involves video/audio recording. If you do not agree to be recorded, you cannot take part in the study.

[ ] YES, I agree to be video/audio recorded.

[ ]
NO, I do not agree to be video/audio recorded.

[if participant answers NO, end survey = “If you do not agree to be recorded, you cannot take part in the study. Thank you for your interest.”]
Notice of Confidentiality: All information collected through this study will be kept confidential, which means that Ann Makikalli (the researcher) will not share any personally identifiable information about participants until data is de-identified. Participants will be given a pseudonym to protect their identity. University name and instructor’s names will also not be used. High school, college, university, and instructor’s names will be referred to by pseudonyms to protect the identities of the institution and participants. Despite these measures, we cannot guarantee anonymity of your personal data. Because of the nature of the data, it may be possible to deduce your identity; however, there will be no attempt to do so and your data will be reported in a way that will not identify you. Data will be collected using the Internet; no guarantees can be made regarding the interception of data sent via the Internet by any third party. However, Qualtrics data is encrypted.

Note about online interviewing: There is always the possibility of tampering from an outside source when using the internet for collecting information. While the confidentiality of your responses will be protected once the data are downloaded from the internet, there is always a possibility of hacking or other security breaches that could threaten the confidentiality of your responses.

Use of data: Video-audio recordings will be kept for three years after the completion of the study to be used in potential publications and/or presentations related to the study. De-identified data from this study may be shared with the research community at large to advance science and health. We will remove or code any personal information that could identify you before files are shared with other researchers to ensure that, by current scientific standards and known methods, no one will be able to identify you from the information we share. De-identified data may be used for future research without additional consent.

Voluntary Participation: Participating in this research study is completely voluntary. Even if you decide to participate now, you may change your mind and end at any time. If you choose to stop before the end of the study, you will still receive the compensation stated above. You may choose not to answer any question or choose to end your participation with the study at any time for any reason without penalty. If you decide to withdraw early, the information or data you provided will be destroyed. Questions: If you have any questions about this project or your participation, please feel free to ask questions now or contact Ann Makikalli at ann.makikalli@du.edu at any time.

If you have any questions or concerns about your research participation or rights as a participant, you may contact the DU Human Research Protections Program by emailing IRBAdmin@du.edu or calling (303) 871-xxxx or the faculty sponsor, Dr. Norma Hafenstein, at Norma.Hafenstein@du.edu or (303)871-xxxx.
By checking the box below, I confirm that I have read this form and decided that I will participate in the project described above. Its general purposes, the particulars of involvement, and possible risks and inconveniences have been explained to my satisfaction. I understand that I can discontinue participation at any time. My consent also indicates that I am at least 18 years of age. [Please print/keep a copy of this consent form for your records.]

☐ I agree to participate    ☐ I decline

[If participant answers I DECLINE, end survey = “Thank you for your interest.”]

This survey will gather data about you, your high school, and your college/university.

The estimated time to complete is 5 minutes.

A follow-up email will come within 48 hours.
Were you identified as gifted in your Kindergarten-12th grade (K-12) education?

- Yes, I was identified as gifted in my K-12 education.
- No, I was not identified as gifted in my K-12 education.
- Maybe, I am not sure.
The following questions apply to your high school.

1. How would you describe your high school?
   - Private
   - Public
   - I attended a combination of public and private high schools.
   - Home-schooled [if yes, “How many years of high school were you home-schooled?”]

2. What was the setting of your high school?
   - Urban
   - Small town
   - Rural
   - Other [if other, text box for explanation]

3. What was the approximate number of students in your grade/graduating class?
   - Fewer than 100 students
   - 100-500 students
   - 500-1000 students
   - More than 1000 students

4. What was the location of your high school(s)? (city, state)
   [text box for response]
The following questions apply to your undergraduate college/university.

5. How would you describe your college/university?
   - Private
   - Public
   - I attended a combination of public and private institutions of higher education.

6. What is the setting of your college/university?
   - Urban
   - Small town/rural
   - Other [if other, explain]

7. What is the approximate number of undergraduate students in total?
   - Fewer than 1,000 students
   - 1,000-5,000 students
   - 5,000-10,000 students
   - More than 10,000 students

8. What is the location of your college/university (city, state)
   [text box for response]

9. How many undergraduate years of college/university have you completed?
   - Less than 1
   - 1-5 years
   - More than 5 years

10. Did you take a gap semester/year? (Do not include study abroad through your college/university program.)
11. Have you withdrawn from your college/university?

Yes

No
The following questions refer to how you identify.

I identify as:

**American Indian or Alaska Native** (Not Hispanic or Latino)
A person having origins in any of the original peoples of North America and South America (including Central America), and who maintains tribal affiliation or community attachment.

**Asian** (Not Hispanic or Latino)
A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

**Black or African American** (Not Hispanic or Latino)
A person having origins in any of the Black racial groups of Africa.

**Hispanic or Latino** (definition):
A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.

**Native Hawaiian or Other Pacific Islander** (Not Hispanic or Latino)
A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

**White** (Not Hispanic or Latino)
A person having origins in any of the original peoples of Europe, North Africa, or the Middle East.

**Two or More Races** (Not Hispanic or Latino)
A person who identifies with more than one of the above race categories.

I identify as:

Female

Male

Non-binary

Prefer to self-describe below [text box]
Please provide your contact information:

Name [text box]

Email [text box]
Thank you for taking the time to fill in this survey. Your responses have been documented.

Look for a follow-up email within 48 hours.

I look forward to hearing your story.
Appendix E

Interview Protocols

Interview 1

The individual interview takes approximately 60 minutes. Before the interview begins, the participant is asked to choose a pseudonym that will be used to protect their identity during the data collection process. The participant will be asked to type that pseudonym on their Zoom picture. The interview will begin with an explanation about how the interview will proceed and a reminder to the participant of the purpose of the study.

(begin recording)

(post in Zoom chat) I confirm that I have read the consent form in Qualtrics and decided that I will participate in the project described above. Its general purposes, the particulars of involvement, and possible risks and inconveniences have been explained to my satisfaction. I understand that I can discontinue participation at any time. My consent also indicates that I am at least 18 years of age.

Do you verbally confirm consent to participate and being video and audio recorded?

1. Do you have any questions or concerns before we begin?
2. In your email, you wrote ___________ (about being identified as gifted). (add follow up question about previous answer)
3. Tell me about the high schools(s) you attended.
4. What kind of gifted programming was available to you, (if any)?
5. What were middle and high school like for you?
6. What attributes or personality traits do you think characterized you as gifted in middle school? High school?
7. Tell me about some of the biggest challenges, obstacles, or frustrations you faced with learning in school? In classrooms?
8. Tell me about some of the successful learning situations that you had in your middle and high school classes? Probe—what kind of activities or projects did you do?
9. Did any of your teachers give you choices in the curriculum in terms of content, learning process, or product? Probe—can you give me examples?
10. How were your classes grouped? Did you work with other gifted students? Probe—tell me more about that.
11. Did you participate in any extra opportunities like MATHCOUNTS, Jr. Great Books, Destination Imagination, or summer camps for gifted kids? Tell me about your perceptions of that.
12. Tell me about learning strategies that you used to be successful in high school.
13. Is there anything you would like to add about your educational experiences in middle school or high school?
Interview 2

The individual interview takes approximately 60 minutes. Before the interview begins, the participant is asked to choose a pseudonym that will be used to protect their identity during the data collection process. The participant will be asked to type that pseudonym on their Zoom picture. (begin recording)

1. Do you have any questions or concerns before we begin?
2. What do you think being identified as gifted means?
3. Do you think of yourself as gifted? Is being gifted important to you?
4. Tell me about the college/university you are attending.
5. What is your major? How did you choose that major?
6. Now I want to ask you a few questions about your transition from high school to college:
   a. Choose a word to describe how you felt about your transition from high school to university. Probe–why did you choose that word?
   b. Did you receive any support in high school to prepare you for your transition to (name of) university?
7. Tell me about a really influential learning experience at university. Probe–what made it influential? How did it make you feel? What aspects of the learning did you like? Not like?
8. Tell me about some of the biggest challenges, obstacles, or frustrations you have faced with classes at university.
9. Do any of your professors give you choices in the curriculum in terms of content, learning process, or product? Probe–can you give me examples?
10. Has being gifted helped or hindered your transition to university? Probe–tell me more about that.
11. Do you feel that the university has services or programs to support gifted students?
12. Have you met other gifted students at the university? Probe–tell me more about your experience with the gifted community at the university.
13. (Follow-up questions from 2nd interview) Some gifted students have experienced X. Is that something that has ever resonated with you?
14. (Follow-up questions from 2nd interview) Just to clarify what you said last time…
I heard you say X. Did I understand correctly? Or could you tell me more about that?
### Appendix F

**Interview Protocols Aligned with Literature**

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Interview Questions</th>
<th>Literature Support</th>
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<tbody>
<tr>
<td>1. According to gifted female students, what kind of differentiation strategies were received in secondary school and university/college?</td>
<td>• Tell me about some of the biggest challenges, obstacles, or frustrations you faced with learning in school? In classrooms? • Tell me about some of the successful learning situations that you had in your middle and high school classes? Probe—what kind of activities or projects did you do? • Did any of your teachers give you choices in the curriculum in terms of content, learning process, or product? Probe—can you give me examples? • How were your classes grouped? Did you work with other gifted students? Probe—tell me more about that. • Did you participate in any extra opportunities like MATHCOUNTS, Jr. Great Books, Destination Imagination, or summer camps for gifted kids? Tell me about your perceptions of that. • Tell me about a really influential learning experience at university. Probe—what made it influential? How did it make you feel? What</td>
<td>Callahan et al. 1994</td>
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<td>Coleman et al. 2015</td>
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<td>Davis et al. 2011</td>
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<td>National Association for the Gifted</td>
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<td>Siegle et al., 2014</td>
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<td>Tomlinson 1992</td>
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<td>Uhrmacher, Moroye, &amp; Flinders, 2017</td>
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<td>Vanderbrook, 2006</td>
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<td>VanTassel-Baska, 1988</td>
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<tr>
<td>Question</td>
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<td>aspects of the learning did you like? Not like?</td>
<td>Wiggins &amp; McTighe, 2005</td>
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<tr>
<td>• Tell me about some of the biggest challenges, obstacles, or frustrations you have faced with classes at university.</td>
<td>Winebrenner &amp; Espeland, 2001</td>
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<tr>
<td>• Do any of your professors give you choices in the curriculum in terms of content, learning process, or product? Probe--can you give me examples?</td>
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</table>

2. In what ways did differentiation in high school and university/college classrooms influence gifted female students’ educational experiences?

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
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<tr>
<td>• Tell me about the high schools(s) you attended.</td>
<td>Callahan &amp; Hertberg-Davis, (Eds.) 2018a</td>
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<td>• What kind of gifted programming was available to you, (if any)?</td>
<td>Colangelo, et al, 2004</td>
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<td>• Do you feel that the university has services or programs to support gifted students?</td>
<td>Coleman et al. 2015</td>
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<td>• In your email, you wrote __________ (about being identified as gifted). (Add follow up</td>
<td>Davis et al. 2011</td>
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<td>Kerr, 1994</td>
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<td>National Association for the Gifted</td>
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<td>Tomlinson, 1992</td>
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<td>Wiggins &amp; McTighe, 2005</td>
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<td>Question</td>
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<tr>
<td>4. In what ways do gifted female students’ high school experiences influence their university/college experiences?</td>
<td>Callahan &amp; Hertberg-Davis, (Eds.) 2018a</td>
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<td>• Tell me about learning strategies that you used to be successful in high school.</td>
<td>Callahan, Hertberg-Davis, &amp; Missett, 2018</td>
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<tr>
<td>• Tell me about the college/university you are attending.</td>
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<td>3. Does gifted female students’ high school experiences influence their self-perceptions?</td>
<td>Callahan, Cunningham, &amp; Plucker, 1994</td>
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<tr>
<td>• What were middle and high school like for you?</td>
<td>Coleman et al. 2015</td>
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<td>• What attributes or personality traits do you think characterized you as gifted in middle school? High school?</td>
<td>Cross, 2011</td>
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<td>• What do you think being identified as gifted means?</td>
<td>Bandura, 2001</td>
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<td>• Do you think of yourself as gifted? Is being gifted important to you?</td>
<td>Gilligan, 1993</td>
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<td>• Has being gifted helped or hindered your transition to university?</td>
<td>Kerr, 1994</td>
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<tr>
<td>Probe—tell me more about that.</td>
<td>Kettler 2016a</td>
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<td>• Have you met other gifted students at the university? Probe—tell me more about your experience with the gifted community at the university.</td>
<td>Meredith, 2009</td>
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<td>National Association for the Gifted</td>
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<td>Piirto, 1991</td>
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<td>Reis &amp; Callahan, 1996</td>
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<td>Rimm et al., 1999</td>
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<td>Webb, 2014</td>
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<td>Willcocks, 2017</td>
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<td>Phenomenology interview procedure</td>
<td>Do you have any questions or concerns before we begin?</td>
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<td></td>
<td>Is there anything you would like to add about your educational experiences in middle school or high school?</td>
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<td>(Follow-up questions from 2nd interview)</td>
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<td>Some gifted students</td>
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- What is your major? How did you choose that major?
- Now I want to ask you a few questions about your transition from high school to college:
  - Choose a word to describe how you felt about your transition from high school to university. Probe—why did you choose that word?
  - Did you receive any support in high school to prepare you for your transition to (name of) university?
- Has being gifted helped or hindered your transition to university? Probe—tell me more about that.

Craig et al. 2018
Davis & Arend, 2013
Delisle & Schultz, 2012
Kerr, 1994
Lattuca & Stark, 2009
Mendaglio, 2013
Vanderbrook, 2006

Creswell, 2013
Moustakas, 1994
Opdenakker, 2006
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<td>have experienced X. Is that something that has ever resonated with you?</td>
<td>(Follow-up questions from 2\textsuperscript{nd} interview) Just to clarify what you said last time… I heard you say X. Did I understand correctly? Or could you tell me more about that?</td>
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</table>
Appendix G

Post-Interview Follow-Up Email

Dear ________________,
Thank you for participating in both interviews. I am attaching the interview transcripts in case you want to read through. If you have any clarifications or corrections, please let me know. I am currently writing up my findings, so I can still make changes through [date].

I would also like to ask for a non-identifiable photo of you to use in my dissertation. I heard ten wonderful stories of amazing, gifted women–so empowering. For me, the stories would be more meaningful for the reader if I could include a photo of each of you. Would you be willing to share a photo of you in which your face is NOT clear? Be creative–a silhouette against a sunset, a photo from the back... something that visually represents you. Can you send me a photo by [date], so I can add it to the section about your experiences?

Please let me know if you did not receive the $25 gift card I sent you.

Hope you are enjoying a lovely spring!

Best,
Ann