Examining the Academic and Social-Emotional Functioning of Gifted Students as They Transition to Post-Secondary Education: A Rapid Review

Madeline Zoelman-Cipriano, BSc (Honours)

Department of Undergraduate and

Graduate Studies in Education

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Faculty of Education, Brock University

St. Catharines, Ontario

Abstract

Gifted students are generally considered high achievers, but research demonstrates that they may experience difficulties functioning due to unique characteristics, especially during times of transition. The post-secondary transition specifically, may impact their academic and social-emotional functioning due to these unique characteristics, coupled with difficulties related to their emerging adulthood status. I conducted a rapid review study to systematically examine how gifted students function academically and social-emotionally during the post-secondary transition. The literature shows that gifted students function well academically during the transition but experience difficulties with the increased demand for studying. Their social-emotional functioning appears to be mixed, demonstrating positive social interactions with faculty members and likeminded peers, but negative emotional experiences such as loneliness and isolation. The current study discussed these results further and reviewed implications for practice, policy, and further research to support gifted students during this critical transition.

Keywords: giftedness, emerging adulthood, post-secondary transition, academics, social-emotional

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Dedication

This Major Research Paper is dedicated to my two children, Mason and Grace, both of whom were welcomed during the final two years of this six-year endeavour. You are the "whys" I needed to finish this paper and finally graduate with my Master of Education degree.

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CHAPTER ONE: INTRODUCTION

Gifted students have a unique set of characteristics which can present themselves in academic settings. These characteristics impact the way that gifted students learn and the way they interact with others, which can either hinder or enhance their success in post-secondary settings (Ramos et al., 2022). One specific time period where these characteristics create an additional layer of complexity is during gifted students' transition to post-secondary schooling. Although many general education students also experience significant changes related to this pivotal transition (Arnett, 2000, 2006), gifted students may experience additional changes related to their functioning during this time due to their characteristics (Neuber Haggerty, 2019). Given the importance of the transition experience for academic success (Mendaglio, 2013), it is crucial that these high-achieving students receive the supports and resources needed to excel during this time period. As such, this rapid review study explored gifted students' social-emotional and academic functioning during their transition to post-secondary education to determine how it is experienced by gifted students experience, thus providing important information to help identify gaps in programming and preparation. This review was motivated by the variability in the literature and by the need to help consolidate this information in a manner that is more readily accessible to policymakers and practitioners. In turn, the ultimate goal of the current study was to share important literature that can be used to create better supports, where applicable, for gifted students, ensuring that they can engage in post-secondary environments and reducing the possibility of attrition, underachievement, and potential well-being difficulties.

The study of giftedness began with the study of intelligence and its measurement (Jensen, 2002) and became well-known with Terman's classic volumes of The Genetic Studies of Genius (Boake, 2010). Since then, the gifted literature has flourished, examining many facets of gifted individuals and their experiences. Specifically, the literature has noted that gifted individuals often excel academically (Wirthwein et al., 2019) and vocationally (Rinn & Bishop, 2015; Zuo & Cramond, 2001) due to their intelligence. They have also been identified as having a distinct set of innate characteristics, which include being perceptive, excitable, sensitive, creative or divergent thinkers, and having an internal motivating force (Lovecky, 1986). They are also considered to be more intense than their peers (Guerra, 2016) and develop at a more rapid pace cognitively than they physically develop, which is called asynchronous development (Pfeiffer, 2008). Their innate characteristics, intensity, and precocious development can impact their functioning in social and emotional domains, with some research indicating that these traits and their academic achievement create social and emotional success (Eklund et al., 2015; Field et al., 1998), while others indicate that these traits can actually inhibit their functioning in these areas (Grobman, 2006; Guerra, 2016; Luus & Watters, 2012; Wirthwein et al., 2019).

One underrepresented population in the gifted literature is non-accelerated undergraduate students (i.e., students who did not participate in early entrance to post-secondary programs and are entering post-secondary with their same-age peers). Although some studies have examined the impact of university on the gifted self (see Hébert & McBee, 2007, for example), few studies have specifically examined the adjustment to university for gifted individuals, especially in social-emotional domains (Meadows, 2017). The existing literature displays mixed findings regarding social-emotional and academic adjustment, and the outcome of this work impacts policy planning at the secondary and post-secondary levels, specifically as it pertains to transition planning for students on Individualized Education Plans (IEP; Ontario Ministry of Education, 2017). As such, the present paper systematically reviewed the literature on the adjustment to post-secondary for gifted students, providing an overview of the findings and thereby making it easier for policymakers and practitioners to put the findings into practice (Uman, 2011). The findings of this review will also help provide a basis for further research about how gifted students experience the transition to post-secondary education and how schools can support them during this transition, ultimately giving them a better chance at success.

Background of the Problem

The study of giftedness came out of research on intelligence, which began with Galton, Spearman, and Binet (Boake, 2010; Jensen, 2002). Although some of the early research on intelligence is shrouded with controversy due to its association with the eugenics movement (Arnett, 2000), it birthed the assessment of intelligence, most notably beginning with Terman's studies of genius (Terman, 1926). Terman (1926) collected data from 1000 highly intelligent individuals, whom he termed 'gifted,' and assessed their overall psychosocial functioning (e.g., vocational choices, well-being, social ability). The assessment of intelligence and labelling individuals as gifted has since grown, especially within the educational system. For example, Ontario Ministry of Education documents specifically list giftedness as an identified exceptionality requiring specific accommodations or enrichment (Ontario Ministry of Education, 2017).

Giftedness has been defined differently by many scholars, but the label is typically reserved for individuals who score at the 98^{th} percentile or higher (Pfeiffer, 2008) on standardized tests of intelligence such as the Wechsler Intelligence Scale for Children or the Stanford-Binet (Boake, 2010; Pfeiffer, 2008). Gifted individuals' precocious cognitive development (i.e., high working memory, verbal comprehension, problem-solving capability, perceptual reasoning) correlates with academic achievement, leadership ability, and creativity (National Association for Gifted Children, n.d.; Pfeiffer, 2008).

Correlates of Giftedness

The literature has identified that gifted individuals are prone to exhibit emotional intensity (Guerra, 2016; Lovecky, 1986), which manifests as heightened levels of anxiety, depression, and increased feelings of shame and guilt about successes (Grobman, 2006), as well as lower mental health and life satisfaction than their non-gifted peers (Guerra, 2016). Despite their innate levels of emotional intensity, gifted individuals were not any more prone to experience behavioural or emotional difficulties (Eklund et al., 2015; Lovecky, 1986). However, even though they were not at a higher risk for emotional or behavioural difficulties, researchers found that, according to the gifted individuals' parents, gifted individuals had descriptively higher levels of internalizing behaviours than their non-gifted peers (Eklund et al., 2015). Similarly, there are mixed findings in terms of their social functioning, with some studies indicating that gifted individuals have more social difficulties (Grobman, 2006; Guerra, 2016; Luus & Watters, 2012; Vialle et al., 2007) and a few identifying that they are equal to or more socially advanced than their non-gifted peers (Eccles et al., 1989; Field et al., 1998). These contradictory findings have implications for the experience of gifted individuals as they transition to post-secondary education.

Emerging Adulthood and Its Relation to Post-Secondary Education

Emerging adulthood is a developmental period between adolescence and adulthood characterized by heightened responsibility, a lack of stability, and, often, entrance into post-secondary education (Arnett, 2000). The identification of this timeframe as a unique developmental period is relatively new, born out of significant societal and institutional changes that began in approximately the 1990s. These changes include a decrease in industrial work, enhanced self-realization and development, and heightened enrollment in further education

(Wood et al., 2017). These significant changes have created outcomes such as enhanced migration of this demographic, delayed marriage and childbearing, more knowledge-economy-based work, and greater numbers of work transitions (Arnett, 2000; Wood et al., 2017), which have implications for the experiences and well-being of this demographic.

The theory of emerging adulthood is relevant to the current paper and was utilized as the theoretical framework, as it helps characterize the vulnerability of the transition into post-secondary education and provides a basis for some of the significant changes that, in addition to being gifted, individuals may face. When examining the literature, it is necessary to have an understanding of typical adjustments during emerging adulthood, as it can help provide evidence about which experiences are unique to gifted individuals. Further, some of the post-secondary literature utilizes the framework or key term "emerging adulthood" given that this developmental period is heavily characterized by enrollment in and changes brought about by post-secondary education (Arnett, 2000; Sokol, 2009). The emerging adulthood literature also utilizes post-secondary students to analyze other key features of this developmental period (Arnett, 2006) and as such, is heavily tied to post-secondary education in the literature.

Statement of the Problem

This study addressed the problem of variable findings in both the qualitative and quantitative empirical literature regarding gifted students' adjustment in social-emotional and academic domains as they transitioned to post-secondary education. Specifically, this paper reviewed literature that outlined significant factors related to individuals' giftedness that impacted their functioning during the transition to post-secondary education to determine whether their experiences warranted further support in academic or social-emotional domains.

There have been a number of studies dedicated to examining the post-secondary transition experience of the general university population and of students receiving other special-education services, with systematic reviews also being conducted in those areas, which have helped inform policy (e.g., see Nuske et al., (2019)). Based on the literature, many of the other specific populations receiving special education services (e.g., students with autism or a learning disability) receive dedicated support, specifically within Ontario, in the form of a transition plan outlined on their IEP (Ontario Ministry of Education, 2017). However, students identified solely as gifted (i.e., not diagnosed with other exceptionalities) do not receive the same level of support going into post-secondary in that they do not have transition plans in place. As such, the present paper addressed the ultimate problem of potentially having inadequate levels of support for gifted students during this crucial period in their lives.

Rationale for the Paper

Some studies have shown that gifted individuals experience interpersonal, emotional, and academic difficulties as they transition to post-secondary education (Almukhambetova & Hernández-Torrano, 2021), which can complicate their transition experience and ultimately decrease their chances of success. Although much of the literature regarding gifted students dropping out of school pertains to dropping out of secondary school, there has been some evidence that lower levels of emotional intelligence in gifted individuals can increase drop out rates, especially during the first year of post-secondary studies (Parker et al., 2017). Specifically, characteristics such as interpersonal difficulties and poorer stress management skills contributed to higher drop out rates in university for gifted students compared to their non-gifted peers. Since university is well suited to the high potential of gifted students, it is important that university practitioners and policymakers understand this demographic's unique needs, which will help enhance the transition experience for gifted students and ultimately help them to reach their full potential and minimize attrition. This work is also important for secondary school personnel as it is their task to help gifted individuals prepare for university and the transition thereto.

The rationale for the present paper was drawn from the mixed findings regarding the social-emotional and academic adjustment of gifted students as they transition to post-secondary settings, as well as the lack of supports available for students solely identified as gifted during this difficult transition period. As mentioned previously, in Ontario, most students receiving special-education services for difficulties such as autism, learning disabilities, or behavioural challenges have a transition plan put in place on their IEP that outlines relevant resources that can help facilitate a successful transition to post-secondary or the workforce (Ontario Ministry of Education, 2017) (e.g., accessibility services at the post-secondary institution or other community resources). Although all students should be receiving support to plan their transition to the workplace or further education in their Career Education class in Grade 10 (Ontario Ministry of Education, 2017), this may not be adequate should the literature demonstrate that gifted individuals have needs pertaining to their giftedness that cannot be addressed by themselves.

Further, for gifted individuals from disadvantaged backgrounds whose caregivers may not be familiar with gifted characteristics or be knowledgeable about support resources (Card & Giuliano, 2016), intervention and support from the school is even more crucial to ensure that they are successful and able to reach their full potential. The findings in this paper ultimately address the larger rationale of supporting all students appropriately to achieve their academic, vocational, and personal goals, and to foster the development of gifted students during this critical time period of both post-secondary transition and emerging adulthood.

The evidence synthesis rapid review within the present paper allowed for an analysis of potential relationships between the unique characteristics of gifted students and their functioning during their transition to post-secondary. Utilizing the theory of Emerging Adulthood (Arnett, 2000) as one of the theoretical frameworks for this paper also provided a basis for comparing the experiences revealed in the gifted literature to experiences that happen to the general population entering post-secondary. By determining what characteristics *are* unique to gifted individuals and are not experienced by the general population during this time period, it will help justify the necessity of a transition plan for students solely identified as gifted. For example, utilizing the emerging adulthood framework, it is clear that most students during this developmental period experience difficulty relating to increased responsibilities and being away from home, often for the first time, as they go on to post-secondary. As such, gifted students' experiences of those difficulties are not unique to their giftedness and do not require a transition plan. However, difficulties pertaining specifically to their giftedness such as potential feelings of inadequacy (i.e., Big Fish, Little Pond phenomenon) or their lack of study skills would support the implementation of transition plans for these students, which could include connecting them with student services for study skill workshops.

Research Questions

The research questions that were addressed in the current paper, which are designed to provide a more conclusive view of gifted students functioning as they transition to post-secondary, include:

1: How do gifted students function social-emotionally as they transition to post-secondary?

2: How do gifted students function academically as they transition to post-secondary?

Theoretical Frameworks

The present study was grounded in theories that help explain some of the phenomenon that is both common to the transition to post-secondary, and that is unique to gifted individuals during this time period. The first theory pertains to the developmental time period that occurs during the entry into post-secondary education. Specifically, Arnett's (2000) framework on emerging adulthood helps characterize experiences and developmental phenomenon of many individuals during the ages of approximately 18-26, which is when many individuals enter post-secondary. This framework acts as a baseline so that the factors pertaining to adjustment found in the literature reviewed herein can be analyzed based on what is unique to gifted individuals and what is a general experience that must be worked through. The present paper also utilizes Marsh and Parker's (1984) Big Fish, Little Pond phenomenon to help frame the characteristics that *are* unique to gifted individuals. Since much of the gifted literature focuses on their significant abilities, using a framework that situates their abilities in terms of the post-secondary context provides a basis to interpret the findings in the present study.

Emerging Adulthood

The first theoretical framework for this paper is Arnett's (2000) theory of Emerging Adulthood. The theory of Emerging Adulthood is that it is a developmental period between adolescence and adulthood that is characterized by instability, pseudo-adult responsibilities, and a greater sense of freedom, which is typically marked as individuals between the ages of 18 to 26 transition into post-secondary (Arnett, 2000, 2006). Although the theory itself is not specific to gifted individuals, focusing on the characteristics that most students in post-secondary experience helps frame the experiences that gifted individuals *do* have. Alongside the Big Fish, Little Pond phenomenon which classifies many of the predominantly gifted experiences, the theory helps create a holistic picture of what can be expected in terms of the transition experience for gifted individuals entering post-secondary.

Prior to the 1990s, adulthood was marked by a clear set of tasks which typically involved marriage, childbearing, and home ownership (Arnett, 2000). With changes in the workforce, however, which has favoured knowledge work over industrial labour, resulting in an increase in post-secondary enrollment, these pre-defined tasks are no longer as apparent as they were. Due to the increase in post-secondary enrollment especially, students are moving away from home now on their own, whereas previous generations would have likely only moved out with a romantic partner (Arnett, 2000, 2006). Further, the financial constraints of being a student in addition to the heightened responsibilities that accompany living away from home, or at the very least, being responsible for managing ones' responsibilities, has contributed to the lifestyle variability amongst individuals that can be seen during this time period. These changes contribute to the psychological well-being and overall function of post-secondary students, especially given that they are more apt to focus on self-actualization and identity exploration, which can promote feelings of anxiety or being unsettled (Arnett, 2000, 2006). Given that their transition to post-secondary is often done at a young age (approximately 18 years) and is the first time they are experiencing adult like responsibilities, the literature suggests that the transition to post-secondary can be very difficult for many students and is not dependent on special education status.

Big Fish, Little Pond Phenomenon

The Big Fish Little Pond phenomenon put forth by Marsh and Parker (1984) serves as the other theoretical framework for this paper because it functions as a method for interpreting the experiences that are unique to gifted individuals. This phenomenon describes the experience that many gifted individuals have where they enter a new, larger educational environment (i.e., university) and become one of many high achieving or gifted students as opposed to being one of few, if not the only high achieving and gifted student (Zhang, 2021). These changes can lead to heightened levels of competition amongst their peers (Pfeiffer, 2008), feelings of inadequacy, questioning of their giftedness (Almukhambetova & Hernández-Torrano, 2021; Hébert & McBee, 2007; Meadows, 2017), and ultimately, academic shut down if the gifted student cannot reconcile these difficult emotions and experiences.

Gifted students are accustomed to receiving individual attention for their academic prowess and achievements, which is more readily facilitated in smaller environments (i.e., secondary school) where there are fewer students who are meeting the same level of achievement. This recognition is a large contributor to gifted individuals' sense of self-worth (Freeman, 2017). In post-secondary, where the professors or instructors often have classes with hundreds of students, it is significantly harder to individually recognize the gifted student, aside from the fact that there are many others in the class as well who are achieving the same level of work. Although research has demonstrated that the self-concept of the gifted students in this situation does return eventually (Patrick et al., 2021), the time period until that happens can cause academic and social-emotional consequences that can colour their experience transitioning to post-secondary in a negative manner, in turn having implications for their adjustment experience as they transition into post-secondary. The relationship between their negative experiences due to this phenomenon and how it impacts the post-secondary experience is why this phenomenon is used as the other theoretical framework.

Limitations of the Study

This paper is an evidence synthesis work which contains limitations primarily associated with the collection of data (i.e., literature). Specifically, the present paper is limited as no quantitative methods will be used to calculate effect size or evaluate the data, which could potentially skew the interpretation of the results. Further, rapid reviews are constrained compared to other evidence synthesis works such as a systematic review or a meta-analysis (Wollscheid & Tripney, 2021). For example, authors of rapid reviews must make decisions regarding their data collection parameters in order to reduce the amount of literature to meet constraints regarding time or funding. This could leave out important literature that may be useful to the objective of the paper. Efforts were made to minimize this limitation in this paper by limiting the number of constraints applied in the literature review.

Additional limitations are present in terms of the data collection. There were only two individuals reviewing the data and the paper, while many evidence synthesis works utilize multiple readers to ensure similarity of data collection and interpretation. The other data collection limitation pertains to the literature itself, as the pool of gifted literature is not as substantive as in some fields such as public health or medical research (Dobbins, 2015). This makes the results of the paper less generalizable than studies that have vast pools of literature and include more articles in their review. However, given that the literature review utilized all literature that met the inclusion criteria that was found in the searches conducted, the findings are evidence informed and the conclusions meet the objectives of the paper.

Definition of Key Terms

This paper includes key terms which are present in the field of intelligence, emerging adulthood, and post-secondary transitions. They are defined below to provide context and are also defined throughout this paper where relevant.

Asynchronous Development

This term describes the imbalance between cognitive, intellectual and physical development in gifted individuals. Specifically, gifted individuals experience higher levels of cognitive and intellectual development than physical development which often means that although they are cognitively ready to think about complex ideas, they may not be able to deal with them due to the lower levels of physical or emotional development (Pfeiffer, 2008).

Big Fish, Little Pond Phenomenon

This is a phenomenon originally put forth by Marsh and Parker (1984) to describe the experience of gifted individuals in university, specifically. It is used to describe the emotions and experiences of gifted individuals in university as they move from a smaller environment (i.e., secondary school) where they were one of, if not the smartest student in their class to a larger environment (i.e., post-secondary) where they are now one of many intelligent and capable individuals (Zhang, 2021). This can lead to heightened competition, questioning their abilities, and disengagement if they feel they do not measure up to their peers (Luus & Watters, 2012; Zhang, 2021).

Emerging Adult

A stage of development from approximately ages 18 through 25. This life stage proceeds adolescence and precedes young adulthood (Arnett, 2000). This life stage is a recent conceptualization due to changing behaviours and societal demands for individuals in this age period. It is in large part due to the significant increase in individuals attending university education directly following secondary school (Arnett, 2000).

Gifted

The term is used to describe individuals whose IQ falls at or above the 98th percentile on standardized intelligence tests such as the Wechsler Intelligence Scale for Children (Peterson, 2010; Pfeiffer, 2008; Pollet & Schnell, 2017). There are several other connotations of the term gifted that were discussed throughout this study.

IQ

An individual's IQ (i.e., intelligence quotient) is a numerical value assigned to their intelligence based on where they fall within the normal distribution for their age bracket on standardized measures of intelligence (Boake, 2010; Jensen, 2002; Pfeiffer, 2008). These IQ values are assigned based on the scores obtained for various subtests (i.e., memory, processing speed, mathematical ability, and spatial ability) on intelligence tests such as the Wechsler Intelligence Scale for Children or the Stanford-Binet Intelligence Test (Boake, 2010; Pfeiffer, 2008).

Social-Emotional

Social-emotional is a term used to refer to the interplay between how individuals think about themselves and others, and how these thoughts shape their outward behaviour in their interactions (Wright-Scott, 2018). The term can encompass factors such as emotion regulation, resiliency, and empathy, which impact the broader environment in relationships with family, friends, colleagues, and others (Wright-Scott, 2018). The two factors (i.e., social and emotional) are often studied together as emotional states can impact interactions with others and interactions, either subsequent to these emotional states or separate from them, can also impact emotional states (Wright-Scott, 2018).

Outline of the Remainder of the Document

The remainder of this paper will utilize rapid review methodology to help address the research questions and provide evidence for the consistent implementation of transition plans for students solely identified as gifted, as only some Canadian jurisdictions require them. Chapter Two of the present paper summarizes literature pertaining to giftedness, emerging adulthood, and the transition for this population into post-secondary education, which further justifies both the rapid review methodology utilized and the topic of the review itself. Following this, Chapter Three discusses the methodology in significant detail, including information about the rapid review process, the inclusion and exclusion data utilized for the literature search, and a discussion of the limitations present in this paper. The fourth chapter discusses the results of the literature search, and the final chapter discusses those results in the context of the rationale for the paper, as well as provides further directions and implications for policy and practice.

CHAPTER TWO: LITERATURE REVIEW

This chapter begins by discussing the history of intelligence and its measurement. The discussion of intelligence tests and the study of intelligent individuals provides context for the next section, which discusses giftedness and how it is operationalized. Following an informative discussion of giftedness as a construct, the chapter discusses the characteristics of gifted individuals in a general sense and then focuses on psychological and social characteristics.

The latter portion of this chapter focuses on the literature crucial to understanding the present study, which focuses on the experience of gifted students as they transition to post-secondary schooling. It starts by a describing emerging adulthood, which includes a history of the term and key markers of this distinct developmental stage in an individual's life. Following this, the chapter narrowed down the concept of emerging adulthood and how it relates specifically to post-secondary education, justifying the use of the term emerging adulthood in the present study to describe the gifted individual's experiences in question. The chapter then concludes with a discussion of how gifted individuals experience major educational transitions, emphasizing the transition to post-secondary where possible. This will provide the necessary information to interpret the results section of this paper, which will attempt to find overarching themes or conclusions about the transition to post-secondary for gifted individuals.

Background of Intelligence and Intelligence Measurement

The study of intelligence in its early stages is clouded with controversy as the original theorist, Galton, also developed the controversial theory of eugenics (Jensen, 2002). Although the theory of eugenics did not have any malintent initially, it has since been used to justify extremist movements and has therefore become disfavoured (Jensen, 2002). Nonetheless, Galton's initial focus was on individual differences and how these individual differences impacted individuals' mental ability. He focused primarily on what he called general mental ability, the heritability of this mental ability, the measurement of mental ability, and differences between races (which is where his theory on eugenics was born (Jensen, 2002). Although intelligence is often used synonymously with achievement, conceptually, intelligence is the natural ability that is a precursor for achievement (Jensen, 2002).

Galton helped characterize intelligence as a biological, heritable mental trait, with environment playing virtually no role in intelligence development. In fact, studies by Galton revealed that by adolescence, environmental features such as familial income, parental education levels, or social class played no role in intelligence providing their environments were not neglectful (Jensen, 2002). Throughout his work with individual differences, he was also keen on developing different tools to measure intelligence, which some scholars have called a "brass-instrument approach" (Jensen, 2002, p. 148). Different tools using this less precise methodology include the digit span task, the substitution test, and the line bisection task (Boake, 2010). These measures are what credited Galton with the development of the field of psychometrics. Although Galton's approach was effective and most progressive for its time, it still had limitations as the instrumentation was not very precise and intelligence was measured by simply summing scores on his measures (Jensen, 2002).

These limitations prompted Spearman to revise Galton's theory, developing his general intelligence theory, denoted by *g*. This theory also viewed intelligence as an innate mental characteristic but took to the measurement of it by correlating scores between different tests instead of simply summing them (Jensen, 2002). This view on intelligence looked at shared variance between the different measures and regarded that as the level of intelligence whereas Galton's summation of scores would have included variance from other sources (Jensen, 2002).

These works grew into an interdisciplinary field of study that examined intelligence and achievement from psychological, biological, and educational models using many of the intelligence tests that were born out of Spearman's and Galton's works. Pioneering psychologists Alfred Binet and Theodore Simon are credited with beginning work in the "mentality testing" (Terman, 1926, p. 1), field as it is presently understood. These psychologists developed the Simon-Binet Scale, which assessed cognitive abilities of children in Paris using digit spans, meaning scales, memorization, and reasoning tasks, among others (Boake, 2010). Later, psychologist Lewis Terman, who followed the works of Galton, revised the original Simon-Binet scale to develop the now infamous Stanford-Binet Intelligence Test (Boake, 2010). By adding normed scores into adulthood and changing the outcome from a mental age score to an intelligence quotient (IQ) score, he paved the way for modern day intelligence testing. The development of the Stanford-Binet and the introduction of IQ made it possible to identify 'genius' (Terman, 1926).

After Terman revised the Simon-Binet to the present Stanford-Binet, which is currently on the fifth edition (Boake, 2010; Pfeiffer, 2008), Terman based his studies on Galton's tradition, examining the genetic, individual differences in 1000 'genius' children (Terman, 1926). This longitudinal study laid the foundation for the giftedness label and the pool of literature that exists on giftedness today. It also sparked more interest in measuring intelligence and prompted theories of intelligence leading to scales such as the Wechsler-Bellevue Intelligence Scale and the subsequent Wechsler Intelligence Scale for Children (Boake, 2010). Terman played a fundamental role in the emergence of the study of giftedness(Pfeiffer, 2008), but the scope of giftedness and intelligence measurement has broadened and been fine-tuned substantially.

Giftedness

Since Terman's study, the term giftedness has been used to describe individuals who express exceptional ability. Based on this conceptualization, many working definitions have been put forth. For example, the National Association for Gifted Children (NAGC) explains that giftedness is above average ability in the domains of creativity, leadership, artistic expression or in subject fields such as math, science, or English (National Association for Gifted Children, n.d.). The NAGC also explains that children within the highest 10 percent of local or national performance norms are a good indicator for identification and services, while others suggest that giftedness is defined as being within the top two percent (i.e., equal to or above the 98th percentile) of local and national performance norms (Pfeiffer, 2008).

Another working definition put forth by The Association for Bright Children of Ontario is that intellectual giftedness is characterized by incongruent development and advanced intellectual abilities that usually present with other characteristics such as intensity, creativity, curiosity, leadership abilities, and above average reasoning and problem-solving abilities (The Association for Bright Children of Ontario, n.d.). Whichever operational definition of giftedness is used, the consensus is that gifted individuals are above average cognitively and exhibit precocious abilities (Baudson & Ziemes, 2016; Grobman, 2006; Pfeiffer, 2008; Terman, 1926; Wirthwein et al., 2019; Zuo & Cramond, 2001).

Societal notions of giftedness, however, are mixed, with certain time periods emphasizing the positive or the negative elements more so than the other. For example, Terman's (1926) study helped characterize gifted individuals as well adjusted, successful, and happy (Neihart, 1999). However, societal conceptions of giftedness abruptly changed with the highly publicized disappearance, suicide attempts, and death of gifted adolescent James Dallas Egbert in the 1980s

(Neihart, 1999). Furthermore, the gifted label has been shrouded with controversy with its early beginnings in eugenics (Jensen, 2002), discussions of elitism (Mofield & Parker Peters, 2018), and social constructionism (O'Connor, 2012).

Giftedness though, has been empirically shown to correlate with favourable professional outcomes (Vialle et al., 2007; Wirthwein et al., 2019). For example, Wirthwein et al. (2019)assessed 760 students using a general knowledge scale belonging to the Intelligence-Structure-Test 2000 R and also obtained the participants' grades from the first report cards sent out following the administration of the other study measures. The initial sample of 760 students was divided into gifted and non-gifted based on their IQ score obtained from the overall Intelligence-Structure-Test 2000 R. They were left with a sample of 97 gifted students and 529 average intelligence students, making the final sample size 626 students. Analyzing their scores on the Intelligence-Structure-Test 2000 R and their school grades revealed that the gifted students scored significantly higher on standardized measures assessing math and science. They also had significantly higher school grades in all school subjects (i.e., math, German, science, foreign languages, and social sciences).

Giftedness has also been shown to correlate with vocational success (Rinn & Bishop, 2015; Terman, 1926; Zuo & Cramond, 2001), which may be due to gifted individuals' multipotentiality, which is their ability to succeed and master more than one subject, topic, or skill (Greene, 2015; Rinn & Bishop, 2015). A literature review conducted by Rinn and Bishop (2015) examined gifted adults' educational and occupational success and found that many gifted individuals went on to obtain doctoral level degrees (51.7% of males and 54.3% of females in a sample of 380 gifted adults; Lubinski et al., 2006, as cited in Rinn & Bishop, 2015). The gifted adults were also more likely to have degrees in STEM (science, technology, engineering, and math), medicine or the physical sciences (Rinn & Bishop, 2015). They also demonstrated that gifted adults had more satisfaction with their careers compared to their non-gifted peers.

Although the giftedness label is usually assigned to individuals with an IQ in the 98th percentile or higher (Peterson, 2012; Pfeiffer, 2008; Pollet & Schnell, 2017; Vötter & Schnell, 2019), approximately 10-15% of students are actually identified as gifted (Pfeiffer, 2008). Due to discrepancies between school boards and access to funding and resources, identification criteria differ. For example, Mofield and Parker Peters (2018)described one American state that identified children as gifted if their composite score was in the 96th percentile or higher while other jurisdictions label children as gifted if they are in the 95th percentile or higher (Kennedy & Farley, 2017; Luus & Watters, 2012), 90th percentile or higher (Barber & Mueller, 2011), and even at the 85th percentile or higher (Jones, 2013). Different identification criteria are important to note as studies have shown that psychosocial issues increase as individuals' IQ increases (Gallagher, 2015; Pfeiffer, 2008) so subject samples with heterogeneous IQs may impact the data and its interpretation.

Psychosocial Characteristics of Gifted Individuals

Gifted individuals are considered to have innate traits which can manifest psychosocially in either positive or negative ways. Lovecky, who is a clinical psychologist at the Gifted Resource Center of New England, has dedicated her career to working with gifted individuals, examining their innate characteristics. She describes five innate traits of gifted individuals, which are supported by the empirical literature and present themselves in social interactions, emotional displays, behaviours, and thoughts (Lovecky, 1986). The first trait is divergency, which is gifted individuals' tendency to use creative responses or 'out of the box' thinking in daily life (Lovecky, 1986; Matrić & Duh, 2015; Perrone et al., 2015). Their unorthodox thinking often results in them being labeled as “idea people” (Lovecky, 1986). This affords them the ability to seek out and solve complex issues but may lead them to social isolation as they may not conform to the group norms.

Another characteristic of gifted individuals is that they are very excitable (Guerra, 2016; Peterson, 2012; Pfeiffer, 2008; Rinn & Bishop, 2015; Shapiro, 2016) due to their high levels of nervous system arousal (Pfeiffer, 2008) which can lead to being fidgety, emotionally reactive, and having a desire for novel stimuli (Lovecky, 1986). Unlike hyperactivity, gifted individuals often use their energy for productive endeavours such as motivating others or starting projects. However, their excitability also makes it difficult for them to follow through with tasks because of their desire for novelty (Pfeiffer, 2008), and can make it more difficult for them to regulate their emotions (Lovecky, 1986).

The third trait is sensitivity, which manifests as “thinking with their feelings” (Lovecky, 1986). Gifted individuals may exhibit more empathy (Greene, 2015), resulting in higher orientations for social justice issues and a higher emphasis on morality (Greene, 2015; Gross, 1998; Lovecky, 1997). Their sensitivity (Pandya, 2018) and heightened feelings afford them a higher level of self-awareness and awareness of others and their environment (Neihart, 1999; Peterson, 2012). This may lend itself to the emotional intelligence that some have said gifted individuals exhibit (Karimi & Besharat, 2010; Lupu, 2012), although some literature has identified that gifted individuals do not experience higher emotional intelligence (Casino-García et al., 2019). Negatively though, this sensitivity can also result in a lack of understanding for people who don’t experience the same sensitivity and overburdening themselves with other people’s issues unnecessarily (Lovecky, 1986).

The fourth trait is perceptivity (Lovecky, 1986; Peterson, 2012), which is their heightened perception of daily life. This allows them to see incongruencies between what people say and reality, the core of big issues, and their behaviour through an objective lens (Lovecky, 1986). Perceptivity can be difficult because others may not understand what gifted individuals are seeing, and they risk rejection if they choose to act incongruently from their peers (Lovecky, 1986).

The last innate characteristic is entelechy, which is an internal driving force, motivating them (Wirthwein et al., 2019), giving them energy to give to others and to reach their fullest potential. On the positive end, this affords gifted individuals with the ability to motivate others and makes them more attractive due to their charisma (Grobman, 2006). However, it may also leave them feeling resentful when others do not reciprocate the same levels of energy or thought (Lovecky, 1986). These innate characteristics and how gifted individuals navigate through them provide a basis for examining the mixed findings regarding the experience of gifted individuals as they transition to post-secondary education discussed later in the literature review.

Psychological Functioning

One prominent area of psychological functioning of gifted individuals identified in the literature is their emotional functioning. Specifically, emotional intensity is a characteristic of giftedness across the lifespan (Dillon, 2011; Field et al., 1998; Guerra, 2016; Lovecky, 1986, 1997). Emotional intensity can make it difficult for gifted individuals of every age to cope with and control their emotions, but it can be especially difficult for gifted children as they have not yet developed the mechanisms to manage their emotions (Guerra, 2016). Their emotional intensity has been shown to contribute to more mental health issues and less life satisfaction than their typically developing peers (Guerra, 2016). Further to the purpose of the present paper, gifted adolescents may experience heightened emotional difficulties as this is already a time marked by the social and emotional changes of puberty (Grobman, 2006; Noble et al., 1992) and significant life changes (Arnett, 2000; 2006).

Grobman (2006) paints a candid picture of the emotional turmoil he was exposed to as a psychologist working with gifted individuals. He describes that the gifted individuals he worked with displayed higher levels of depression and anxiety, as well as high levels of shame and guilt over their successes. Mueller and Winsor (2018) also describe the anxiety and depression that gifted individuals face, often due to factors such as learning environments being incongruent with their intelligence, being “out of sync” (p. 258) with their peers, and role expectations which are above their level of maturity. Although gifted children were typically concerned about their peers or parents’ well-being, as they grew into adolescence, they started to feel contempt for their peers, parents, teachers, and mentors who they deemed to be less competent than themselves (Grobman, 2006). This further contributed to their emotional disturbances as they were often frustrated that they felt like this and grew to be depressed as they cut themselves off from others (Grobman, 2006).

Although there is qualitative evidence that gifted individuals have trouble with their emotions, empirically, some of the research has identified that gifted and non-gifted individuals do not experience any significant differences in terms of psychological risk. For example, Karimi and Besharat (2010) examined levels of emotional intelligence and alexithymia (which is a difficulty identifying, distinguishing, and describing emotions and bodily emotional sensations) in a sample of 175 students, 86 of whom were identified as gifted (Karimi & Besharat, 2010). Using the Toronto Alexithymia scale and the Emotional Intelligence Scale, they found that there were no significant differences between gifted individuals and non-gifted individuals in the amount of emotional intelligence or alexithymia they experienced (Karimi & Besharat, 2010).

Other studies have found that gifted individuals are, in fact, significantly better at managing their emotions. For example, Eklund, Tanner, Stoll, and Anway (2015) examined the emotional and behavioural risks of gifted individuals compared to non-gifted individuals. Their sample included parental and teacher ratings for 1206 gifted and non-gifted children and adolescents, ages 5 through 12. The participants were administered the Behavioural and Emotional Screening System where they indicated on a four-point likert scale how the different items related to the child (Eklund et al., 2015). Teachers and parents were also asked to assess the child using the Behaviour Assessment Scale for Children, Second Edition (Eklund et al., 2015). This scale examined internalizing behaviours, which can manifest as negative self-talk, depression, and anxiety, and externalizing behaviours, which can manifest as aggression, bullying, or disruptive behaviour. The findings from these scales revealed that significantly fewer gifted students were at risk of behavioural and emotional issues than typical students as rated by both parents and teachers. There was, however, a significant effect of gender, with male gifted and non-gifted students identified as having more emotional and behavioural risks than gifted and non-gifted females.

The one area that revealed a descriptively higher score for gifted individuals was in the number of internalizing behaviours that their parents reported (Eklund et al., 2015). Eklund and colleagues (2015) discussed that this could be due to reasons such as a more pressure to be ‘perfect,’ sensitivity to conflict, and a lesser ability to tolerate stressors due to their cognitive functioning. The increased internalizing behaviours as opposed to externalizing behaviours in the gifted individuals are notable and have implications for the interpretation of the results of the

Eklund et al. (2015) study. Since they had parents complete the questionnaires instead of the gifted individuals themselves, this could mean that the results may not adequately capture the internal world of the gifted individual. While gifted students may not exhibit externalizing behaviours such as aggression or bullying, for example, they may have a more complex inner world which involves negative self talk and anxiety that may not be noticed by the parents or teachers.

Examining the relatively small amount of literature, the results are clearly mixed regarding gifted individuals' psychological functioning which warrants a further investigation as to how this impacts their experience during times of significant transition such as the transition to post-secondary education.

Social Relationships

Due to their advanced cognitive development, gifted individuals differ from their typically developing peers (Gross, 1998), which can contribute to interpersonal difficulties. Peer relationships, especially in gifted adolescents, are more difficult because these differences can cause their peers to ostracize them (Grobman, 2006; Luus & Watters, 2012; Wirthwein et al., 2019) and the gifted individuals feel that they cannot find kindred spirits. This is especially critical during adolescence as this is a stage marked by the desire to fit in with peers (Kroger, 2007). They may also be picked-on by their peers because of their intelligence, leading to name calling or bullying (Luus & Watters, 2012; Pfeiffer, 2008). This leads to what researchers have called the forced choice dilemma; this suggests that gifted individuals must choose between displaying their intelligence and being rejected or hiding their talents to fit in (Gross, 1998).

Gifted individuals' social difficulties are often compounded by their emotional difficulties, which can exacerbate the symptoms of anxiety that gifted individuals face (Guerra, 2016). Some research has shown that the stereotypical interpersonal difficulties gifted students face could be attributed to their cognition. Gifted students' demonstrations of perfectionism (Greenspon, 1998; Mofield & Parker Peters, 2018), feelings of inadequacy (Grobman, 2006), and heightened awareness of minute differences (Gross, 1998; Lovecky, 1986) could create the ideal ecosystem for perceived social difficulties. For example, Vialle, Heaven, and Ciarrochi (2007) utilized data collected in the Wollongong Youth Longitudinal Study to examine differences between gifted and non-gifted youth in terms of their academic performance, social supports, and personal factors contributing to emotional well-being.

Gifted participants were recruited through the larger study, which had a total pool of 950 students. If they were not formally identified as gifted, their intellect was measured using their scores on two Australian standardized assessments. The results from the teacher rating component, which was measured with a scale used for a previous research study (Pulkkinen, Kaprio, & Rose, 1999 as cited in Vialle et al., 2007), and the social support data, which was measured with the Social Support Questionnaire, revealed that there was a discrepancy in terms of gifted individuals peer relations (Vialle et al., 2007).

Teachers rated gifted students as less likely to exhibit behavioural and emotional problems, and as better adjusted overall than their non-gifted peers. However, gifted students' perceptions of themselves were more negative, which is consistent with the findings of Eklund et al. (2015). Analyzing the social support results, it was found that gifted individuals reported a higher quantity of social support than their non-gifted peers. However, gifted students rated the social support they received as being of lesser quality than their non-gifted peers (Vialle et al., 2007). These findings demonstrate that although gifted students may appear to have adequate social support, their perception of it indicates that they struggle with interpersonal situations.

Field and colleagues (Field et al., 1998) also examined the feelings and attitudes of gifted adolescents surrounding their levels of social support and found contrasting results. They administered a scale developed by Field and Yando (1991, as cited in Field et al., 1998) which measured the gifted adolescents' perspectives about their social perceptions. The adolescents (average age of 14.5 years) perceived themselves to have closer relationships with their friends than their typical peers, and gifted adolescents were also more likely to be closer with their friends than family while typical peers were equally close with both family and friends. They also demonstrated that gifted adolescents had perceived themselves as being more socially adept than their peers, that they were better able to get along with adults and teachers, and that they were better able to understand others (Field et al., 1998). These findings pair with teachers' perceptions of gifted individuals' social grace as identified by Vialle et al. (2007).

The findings that gifted individuals had strong social sense, even if just noted by teachers and parents, could be, however, because the studies only examine gifted individuals within the context of school and by association, academically. Eccles, Bauman, and Rotenburg (1989) examined the social acceptability and self-esteem of gifted individuals in academic, social, and athletic settings. They administered a sociometric questionnaire to 681 students aged 7 to 14 which provided a list of students' names and asked questions such as "Would you invite the following children to your house for a party?" and "Would you study for a test with the following children?" (Eccles et al., 1989). They also administered the Coopersmith Self-Esteem Inventory which assessed self-esteem in academic, social, and athletic contexts as well. Analyzing the data, Eccles and colleagues (Eccles et al., 1989) found that gifted individuals were only more accepted by peers and had higher self-esteem than their peers in academic settings. This suggests that, in studies focusing on academic settings, their intellect may make them accepted because it affords them the ability to help others study, and their higher self-esteem may be because they are outperforming their peers academically. Examining contexts where academic prowess is not relevant or not regarded as important, such as in non-school related social settings, may yield negative results surrounding gifted individuals' social experience.

Transitions To Post-Secondary for Gifted Students

The construct of emerging adulthood is important to this paper as it is the developmental period characterized by the ages of approximately 18 to an individual's mid-twenties (Arnett, 2000, 2006) that is hallmarked by the crucial changes this paper is trying to reflect. Emerging adulthood, expanded upon below, typically begins as the individual transitions to post-secondary education, where they are often away from their parents, or at the least, not as heavily governed by their parents as they were during their secondary education twenties (Arnett, 2000, 2006).

As such, utilizing this developmental framework provides important context about the existing struggles that all individuals face during this period of transitioning to post-secondary, which can be compounded or perhaps, contrasted, by the gifted literature focused on this developmental period. The ability to demonstrate that gifted individuals share, or do not share similar experiences to typical students transitioning to post-secondary will allow this paper to have more thorough conclusions and recommendations for practice.

Theory of Emerging Adulthood: Theoretical Framework

There have been many societal and institutional changes beginning in the mid to late twentieth century (Wood et al., 2017) such as the increase of post-secondary enrollment, (Arnett, 2000, 2006), enhanced "self-realization" (p. 123), and a decrease in industrial work in favour of knowledge-based positions (Wood et al., 2017). These changes have impacted the rights of passage into adulthood, such as getting married, buying a home, or having a child (Arnett, 2000, 2006), with these occurrences typically happening later in an individuals' life, and not being considered as crucial as they were prior to this societal shift. These shifts have ultimately allowed for individuals transitioning into adulthood to learn more prominently than ever before how to navigate their life on their own terms. Instead of the transition to adulthood being relatively quick and mostly pragmatic, this new paradigm suggests that the transition to adulthood is actually a drawn-out developmental period marked by exploration of identity (Arnett, 2000) and self-exploration which in turn allows individuals to enter adulthood on their own terms. The emphasis on forging ones' own path and exploration of identity has prompted scholars to describe the current transition into adulthood as "deinstitutionalized" (p. 4) and more individualistic (Arnett, 2006). This phenomenon of emerging adulthood is intimately linked to what some scholars label a 'structureless society' (Shapiro, 2016), whereas certain traditions or societal norms have been broken and ultimately allowed for various forms of 'adulthood' and a less defined transition into that developmental stage.

Emerging adulthood can be eloquently summarized by the answer to the question, do you feel as though you have reached adulthood; "in some respects yes, in some respects no" (Arnett, 2000, p. 471). Individuals in emerging adulthood have been labelled as pseudo-adults, with heightened responsibilities such as bill payments and responsibility for managing school or work, plus an increased sense of freedom. However, due to a less clearly defined career or life path, there are now more options to explore and less stability. This may mean that emerging adults are working full time or in a committed relationship but may still be living at home with parents (Arnett, 2000), contributing to the pseudo-adult moniker.

The theory of emerging adulthood is relatively new, as a few decades ago, the typical young twenty-something in Western culture followed the traditional 'school, marriage, house, children' formula (Arnett, 2006). This theory, put forth in the late 1990s by Jeffrey Arnett following the aforementioned societal shifts, expands upon prior identity theories. Specifically, previous identity theorists such as Erikson, Marcia, or Chickering (Arnett, 2000) examined, in a circumspect way, facets of emergent adulthood such as exploration of various roles (Kroger & Marcia, 2011), the desire for purpose (Chickering & Reisser, 1993), or developing meaningful relationships (Kroger, 2007), but did not explicitly discuss this as a transitional phase between adolescence and adulthood.

Indeed, examining some of these theories, primarily the ones put forth by Chickering, which focus specifically on post-secondary students (Chickering & Reisser, 1993), and the one by Erikson, which discusses specific tasks that happen between approximately 20 to 30 years of age (Kroger, 2007), it is clear that scholars recognized this time period as pivotal. However, they neglectd to recognize this as a multi-dimensional, yet specific, time period either by including it in a continuous line of identity and developmental related tasks (as in Erikson's theory) or by focusing too specifically on one characteristic of this diverse period (as in Chickering's theory).

As such, the theory of emerging adulthood has specifically been put forth to analyze this critical developmental period for individuals between approximately 18 to 25 years of age and who live in Western or industrialized societies (Arnett, 2000, 2006; Becht et al., 2016). This is especially important to note as the literature focuses on this from a very Western-centric viewpoint, which is one of the significant critiques of this theory (Wood et al., 2017), prompting scholars to examine whether it is generalizable to other cultures. This creates a limitation for the present paper, which was discussed in Chapter One.

Examining the need for this theory about a new developmental stage, it is evident that the demographics of individuals aged 18–25-years prior to the 1990s are different from the current demographics of the same age. For example, previously, many individuals left home only once they found a suitable partner and got married, moving few times, if any. However, it appears that now, there is no pre-determined time to move, with some emerging adults moving at significantly higher rates than before while others remain at home even longer than before (Arnett, 2006), especially if there are no marital prospects. Further, recent societal difficulties due to the coronavirus pandemic have resulted in more economic, relational, and vocational difficulties, which has contributed to an even larger number of emerging adults choosing to live at home (Halliburton et al., 2021; Hotez et al., 2021) The pandemic also significantly impacted the delivery of academic programming at post-secondary institutions and the subsequent transition (Halliburton et al., 2021), which is something that will be further discussed in Chapter Five. Outside of the pandemic, even the reasons for the moves amongst this demographic are significantly different from each other, with some moving for career, others moving for love, and others moving back home for financial reasons (Arnett, 2006).

Emerging Adulthood and Its Relation to Post-Secondary Schooling

Many of the traits described above are especially present in post-secondary students as they exhibit more focus on their vocational and personal exploration (Hébert & McBee, 2007), exhibit more career and personal instability, and move at rates higher than individuals in other developmental periods (Arnett, 2006). Further, most post-secondary students are in their late teens or early twenties, which is the age range characterizing emerging adulthood. As such, much of the literature surrounding emerging adulthood is collected using populations of post-secondary students (Arnett, 2006). Specifically, the growth of university enrollment in this age demographic (Sokol, 2009) and the characteristics of pseudo adult responsibilities present during the post-secondary period (e.g., students may be responsible for paying their own bills but still live at home) are important factors why the post-secondary population is crucial, and frequently used, when examining Arnett's theory.

Even in studies that use post-secondary populations not directly utilizing the framework, or even mentioning emerging adulthood, many of the traits of this time period can be found. For example, in one study examining gifted students' adjustment from secondary to post-secondary schooling, it was noted that many of them experienced difficulties with taking responsibility for themselves or being away from home for the first time (Almukhambetova & Hernández-Torrano, 2021), both of which are key pillars of the emerging adulthood experience.

The current prevalence of identity exploration and varied commitments, which were not as apparent when post-secondary enrolment was lower in previous generations (Arnett, 2000; Verschueren et al., 2017), emphasizes the need for a theory that is robust enough to represent the multitude of possibilities for this period while also remaining succinct and cohesive enough to serve as one distinct theory. As such, utilizing this theoretical framework is crucial to the generalizability and the conclusions of this study as it is broad enough to allow for an exploration of a specific subset of the population, while still providing a cohesive framework that allows it to be compared to the general population going through this developmental phase. Its emphasis on the role of post-secondary education in the emergence of emerging adulthood, and the utilization of this term in many studies examining post-secondary populations also prompted its use as the theoretical framework.

Experiences of Transition Into Post-Secondary for Gifted Students: A Reflection of Emergent Adulthood

Transitions, especially surrounding education, can be difficult for a lot of students (Almukhambetova & Hernández-Torrano, 2020) regardless of if they are identified as gifted or not. However, the transition experience for students with special education needs in general, and those specifically identified as gifted, is unique due to their educational and personal characteristics (Almukhambetova & Hernández-Torrano, 2021). Their educational transition experience in general and potential group-specific difficulties are why many jurisdictions within Canada require students receiving special education services to have a plan for transition periods, especially during the transition from elementary to secondary school, which can be found by reviewing the relevant provincial policy documents (as shown in Lannie & Clelland, 2013). However, some Canadian jurisdictions such as Ontario do not require a transition plan out of secondary school for students solely identified as gifted (Ontario Ministry of Education, 2013), which helps justify the need for this study. Specifically, if the research generally suggests that gifted students adjust well to their emergent adulthood status and related tasks, then perhaps transition plans are not necessary. However, if gifted students demonstrate poor adjustment or demonstrate unique needs in academic or social areas as they transition to post-secondary, then it would suggest that all jurisdictions should implement this practice, if they are not doing so already, to help support their students.

Although there are, indeed, some clear differences in terms of transition from secondary to post-secondary schooling between students solely identified as gifted and students with other or multiple exceptionalities, the importance of these transitional periods and the accompanying emotional and social experiences cannot be understated, despite limited literature in the area (Almukhambetova & Hernández-Torrano, 2021). Many students with special education needs may experience these challenges during transitional periods, but there are some characteristics unique to gifted individuals which influence their experience. Specifically, their experiences, either positive or negative, can be broadly classified into social-emotional or academic, although other studies have also included institutional attachment as another important factor affecting the transition experience (Almukhambetova & Hernández-Torrano, 2021). The present study primarily focuses on academic, social, and emotional functioning, and combines social and emotional functioning into one area of study, as much of the literature examines ‘social-emotional’ functioning (e.g., Mueller & Winsor, 2018; Noble et al., 1992; Rodríguez-Nieto et al., 2019; Wright-Scott, 2018).

Social Emotional Functioning

Social-emotional functioning encompasses the way that an individual thinks about or interacts with themselves and others, and their subsequent behaviour exhibited in response to these thoughts and interactions (Wright-Scott, 2018). Considering this concept’s focus is on both the self and others, it can be broken into internal factors, which include but are not limited to emotion regulation, expressing emotions, resiliency, and empathy for others, and external factors, which include relations with the broader world such as family, school, and the individual’s community (Wright-Scott, 2018). The term social-emotional is often used in conjunction with the term well-being to describe positive states of psychological functioning (i.e., happiness, contentment, hope, see Wright-Scott, 2018), but examining social-emotional states can provide insight into negative experiences as well, including sadness, anger, or isolation. The social and emotional factors are often studied together as they are heavily interrelated; specifically, the process and outcome of engaging in social behaviour creates an emotional or psychological consequence (Wright-Scott, 2018) and vice versa, where specific emotional or psychological states can have social consequences. Given that social interactions require managing emotions and demonstrating awareness for different situations and individual contexts, it might explain why gifted individuals who develop more quickly than their same age peers (Pfeiffer, 2008) may not be able to relate to their peers' social behaviours. This, in turn, greatly impacts their emotional state as well if they are turned away or ostracized by peers (Wright-Scott, 2018).

The research typically uses self-report questionnaires asking gifted individuals about their social experiences in post-secondary education (as in Wright-Scott, 2018) or may utilize focus groups or interviews to obtain qualitative data from the gifted individual about their social adjustment (as in Almukhambetova and Hernández-Torrano, 2021). However, other research has also utilized classmates' perceptions of the gifted university students' social and emotional characteristics, which yielded similarly variable results. Nieto, Gonzalez, and Miranda (2019) conducted a study examining 74 typical students in university, asking their perceptions about giftedness and gifted students. The qualitative answers were then coded, revealing that conceptions of giftedness were related more to socio-emotional characteristics, followed by intellectual, and that in fact, they were perceived more positively in both socio-emotional and intellectual domains. Specifically, Rodríguez-Nieto et al. (2019) found that 41% of respondents viewed gifted university students' socioemotional characteristics positively, while 37% viewed them negatively. This would suggest that classmates of gifted students have these mixed perceptions of gifted students' social-emotional characteristics in post-secondary. The importance of social-emotional functioning for gifted students' success, and the significant discussion of social-emotional experiences for all students in the Emerging Adulthood framework (i.e., helps act as a reference for experiences described in the gifted literature) justify its use in the current study.

Big Fish, Small Pond Phenomenon: Theoretical Framework

The "Big Fish, Small Pond" phenomenon (also sometimes discussed as the Little/Small Fish, Big Pond phenomenon) is used to describe gifted students' experience of being in a new environment where they are surrounded by a greater number of equally intelligent peers (Zhang, 2021). Unlike their previous, often smaller, environments such as elementary or secondary school, where they were typically one of few high achievers, they are now in a larger environment and surrounded by more high achieving or gifted peers. This means that instead of being the only, or one of few gifted students within their immediate learning circle, they are now surrounded by more gifted students and there is more opportunity to compare themselves academically to their peers (Luus & Watters, 2012; Patrick et al., 2021; Zhang, 2021). Although the gifted literature suggests that being surrounded by others with similar intellectual capacities is beneficial for gifted individuals (Bernstein et al., 2020), the transition to this state can be difficult. Specifically, gifted students are often remarked for their intellectual capacity (Pfeiffer, 2008), and they often view themselves as more academically competent (Litster, 2004; Litster & Roberts, 2011), which is often one of the biggest contributors to their self-perception (Zhang, 2021). This shift away from being *the* smartest in the class can be difficult for gifted individuals who are typically competitive (Pfeiffer, 2008) and may result in lower self-worth (Zhang, 2021), feelings of 'not being gifted' (Almukhambetova & Hernández-Torrano, 2021; Hébert & McBee, 2007) or the questioning of their abilities (Meadows, 2017).

Given the difficulty of being a 'small fish,' many gifted individuals choose to seek out environments where they can continue to be the 'big fish' (Freeman, 2017), such as by participating in extra-curricular activities (Luus & Watters, 2012). Staying in those potentially limiting environments may ease their adjustment (Freeman, 2017). The transition from smaller, pre-emergent adulthood environments (e.g., elementary school, secondary school, or the family unit), where they received individual appreciation and validation due to their intellect and performance, to a larger environment where they receive less praise and less individual attention can be emotionally and psychologically difficult for the gifted emerging-adult. This is because much of their self-worth is attached to that individual attention and often times, gifted students entering these new environments have to accomplish even more to be individually recognized (Freeman, 2017), which can lead to competition (Almukhambetova & Hernández-Torrano, 2021). Despite these negative impacts, research has suggested that their self-concept does return after time (Patrick et al., 2021) and that some students actually enjoy the new environment and being around similarly-abled peers who share intellectual interests and abilities (Boazman & Sayler, 2011; Sayler et al., 2015).

This phenomenon can be both positive or negative, both of which can impact academic and social-emotional experiences of transition. If an emerging adult in post-secondary feels satisfied with being around similar peers, then they will likely have better academic and social-emotional outcomes because they do not feel they need to compete and are not disheartened about a lack of individual attention. Alternatively, if an emerging adult in post-secondary *does* feel particularly competitive with their peers (Almukhambetova & Hernández-Torrano, 2021) and feels as though they cannot outperform them (Steenbergen-Hu et al., 2020), they will likely have negative academic and social-emotional outcomes as it has been demonstrated that feeling a sense of belonging contributes to a successful transition experience (Yeager & Walton, 2011).

Summary of Chapter

This chapter summarized literature used to support the objectives of the present paper and provide more context into the importance of the transition into post-secondary education for gifted emerging-adults. Specifically, literature pertaining to intelligence and giftedness was discussed, paying particular attention to the general characteristics of gifted individuals. Next, the chapter discussed emerging adulthood and how it is relevant to this time period of transition into post-secondary education; in this portion of the chapter, the use of emerging adulthood as the theoretical framework was discussed. Following this, the chapter discussed the literature pertaining to giftedness and entrance into post-secondary, and it concluded by elaborating on the Big Fish, Little Pond phenomenon, which is the other theoretical framework used to guide the present paper.

CHAPTER THREE: METHODOLOGY

The following chapter begins by discussing the research methodology and design used in the present paper. Specifically, it discusses evidence synthesis as a methodology in general and then narrow in focus to discuss rapid reviews, specifically. Following this, the chapter discusses the data collection which includes information about the inclusion and exclusion criteria, search strings, and databases utilized in the present paper. This leads into a discussion of the data analysis which outlines the information that was extracted from each article. Lastly, this chapter discusses the limitations of the present paper.

Research Methodology and Design

The following research paper is a rapid review, which means that it utilizes evidence synthesis methods to rigorously and systematically review an area of literature, however, in a more brief and condensed capacity than a systematic review (Dobbins, 2015). As such, utilizing the evidence synthesis rapid review methodology allows the paper to strategically summarize key literature about gifted students' transitions as emerging adults into post-secondary education in a more time-efficient manner. This method will assist with the answers to the research questions, which are:

1) What social-emotional characteristics do gifted students exhibit as they transition to post-secondary?

2) How do gifted students perform academically as they transition to post-secondary?

Utilizing this research method will provide a thorough summary of the social-emotional and academic experiences that gifted students have as they make this crucial transition while taking place in a more timely and condensed manner than a full systematic review. This is useful, especially in a field with often competing findings, as it is difficult for practitioners to read all of the relevant literature to stay up to date with the information required to effectively carry out their duties and implement policies and practices pertaining to gifted education (Uman, 2011). A rapid review is especially applicable in this instance as it allows the paper to be produced in a timely manner, and is becoming more commonplace, especially in educational research (Wollscheid & Tripney, 2021).

Systematic literature reviews are effective as they utilize a structured and comprehensive (Uman, 2011) approach to reviewing the relevant research. Rapid reviews utilize many of the same approaches, however, often put limiters on the data to reduce the number of data points. Unlike a standard literature review, often called a "narrative" review (Uman, 2011), which substantially reviews a particular area of literature in a more subjective and undefined manner, a rapid review, also called a brief review or rapid evidence synthesis, uses a strict, pre-defined set of criteria to find relevant articles about a particular topic that fits within an abbreviated scope as compared to a systematic review of the same area. This often means that limiters are put on features such as publication date or publication language to be able to conduct the review in a timely manner (Wollscheid & Tripney, 2021).

Although these accelerating factors can reduce the comprehensiveness or potentially create more bias compared to a full evidence synthesis project, the rigor taken in outlining replicable steps, inclusion and exclusion criteria, and analyzing the data in accordance with a predesigned method makes it significantly more comprehensive and less biased than other types of reviews. With work being done by scholars to understand the procedure of conducting rapid reviews and ways to make it as rigorous as possible while still respecting timelines, it is still considered a reputable methodology to address specific research questions that help inform policy and practice for academics and non-academics alike (Dobbins, 2015; Uman, 2011; Wollscheid & Tripney, 2021).

Given that the purpose of a rapid review, or any type of evidence synthesis, is to produce a comprehensive, replicable, and transparent summary of relevant literature in a topic area, it is crucial that there are common steps followed in order to be in line with other works utilizing this methodology (Dobbins, 2015). The steps defined below were utilized in the present study, and specific notes about abbreviation methods will be discussed in the data analysis section below. Prior to completing the following five steps (which comprise the actual review work), it is necessary to gather preliminary information and plan the review, which includes identifying your working team, defining the topic, and collecting information about the area to gain a working knowledge. All steps below were adapted from the *Rapid Review Guidebook* (Dobbins, 2015), published by the National Collaborating Centre for Methods and Tools. Although this is a health-based document, the steps can be applied to educational research as well.

Step 1: Define a Practice Question. Also called a research question, the practice question(s) developed should frame the purpose for conducting the rapid review. The question should be streamlined and able to be answered by the literature, which means that it should be based on the existing research and knowledge gathered in the preliminary planning. It should also be worded in a neutral manner, when possible (i.e., avoid asking which phenomena or intervention makes a positive impact on an outcome), and it should be clearly focused. One common framework for defining a practice, or research, question is PICO, which suggests that questions focus on: the population in question, the intervention or certain variable under investigation, the comparison for the intervention group, and the outcome of the variable in question. Although, again, this is focused more on empirical, health related research, effective questions should consider a focused phenomena or concept and how it affects a certain population of interest.

Step 2: Search for Research Evidence. Based on the research question, relevant literature should be sought in the appropriate databases, journals, or other literature finding media. In most instances, an exhaustive, systematic review of the literature is the most effective at addressing any type of research question but given the constrains that exist in research environments such as time or funding, often a rapid review (i.e., a more condensed or restricted literature review) is more appropriate. During this phase, the research team will create a list of criteria for the search, which includes the relevant databases or search media, inclusion and exclusion criteria (i.e., key terms or concepts that would make a piece of data relevant or irrelevant), and skim found articles for suitability.

Step 3: Critically Appraise the Information Sources. Once the literature has been found, it is a valuable step to appraise the selected literature for suitability and credibility. During this step, it is recommended to have two or more team members review each article for methodological quality, ensuring that the consequential review is based on quality work.

Step 4: Synthesize the Evidence. This step is where the work undertaken to find and review articles comes to fruition with a more cohesive product telling a story to answer the practice question. This step has also been termed as "[p]utting it all together" (Dobbins, 2015, p. 18), as this is where the data is extracted, formatted in a simplistic manner for the audience, and then synthesized to draw conclusions. During the first step, which is called extraction, data is typically organized into a table that outlines key elements of each article such as title, author, relevant publication information, methodology information, variables of study, and results, as well as any other noteworthy findings such as discrepancies in the research between subgroups of different ethnicities. Following this, the extracted data is analyzed to discuss the findings of the research studies more generally and objectively (e.g., differences amongst the studies and how this impacts the outcome), which helps frame the implications. The implications are the last part of the evidence synthesis step and they essentially answer the research question(s) defined in step one. The evidence based upon the extracted data should be used to formulate recommendations and next steps as they pertain to relevant procedures, policy, or practice.

Step 5: Identifying Applicability and Transferability Issues for Further Consideration during the Decision-Making Process. The final step in the research process, aside from writing the report, could be considered an extension of the implications discussed in the previous step. During the fifth step, the research team discusses the implications and if they are relevant to the particular population or feasible given certain real-world constraints such as funding. For example, if many of the studies were conducted in Europe but were being analyzed to support the development of a program in Canada, it would be necessary to analyze the applicability of the findings in this context given that education or healthcare would be quite different in the two geographical locations. Since evidence synthesis works are used to make evidence more approachable and more easily utilized by non-academic professionals (Uman, 2011), this step helps provide those individuals with even more support to determine whether the results contained in the work are going to be useful to them.

As mentioned, the preceding five steps are concluded with a written report, which is typically what would be published in academic journals. It contains an overview of the relevant literature, a summary of the research questions and methodology, the synthesis and implications based on the reviewed literature, the references, and the appendix, which outlines the replicable steps taken to deliver the final report (e.g., literature search guidelines, data extraction table, information about the appraisal of the included studies).

Data Collection

The data collected in this paper was done systematically, using a set of predefined criteria to ensure that limited bias entered the collection strategy throughout. This process of collecting data, although accomplishing the same task in evidence synthesis works, is often arrived at differently. For example, Dobbins (2015) recommends brainstorming search terms to use to collect data, whereas Yates, Ash, and Robinson, (n.d.) suggest finding target articles that capture the research questions and utilizing keywords and subject headings that were pulled from the target articles during data collection. Regardless of how the search strategy is defined prior to collecting data, it is crucial that the research team follows the data collection method outlined in their specific paper in order to collect data (i.e., articles) for the review in a replicable manner.

Databases Utilized

One of the steps prior to data collection is to decide upon which databases will be searched (Yates et al., n.d.), which is based upon the topic of the work. For example, using a database such as ERIC, which is a database containing educational documents, would be inappropriate if the research questions pertained to public health issues. However, given that the present paper focuses on education (i.e., giftedness), using ERIC is appropriate. The present paper reviewed articles that were utilized in Chapter Two of the current paper, which is literature prefacing the purpose for conducting the current rapid review, to determine which journals the articles came from and what fields of study the journals represented. Reviewing the literature, it was clear that much of it was contained in journals specific to giftedness, such as *Gifted Child Quarterly* (as in Almukhambetova & Hernández-Torrano, 2020), or others such as the *Roeper*

Review or the *Journal for the Education of The Gifted*, which publishes literature pertaining to giftedness from academic, psychological, and societal perspectives. Literature was also pulled from journals such as *Frontiers in Psychology*, the *Journal of Educational Psychology*, and the *Journal of Personality and Social Psychology*, which suggests that much of the gifted literature is also both psychological and educational in nature.

Further, some of the literature was unpublished Masters or Doctoral works that were not present in journals, and full text could only be found in databases specific to the distribution of theses and dissertations. As such, the databases utilized to conduct the data collection in the present paper were either educational or psychological in nature, specific to theses and dissertations, or were selected due to the volume and topics of literature they indexed. Given the constrained nature of the review, it was not feasible to execute a search in *all* educational and psychological databases, so it was necessary to pick ones that contained as much relevant literature as possible. These criteria, in consultation with the library staff, resulted in utilizing the databases ERIC, PsycInfo, Academic Search Complete, ProQuest Dissertations and Theses, and Google Scholar.

Search Terms

Although the specification of which databases were utilized is important, pre-specifying the specific search criteria required to perform the search is absolutely necessary as it helps ensure that the work is replicable and reduces the potential for bias. If no search specifications were outlined prior to the search, it would be possible for the researcher to change their search information part way through the execution of the data analysis, which would introduce bias and reduce the reliability of the work being conducted. As such, the present paper outlines the specific search strings utilized, minus changes required in order to execute a search in one database compared to a different one. For example, proximity indicator symbols, which allow an individual to search for two words or phrases in a certain number of words away from the other, differ based on the database being searched (Yates et al., n.d.). Although all the databases used for data collection in the present study utilized the same Boolean operators, which was the primary keyword manipulation in the present paper, many databases have specific syntax required to properly execute the search. For example, the *Scopus* database utilized the syntax "AND NOT" instead of "NOT" when trying to exclude certain keywords (Gore & Boruff, n.d.). Potentially differing syntax structures for databases were not included in the present paper, which is important to note should any scholars try to replicate this work.

The present paper utilized Yates et al.'s (n.d.) strategy of pulling keywords from target articles, which are articles found in a preliminary search of the research topic that are relevant to the research questions and meet the inclusion criteria for the review, to decide upon the terms used in the searches for data. The key words pulled from these articles are outlined below in Table 1**.** The table is organized based on the overarching themes of the current paper, which were transition into first year of post-secondary, post-secondary education, and giftedness. The decision to utilize these overarching themes to organize the keywords was based on the content of the research questions.

Table 1

Search Terms Utilized in the Present Paper, Organized by Theme

Theme	Keywords Pulled From Target Articles
Transition into first year of post-secondary	College transition College freshmen Transition
Post-Secondary Education	College University Higher education Post-secondary
Giftedness	Gifted Gifted education Academically gifted Gifted college students Honors program

Based on these keywords, and having removed instances of duplicates across themes (e.g., college appeared in both the giftedness theme and the post-secondary theme), the terms were combined to encapsulate the three themes in each search string, utilizing Boolean operators, parentheses, and the wildcard symbol '?' to return as many data points as possible. The following search strings were developed: "Gifted AND (post-secondary OR University OR college OR Higher Education) AND (transition OR adjustment)" and "Gifted AND ("post-secondary" OR university OR college) AND freshm?n".

As recommended for creating search strings, the terms within should be left as broad as possible while still being descriptive (Elmira College, 2024), as including additional words can reduce the number of data points that are returned by that search. For example, instead of including college freshmen in quotations to find that exact phrase in the literature, the second search string used college as an optional term and used freshmen as an additional term. As such, the search will return articles that might include both terms but will also return articles that might use the words university and freshmen as well, thus expanding the amount of data.

Inclusion Criteria

The focus of the present study was on the transition from secondary to post-secondary education for gifted students (also considered emerging adults). As such, a list of inclusionary criteria was developed to ensure that the present paper gathered all appropriate literature to help address the research questions. Although creating search strings that align with the research questions is valuable in returning appropriate literature, the results must be further screened to ensure that the articles do in fact align with the research questions. As mentioned, the search terms should be left broad enough to ensure that relevant articles are not being missed (Elmira College, 2024), but this process can also mean that irrelevant articles are included. Further, it is important to ensure that the methodology used in the found literature is suitable to capture the research questions of the present paper, and that the population is reflective of the population in question. As such, the following criteria were created to help guide the collection and filtering of data after the searches were conducted:

1. Participants had to be identified as gifted either by having attended an honours/enrichment program before or during their entrance to a postsecondary institution, or by a standardized measure of intelligence.
2. Outcomes had to include academic outcomes (e.g., performance, study habits/skills) and/or social-emotional outcomes (e.g. interpersonal relationships, social connectedness, emotional stability/volatility, mental health challenges).
3. Participants were required to be in their first year of study at a postsecondary institution as this was the specific time point of interest for the present study.

4. Participants were between the ages of 17 and 25. This is the demographic that characterizes emerging adulthood, so participants outside of this range likely have other influencing factors (e.g., early entrance to university or mature student status) which could potentially skew the interpretation of the data.
5. The study had to have been published in a peer-reviewed academic journal or was a defended dissertation or thesis that was readily accessible. Although many evidence reviews also include grey literature, which is unpublished, atypical, or hard to find works relevant to the topic (Cooper et al., 2019; Wollscheid & Tripney, 2021), including this type of literature would add extra time to the study for finding and vetting the documentation which was not afforded in the present rapid review.
6. The study had to have been reported in the English language. However, publications from any country were deemed eligible if they were written in English, as limiting the participant nationality or the location where the study was published would reduce the number of data points and the generalizability of the data.

There were no constraints on the year of publication for the literature, which means that all years were considered eligible. The gifted literature pool is also quite small and is a relatively new area of study compared to other psychological constructs, so it was not necessary to constrain the date range to produce a smaller, more relevant pool of data.

Exclusion Criteria

Specifying criteria that excludes a study from the present paper was also necessary as it facilitated easier screening of abstracts and articles and ensured that irrelevant articles could be flagged quickly and were not included. Unlike the inclusion criteria for this paper, which focused significantly on features of the data itself such as publication year, location, or study participant demographic, the exclusion criteria primarily focused on actual characteristics pertaining to the gifted participants in the literature. Specifically, the present paper excluded literature according to the following guidelines:

1. Participants who were identified as “twice-exceptional” (also referred to as 2E), as this could have negatively skewed the data interpretation due to pre-existing academic or social-emotional difficulties.
2. Participants who were identified as “accelerated” or “early-entry” as this could have positively or negatively skewed the data interpretation due to heightened levels of post-secondary preparation and factors associated with their age at the time of post-secondary entry.
3. Participants who were identified as mature students as this was outside the scope of emerging adulthood and participants likely had other factors influencing their functioning during this transition period.
4. Studies that included freshmen data that was amalgamated with data from post-secondary students from other years of study. If the study reported on students’ functioning outside of freshmen year but kept the data from each different year separate (i.e., it was possible to analyze the freshmen data individually), the study was still eligible for the current rapid review.

These exclusion criteria pertaining to the participants specifically were decided upon as these groups have been shown to have differing outcomes in terms of academics and their social-emotional health (Boazman & Sayler, 2011) which could skew the results of the present paper and would not provide good evidence to support the implementation of transition plans for the average gifted student. The last exclusionary criterion was listed to ensure that the studies included did, in fact, pertain to students who were in the specific transition period examined in the current study.

Data Analysis

The data analysis strategy for this study focused on extracting data points from the articles found, as completed in Chapter Four. The data points were organized into a table that consisted of data extraction categories recommended in the evidence synthesis literature (as in Dobbins, 2015), as well as some that were decided upon collaboratively by the author of this paper and their graduate supervisor. All of the data extracted helped answer the question, “what do the included documents tell us?” (Dobbins, 2015, p. 18), and ultimately helped answer the research questions. The specific data extraction points were: author(s), year, publication type, country, research design, number of participants, definitions/measures of giftedness, outcome category (i.e. academic or social-emotional), specific variables (i.e., what aspect of academic or social-emotional functioning were examined), whether the adjustment was positive or negative, and a general discussion of the findings.

Following data extraction, the data points were then synthesized into descriptive sentence form, which helped address the research questions specifically. The synthesis component of the data analysis is crucial as it helps the reader determine “what are the overall conclusions from all of the included research?” (Dobbins, 2015, p. 20). The synthesis was organized based on the data extraction categories and analyzed similarities and differences amongst the literature as it pertained to the specific categories of data. The bibliographic columns (i.e., year, publication status, and country) were analyzed together and provided the reader with background information to understand the intended audience and the context of the data. The methodological categories (i.e., research design, number of participants, definition/measures of giftedness) were analyzed together and were crucial for helping the reader determine the generalizability of the findings, and the potential limitations that impacted interpretations in the final synthesis section. The final group of synthesized data points fell into the outcome categories (i.e., outcome, specific variables, positive/negative adjustment, overall findings). These categories were analyzed together and were perhaps, the most crucial data points in the present paper as they helped answer the research questions.

Limitations

Given that this paper is a synthesis of previous literature and evidence in the topic area (i.e., secondary research), there are different limitations than if this were primary research, which involves making significant methodological choices about participants and research design. However, there are methodological limitations pertinent to conducting evidence synthesis works given that "[t]he perfect research synthesis does not and never will exist" (Cooper et al., 2019, p. 518). Since it is the researcher and sometimes other members of the research team responsible for finding articles and interpreting the data (especially in instances where there are not meta-analytical methods employed), there is more opportunity for bias in determining which articles meet eligibility criteria or how the data from within the literature should be mapped out in the data extraction table. Furthermore, the present paper was limited because calculating effect sizes or performing other quantitative tests, both of which typically make the results as unbiased and objective as possible, were not undertaken. However, significant advancements made in the methodology for evidence synthesis works and the established protocols for finding and analyzing literature help reduce potential for bias (Cooper et al., 2019). For example, specifying strict inclusion and exclusion criteria and defining search terms and phrases help ensure that the literature is relevant and that it is easily replicable by others.

Methodologically, there are also limitations associated with conducting a rapid review as a form of evidence synthesis instead of a full systematic review or a meta-analysis given that rapid reviews are constrained (Wollscheid & Tripney, 2021). Rapid reviews are typically conducted due to limits on aspects such as time or funding, and as such, the researcher must make decisions about how to reduce the amount of literature in the review to align with those constraints. This decision process, although systematically conducted and applied consistently, acts as a limitation as there may be important literature left out. Further, the present paper did not utilize multiple readers to find and review the collected studies outside of the graduate supervisor reviewing the final written work for accuracy, which also introduces bias into the paper. Although the paper is systematic in that a strict set of criteria were followed to include and exclude primary works, it is possible that researcher bias could have impacted the interpretation of these works as to how it fits in with the inclusion and exclusion criteria.

Outside of methodological limitations, the present paper was limited because the literature pool used for the review was not as vast as in fields such as public health (Dobbins, 2015). The paper focused on gifted emerging adults (i.e., university students), which is already a small area of literature compared to typical university students, and then also focused on the transition from secondary to post-secondary education which further narrowed the pool of literature. Much of the present literature focuses on academics and a limited amount of literature focuses on social-emotional factors, likely due to the academic implications of being gifted, which means that literature in this area is also limited. This means that the conclusions being drawn based on the synthesis of the included literature are limited and may not be completely reflective of the adjustment experience that gifted students face as they transition into post-secondary. Without a larger, more comprehensive pool of research, the findings herein may be more apt to change with new research. Although this may act as a benefit as it is easier to ensure that all the appropriate studies are included, it makes the results less generalizable than if there was a significant amount of literature included in the review. This limitation was not directly addressed in the present work as there is no way to effectively address the research question without expanding the inclusion criteria. As such, noting the limitation for the reader so they can judge the accuracy of the interpretations and recommendations is sufficient.

Ethical Considerations

Unlike human or animal research, systematic reviews do not collect sensitive or confidential information, and the collection of data itself is from articles or sources which can be routinely accessed and have most often already been vetted by ethics boards (Suri, 2020). The discussion of ethical considerations pertaining to systematic reviews was previously not even discussed in the articles because of the lack of human participation, but has since become more frequently seen, in part due to the increasingly rigorous methods used in review articles (Suri, 2020). Further, given that these types of reviews are used to help inform policy and practice, especially in fields such as medicine, which can have life or death implications (Dobbins, 2015; Uman, 2011), it is good practice to discuss any ethical considerations (Suri, 2020). As such, the current review will discuss the ethical considerations, which primarily relate to the accessibility and publication of articles relevant to the current review.

In terms of accessibility, it was important to take into consideration both accessibility of articles that are relevant to the current review, but also, how the current review will be accessed once complete. Fortunately, this review will be published in the University's digital repository which can be freely accessed by the public. However, individuals would need to know where to find the digital repository, and as such, the current review may not be used for its intended purpose of informing practice and policy for gifted education and post-secondary transitions. For the accessibility of articles that are used *within* the review, the issue of paid access (i.e., many articles can only be found in paid journals which the general public likely does not have access to), the difficulty surrounding articles being published in other languages which would require a translator to be obtained, and the lack of dissertations being published in databases open to the general public are all examples of ethical considerations in the current paper. In order for this paper to be replicated, subsequent authors would need to be able to access relevant studies, which is more difficult given the constraints listed above. Further, this review omitted articles due to the inability to access them in a journal or due to the language of publication which may have impacted the results and thus any potential proceeding policy or practice.

The other ethical consideration was the issue of publication not just in this review but in reviews in general (Suri, 2020). There are publication biases wherein certain methodologies are favoured over others (Suri, 2020), and it is unlikely that articles demonstrating insignificant or negative findings would be published; this is called the “File Drawer Phenomenon” and describes the lack of publications that demonstrate negative or null findings (Rosenthal, 1979). Further, the findings that are published may be in journals not indexed in the major databases, and unless those journals are specifically searched, the findings from those articles may not be included (Crompton et al., 2021). These ethical considerations surrounding the publication and accessibility of results means that there may be findings that could ultimately help justify or negate the findings of the current review, which in turn would ensure that any subsequent policy or practices implemented are reflective of the current reality surrounding post-secondary transitions for gifted students.

Summary of Chapter

The present chapter discussed the methodology used in the current paper. The chapter began by highlighting the research design and methodology (i.e., rapid review) and provided information about how this type of evidence synthesis work differs from others, how it is conducted, and why it is useful. Following that, the chapter discussed how the data was collected, which included databases searched, search parameters, and key features of the literature that warranted inclusion or exclusion in the present paper. Then, the chapter discussed how the data was analyzed and concluded with a discussion of the limitations and ethical implications of the present study.

CHAPTER FOUR: RESULTS

The following chapter discusses the results of the current study. The chapter begins by outlining the results of the literature search and article review conducted in line with the criteria reviewed in Chapter Three. Following this, the chapter discusses the results of the review conducted in the present study, which begins with a review of general study information. The results pertaining to research design and methods, participants, and gifted identification are discussed next. To conclude the chapter, a discussion of the outcomes in the reviewed studies regarding academic and social-emotional functioning of gifted students during the transition to post-secondary is provided.

Literature Search

There were two search strings utilized in five databases as outlined in Chapter Three of the current paper. The first search string, which was “Gifted AND (post-secondary OR university OR college OR higher education) AND freshm?n” (referred to as “Freshm?n” search in this section), produced a total of 202 unduplicated articles. The second search string, which was “Gifted AND (post-secondary OR University OR college OR Higher Education) AND (transition OR adjustment)” (referred to as “Transition” search in this section), produced a total of 806 unduplicated articles. After reviewing both search strings for duplicate articles, a total of 954 unduplicated articles were included in the article screening. Table 2 outlines the number of articles produced for each search string in the five databases utilized in this paper to conduct the literature search. The limiters used in each search, which help narrow down the literature returned from the search to meet certain general criteria (e.g., language of study or peer reviewed articles), are also outlined in Table 2 for each database utilized.

Table 2

Articles Returned for Each Search String in the Databases Utilized

Database	Limiters	Results Freshm?n Search	Results Transition Search
ERIC	Peer reviewed; English language	48	170
PsycInfo	Peer reviewed	38	364
ProQuest Dissertation and Theses	English language	29	196
Academic Search Complete	Find any of my search terms; Apply equivalent subjects; Peer reviewed; English language	14	215
Google Scholar	None	99	98
Total Without Duplicates		202	806
Total Unduplicated Articles			954

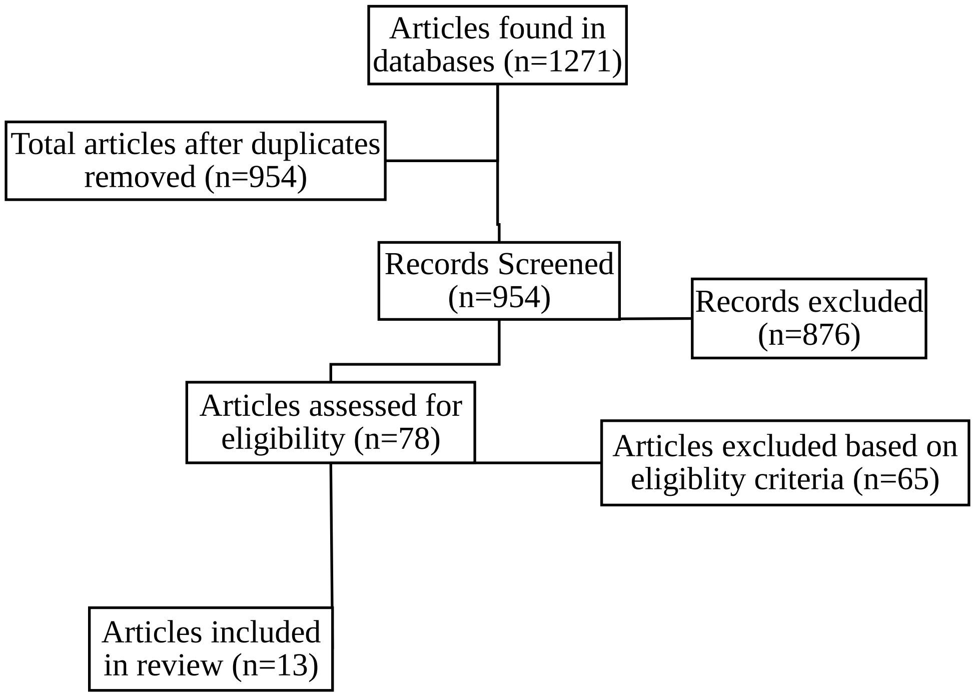
Article Screening and Assessment

There were 954 articles screened for eligibility after the duplicates were removed as shown in Figure 1. The first step in this process was reviewing the titles of each of the articles to determine if they were relevant to the study. For example, articles with words such as "children" or "early entrance" in the title were ineligible for the study given that they did not examine the population of interest. Of the 954 articles screened, 876 articles were considered ineligible because they examined populations outside of the scope of the current paper. There were 417 articles removed by running a search for the following words, or variants of, and then reviewing the results to ensure they were ineligible: child, teenager, adolescent, adult, early entrance, twice exceptional, high-school, secondary school, and primary school. The remaining 417 articles were scanned manually to review each title for relevancy. There were an additional 339 articles removed due to ineligibility as they focused on parents or family relations of gifted individuals, career development of gifted individuals, or other non-related topics. This left a total of 78 articles whose titles did not include any disqualifying information, and as such, the abstracts or full text were scanned to ensure that the articles were eligible. This screening process was done manually alongside the graduate supervisor, which involved both parties independently reviewing the articles and meeting to review each one and explaining why it was or why it was not considered eligible for the study.

Following the review of potentially eligible studies with the graduate supervisor, it was concluded that there were an additional 65 ineligible articles as they were opinion pieces about gifted education, examined non-transition related factors in undergraduate students, or did not focus specifically on first-year gifted students. This left a total of 13 eligible articles which were included in the review in the present paper.

Figure 1

Articles Removed at Each Step of The Screening Process



General Study Information Results

The first data points extracted from within the studies were general study information, which is outlined in Table 3. The general study information analyzed from each article in this section of the paper included study year, publication type, and country. Although the general study info is not highly relevant for making recommendations for practice or policy, it is useful as it provides context about the study (e.g., educational systems, societal landscape) that helps with the interpretation of the results. Reviewing the 13 articles included in this study, 10 of them were published post 2000, demonstrating the more recent focus on transitional experiences of students. Of these 10 articles, three of them were published within the last five years, and the remaining seven were published between the years 2005 and 2018. The remaining three articles were published in the 1990s. Most of the articles published were also peer-reviewed journal articles (n=8) while the remaining studies included in this paper were dissertations (n=5).

Reviewing the countries in which the articles were conducted, 62% (n=8) were in the United States. The remaining five studies were conducted in Chile (n=2), Kazakhstan (n=2), and Mexico (n=1). The two studies conducted in Kazakhstan were from the same authors using the same data set but reporting on different aspects of the experiences of first-year university students. They also used a different sample of students from the larger participant group in one of the articles to highlight qualitative data, which is why it was deemed appropriate to include both articles in this paper. The same circumstances were involved with the two studies conducted in Chile (i.e., same authors and dataset but different variables). Interestingly, the two studies conducted in Chile may not have been published in Chile, as one study is a dissertation from the University of Arizona in the United States. Further, although Kazakhstan is part of both Europe and Asia, there were no other studies deemed eligible that were from other parts of Asia or Europe. There were no articles included from Australia, Africa, or Canada, suggesting that the findings of this study are more readily generalizable to North and South America.

Table 3

Summary of Data Extraction from Reviewed Article

Author & Year	Publication Type	Country	Research Design	Sample Size	Definition/ measures of giftedness	Outcome Category	Overall Functioning
Almukhambetova & Hernandez-Torrano (2020)	Peer Reviewed Journal Article	Kazakhstan	Exploratory	30	Gifted program participation in secondary school.	Academic and social-emotional	Positive
Almukhambetova & Hernandez-Torrano (2021)	Peer Reviewed Journal Article	Kazakhstan	Mixed Methods explanatory sequential research	201 quantitative and 30 qualitative	Gifted program participation in secondary school.	Academic & social-emotional (and institutional)	Academic & social were positive. Emotional was negative.
Gomez Arizaga (2012)	Dissertation	United States	Cross-Sectional Descriptive-Exploratory	209 non-gifted and 45 Gifted	Standardized assessment.	Academic and social-emotional	Positive and negative for each factor
Gómez-Arízaga & Conejeros-Solar (2013)	Peer Reviewed Article	Chile	Exploratory Descriptive	12	Gifted program participation in secondary school and standardized assessment.	Academic & social-emotional	Negative (academic & social), Positive (emotional)
Green (2005)	Dissertation	United States	Quasi Experimental	70 Gifted honors and 234 Gifted non-honors	Honours participation in post-secondary and secondary school performance.	Academic	Negative

Author & Year	Publication Type	Country	Research Design	Sample Size	Definition/ measures of giftedness	Outcome Category	Overall Functioning
Meadows (2017)	Dissertation	United States	Grounded Theory	12	Honours participation in post-secondary.	Academic and social	Negative (academic and social)
Miller & Dumford (2018)	Peer Reviewed Journal Article	United States	Correlational	1339 gifted and 7191 non-gifted	Honours participation in post-secondary.	Academic and social	Positive
Neuber Haggerty (2019)	Dissertation	United States	Interpretive Phenomenolo gical Analysis	6	Identified as gifted in secondary school. Honours participation in post-secondary.	Social-emotional	Negative
Noldon & Sedlacek (1997)	Peer Reviewed Journal Article	United States	Correlational	325	Honours participation in post-secondary.	Academic and social-emotional	Positive (academic), Negative (social-emotional)
Perrone & Dow (1993)	Peer Reviewed Journal Article	United States	Descriptive	1259	Secondary school performance and scholarship achievement.	Academic & social	Majority positive for both
Plominski & Burns (2018)	Peer Reviewed Journal Article	United States	Correlational	87 gifted and 71 non gifted (450 total sample)	Honours participation in post-secondary.	Academic and emotional	Positive

Author & Year	Publication Type	Country	Research Design	Sample Size	Definition/ measures of giftedness	Outcome Category	Overall Functioning
Sierra et. al (2015)	Peer Reviewed Journal Article	Mexico	Quasi Experimental	80	Standardized assessment.	Academic and social	Positive
Wilson (1998)	Dissertation	United States	Correlational	179	Gifted program participation in secondary school and academic performance.	Academic and social-emotional	Predominantly positive for both

Research Design and Methods

Reviewing the research designs of the studies included in this paper, the most utilized design across the studies included in this paper was correlational research (n=4) utilizing survey method. The research designs listed in the dissertations were typically more detailed and thorough (e.g., Gomez Arizaga, 2012 listed their research design as “Cross-Sectional Descriptive-Exploratory”), although they utilized similar key words included in the peer reviewed scholarly articles. Some key words for research designs utilized in the remaining articles included descriptive and/or exploratory (n=4) and quasi-experimental (n=2), while the remaining three articles each utilized a different research design including grounded theory, phenomenology, and explanatory sequential designs. The majority of the articles utilized survey methods, including the utilization of pre-established questionnaires and specifically designed socio-demographic surveys. There was one study that utilized mixed methods for data collection, while eight used quantitative methods, and the remaining four studies used qualitative methods.

Participants

Participant information from the 13 studies included in this paper was extracted, which included information about the number of participants, demographic information (i.e., gender and race), as well as the non-gifted participant group size in studies that included a non-gifted comparison group. Examining this data, a study by Miller and Dumford (2018) had the largest overall participant group size, as well as the largest gifted sample size including data from 7191 non-gifted students and 1339 honors students (i.e., gifted students), although only 46% were gifted freshmen students (the remainder were gifted seniors and their data has been excluded from the analysis in the present paper). Following the Miller and Dumford (2018) study, the second largest study was completed by Perrone and Dow (1993) and included data from 1259 gifted students. These authors did not have a non-gifted comparison group. These two studies widely cast their recruitment efforts across the United States and included a focused state-wide recruitment strategy as opposed to other studies that recruited from one or two specific universities.

The smallest participant pool was six students in a qualitative phenomenological study conducted by Neuber Haggerty (2019). This small sample size aligns with the remainder of the qualitative studies included in this paper which also had small participant pools. Including the Neuber Haggerty (2019) study, the qualitative studies (n=5) had participant sizes from six to 30, with two studies containing 12 participants each and two studies containing 30 participants each. One of the studies containing 30 participants was a mixed method study, so the sample size of the quantitative portion of the study was reported below. Examining the quantitative samples (n= 9), participant numbers ranged from 80 to 1027 gifted students, not including the studies completed by Miller and Dumford (2018) or Perrone and Dow (1993). In the study by Plominski and Burns (2018), which included a total sample size of 1027, 386 of those students were non-gifted.

Although demographic information is not directly relevant to the research questions contained in this study, it was deemed important to note as it provides valuable context that impacts the interpretation of the data and provides a basis for some of the implications for future research. One of the studies in this review listed no demographic data, which is likely in part due to the relationship between the researcher and participants (i.e., the researcher was the participants’ professor in university) and the demographic information may have biased the researcher, especially since it was a qualitative study. Each of the remaining 12 studies, however, did report gender information, although only four reported racial demographic information. Half of the studies (n=6) had a predominantly female sample, with one study by McDavitt Green (2005) utilizing an exclusively female sample as the researchers wanted to examine the experience for gifted females. Five studies had a larger number of males in their study, while one qualitative study by Almukhambetova and Hernández-Torrano (2021) purposely utilized a sample containing half female and half male participants for their qualitative data collection.

Gifted Identification

Gifted identification practices were one of the study elements included in the eligibility criteria section outlined in Chapter Three. As such, studies included in this review utilized at least one of the identification practices outlined in that section, although some used more than one. Specifically, gifted students could be identified as such and operationally defined as being accepted and participating in their respective post-secondary institutions’ honours programs, participating in an honours or enrichment type program prior to their entrance to post-secondary, or scoring above a certain percentage on a standardized test of intelligence. There was one study conducted by Gómez-Arízaga and Conejeros-Solar (2013)that used both a standardized intelligence test (Raven’s Progressive Matrices) as well as participation in university-based enrichment programs prior to entering post-secondary as their gifted identification criteria. Haggerty and Kaplan (2019) utilized two methods, one of which was participation in honours or enrichment type programming prior to entering post-secondary, as well as participation in their post-secondary institution’s honours program. Of the remaining 11 studies included in this review, the majority of them (n=6) identified gifted participants based on participation in their post-secondary institution’s honours program. Criteria for entry into these programs was identified as having a high ACT or SAT score, which are standardized tests used for post-secondary admissions, primarily in the United States, often in combination with a certain GPA achieved in secondary school. An additional three studies identified their gifted participants based on participation in special programming for high achieving students or their performance in secondary school, while the remaining two studies determined their population based on performance on the Raven's Progressive Matrices Test, which is a standardized test of intelligence.

The outcomes in each study pertain to the general consensus about how gifted students function during the transition into post-secondary education academically and social-emotionally. Assessing this experience helps address the research questions in the current paper, which are: 1) How do gifted students function social-emotionally as they transition to post-secondary?; and 2) How do gifted students function academically as they transition to post-secondary?. All but one study (n=12) addressed academic outcomes, and one study by McDavitt Green (2005)*only* addressed academic outcomes. The one study that did not address academic outcomes, conducted by Haggerty and Kaplan (2019), addressed both social and emotional outcomes.

In addition to the Haggerty and Kaplan (2019) study, there were an additional six studies that also addressed social and emotional outcomes as well as academic outcomes. Aside from the one study that only addressed academic outcomes, the remainder of the articles (n=5) addressed academic outcomes alongside one of social *or* emotional outcomes, with four articles addressing academic and social outcomes, and only one article addressing academic and emotional outcomes. Although not every study addressed social and emotional outcomes together, the studies that did (n=7) utilized terms such as social-emotional or socio-emotional (for example, see Gómez-Arízaga and Conejeros-Solar, 2013).

Outcomes

When looking at the literature as whole, the literature appears mixed. Some studies demonstrate positive functioning in certain areas while others report negative functioning in those same areas. Even within individual studies themselves, it is demonstrated that gifted individuals functioning during this time period can be both positive in some aspects and negative in others. For example, Almukhambetova and Hernández-Torrano (2021) examined the transition experience and functioning in academic, social, and emotional domains, utilizing both quantitative and qualitative data. Analyzing the data pertaining to academic and social adjustment, they found that the adjustment experience was mostly positive, and that gifted students entering post-secondary were well equipped to engage with the content in the classroom and felt well-adjusted socially. Interestingly, despite overall positive academic adjustment, certain items on the academic subscale were ranked quantitatively lower than items on the social and emotional subscales (Almukhambetova & Hernández-Torrano, 2021), highlighting the mixed results demonstrated even within individual studies. The qualitative results also supported these conclusions in that there were some difficulties academically and socially but that they were generally well adjusted.

The emotional functioning of gifted students during this transition period however, was the most complicated, with Almukhambetova and Hernández-Torrano (2021) indicating that the students experienced difficulty with some of their new emerging adulthood responsibilities, and that they felt depressed and lonely. Despite these difficulties, it was found that the gifted students had high levels of psychological maturity, which allowed them to cope with the emotional difficulties. This finding highlights the complexity and varability of gifted students’ functioning during this time period.

Academic

Examining academic adjustment specifically across the 12 studies that assessed academic adjustment of gifted first year university students, the evidence demonstrated that overall, students had a positive adjustment. In line with the remainder of the gifted literature, though, there was variability in these studies as well. The main variables examined with regards to academic functioing during this transitional period included GPA, work and study habits (e.g., time management), faculty interactions, and academic attitude and ability beliefs. Although the results indicated in each of the studies were not uanimously positive, over half of the students in the positive functioning studies demonstrated positive indicators of academic adjustment such as stable GPA or the ability to cope with academic demands in the new post-secondary environment.

Studies in which at least half of the students demonstrated positive adjustment to university attributed their positive adjustment, in part, to the programs they were involved in prior to post-secondary or attendance at specialized schools for high achieving students (Almukhambetova & Hernández-Torrano, 2020). These factors helped prepare them for the rigor required to complete their academic work in first year university. Further, students who had a positive academic adjustment to post-secondary described that they had positive academic self-concept entering post-secondary (Valadez Sierra et al., 2015), and that they felt confident in their ability to find mentorship (Noldon & Sedlacek, 1998) and interact with and learn from faculty members (Miller & Dumford, 2018; Noldon & Sedlacek, 1998).

Studies that demonstrated predominantly negative functioning of students during the transition to post-secondary cited that difficulties arose from ill preparation during prior educational experiences (Gómez-Arízaga & Conejeros-Solar, 2013; Meadows, 2017). Often, this was due to their attendance at regular schools or lack of participation in gifted programming, which was even cited as a difficulty for students in studies that *did* demonstrate predominantly positive academic functioning during this transitional period. Further, studies demonstrated that although GPA typically remained roughly the same as their secondary school GPA and that students achieved good grades (Perrone & Dow, 1993), many of the students felt ill-prepared in terms of their study habits due to academic content typically being easily understood in the past and not having to study or manage time efficiently in order to understand the content in secondary schooling (Arizaga, 2012).

Social

Examining the social functioning of students during this transitional period also revealed a predominantly positive experience, with six of the articles revealing positive outcomes and only four demonstrating negative outcomes. Again, within these specific studies, there is evidence to support both positive and negative functioning in different emotional factors. Most of the participants indicated positive functioning in the articles that the present paper categorized as positive and over half of the students indicated negative functioning in the articles that were categorized as negative. One study by Gomez Arizaga (2012) proved to be difficult to interpret as the social dimensions were almost equally positive and negative. Specifically, for social interactions with peers, it was demonstrated that functioning was poor, but for social interactions with faculty, which they considered a social variable, functioning was evidenced to be positive. Specific factors examined and discussed in regards to social interactions included how gifted individuals thought they were perceived by their peers, their ability to relate to their peers in terms of ability and interests, their ability to form meaningful and secure relationships, feelings of loneliness or isolation, and their beliefs about their social competence. The findings of these explorations were again, mixed (Gomez Arizaga, 2012).

The studies that indicated primarily positive functioning demonstrated that students had high social self-concept (Valadez Sierra et al., 2015), felt that it was easier to meet peers, enjoyed being around peers with similar academic abilities and interests (Almukhambetova & Hernández-Torrano, 2020, 2021), felt like their conversations were deep and meaningful (Miller & Dumford, 2018)possibly due to similar levels of ability, and felt low levels of isolation or loneliness (Davis, 1998). In studies that indicated a predominantly negative transition experience, gifted students believed that their peers viewed them unfavourably (Meadows, 2017; Neuber Haggerty, 2019) and experienced feelings of isolation and loneliness, especially from their non-honours program friends (Gómez-Arízaga & Conejeros-Solar, 2013; Meadows, 2017).

Emotional

The results from the examination of emotional functioning during the transition to post-secondary for gifted students was the most mixed, with half of the studies (n=4) demonstrating positive results and half (n=4) demonstrating negative results. The inconclusive nature of these results is likely attributed to the significant variance of emotional factors examined in the studies themselves. For example, there were two studies that looked at mental health specifically; both of these concluded that the emotional functioning of gifted students entering post-secondary is negative (Neuber Haggerty, 2019; Plominsky & Burns, 2018). However, studies examining other emotional factors such as perceived stress or satisfaction with self (e.g., Plominski & Burns, 2018) indicated that gifted students' emotional functioning during this time period was positive. Other emotional related variables included identity, self-concept, anxiety, depression, dysthymia, and perfectionism. In studies that compared males to females on emotional related variables, it was found that female gifted students have more dfficulty with their emotional functioning during this transition and are more likely to seek out counselling (Noldon & Sedlacek, 1998), and that in general, they have a more difficult time on social-emotional related functioning than gifted males (Davis, 1998).

Interestingly, in one study comparing gifted to non-gifted students (Plominski & Burns 2018), it was found that gifted students had more positive scores on measures of their emotional functioning than non-gifted students, which could possibly suggest that even in studies indicating a negative emotional functioning, gifted students still have better emotional health than non-gifted students. The results indicated that gifted students struggled emotionally, as well as socially, due to feelings of not being the smartest anymore, feeling highly competitive, and not receiving the same levels of attention that they received during their prior educational experiences (Almukhambetova & Hernández-Torrano, 2020, 2021). This appears in the literature as the Big Fish, Little Pond phenomenon.

Emotional difficulties were also described on account of their emerging adulthood status, although this is not specific to gifted individuals. Specifically, the findings in the included studies indicated that students had difficulty coping with being away from home, managing their financial situation, and carrying out other adulthood responsibilities, which led to feelings of loneliness and stress (Gomez Arizaga, 2012). These latter challenges are are common occurrences for all students during this transitional period (Arnett 2000, 2006).

Summary of Chapter

This chapter discussed the results of the articles that were reviewed in the current study as they pertained to the academic and social-emotional functioning of gifted students as they transition to post-secondary education as emerging adults. The general information contained in each study including location of publication, year of publication, and type of publication was discussed, followed by a summary of the research design and methods utilized. Following this, participant information and how the participants were identified as gifted for the purposes of the studies were discussed. Lastly, the outcomes pertaining to positive and negative academic and social-emotional functioning of gifted students during this time period were summarized.

CHAPTER FIVE: DISCUSSION

The current chapter discusses the results of this study in more depth and relates them to the literature discussing giftedness and transitions as well as relevant theories. Following this, implications for policy and practice are discussed. The chapter concludes by discussing the limitations related to the current study and how these limitations and the general findings of this paper prompt further research in the area of transitions for gifted students.

General Discussion

The current study sought to answer two research questions surrounding the functioning of gifted students during their transition into post-secondary. The first question pertained to how gifted students' function academically during this transition, which was the factor most discussed in the studies included in this review. Given that gifted individuals are often characterized or known in popular culture for their academic abilities, much of the gifted literature in general is focused on their academics (Meadows, 2017). The findings of the studies reviewed in this paper indicated that overall, the academic functioning of gifted students during this transition is mostly positive. However, it was not a unanimous experience, as the findings both within and between the various studies were still quite mixed (Almukhambetova & Hernández-Torrano, 2021). This is likely due to the differing academic preparation that students received prior to entering post-secondary, as well as the different variables that studies examined such as GPA or study skills.

The degree to which some studies revealed academic difficulty for gifted students during this transitional period appears counterintuitive given societal ideas that giftedness is synonymous with heightened intellect and superior academic performance (Parekh et al., 2015). Literature indicates that they are able to meet the demands of their academic life and are intellectually equipped to perform well in post-secondary (Pfeiffer, 2008), although the academic environment may create specific challenges for this group of students often due to poor work habits developed in elementary or secondary school (Almukhambetova & Hernández-Torrano, 2021; Kaplan Sayı & İçen, 2019) or compounding social-emotional factors related to both the transition itself and their unique gifted characteristics. This means, although they primarily function well academically during the transition to post-secondary, gifted students are not immune to instances of underachievement, failing classes, or withdrawing during their first year of study likely due to their unique experience as gifted students (Davis, 1998; Gómez-Arízaga & Conejeros-Solar, 2013; McDavitt Green, 2005; Mendaglio, 2013; Perrone & Dow, 1993).

When examining academic experiences in post-secondary, it is clearly not sufficient to examine academic performance (i.e., GPA or course marks) alone (Gomez Arizaga, 2012). In some of the reviewed studies, for instance, it was identified that gifted students struggled significantly with the preparation for courses and learning skills (e.g., time management, study habits) that are required to excel (Gomez Arizaga, 2012; Gómez-Arízaga & Conejeros-Solar, 2013; Meadows, 2017). Further, examining more nuanced variables of academic performance revealed that some gifted students may attempt to do well in their academics to outperform their peers (Steenbergen-Hu et al., 2020), which would suggest that they are not intrinsically motivated to do well and in turn, may suffer academically. This finding alludes to the variable of competitiveness, which appeared in the reviewed studies and was shown to have a negative impact on academic functioning (Valadez Sierra et al., 2015).

The second question addressed in this study was how gifted students function social-emotionally during the transition into post-secondary, which was more mixed in terms of the results than the academic findings. These mixed findings were in part due to the number of factors that comprised social and emotional functioning and was confounded by the general difficulties that most students face during this time period. Utilizing the theory of emerging adulthood (Arnett, 2000) as a reference for typical behaviours amongst all students helped contextualize the results and revealed that there were still some social-emotional difficulties that gifted students uniquely experience.

Although literature focusing on academics in post-secondary is crucial given that it is an educational institution, focusing on the social-emotional component of this environment is also important in order to ensure that the students are successful (Almukhambetova & Hernández-Torrano, 2021). Social adjustment, especially in university, is based upon positive associations with peers that involve common interests and acceptance of each other (Rodríguez-Nieto et al., 2019); these positive social interactions lead to a positive adjustment and a more positive experience when gifted individuals' transitions into post-secondary. Social-emotional characteristics of gifted individuals are often deemed secondary to academics, as their academic abilities have the capacity to significantly impact institutions (Hébert & McBee, 2007), such as when they win prestigious academic awards (Grobman, 2006). The literature that *did* examine gifted students' social-emotional wellness during this transition proved to be equally mixed, either suggesting that the unique environment can be beneficial for both their social and emotional development or that it can be more difficult to make friends leading to poor social-emotional development and post-secondary experiences (Almukhambetova & Hernández-Torrano, 2021; Boazman & Sayler, 2011; Sayler et al., 2015).

For example, Almukhambetova and Hernández-Torrano (2021) examined the social-emotional functioning of gifted students making the transition to their first year of post-secondary school. Analyzing questionnaire responses, they found that the social adjustment of gifted students in post-secondary was positive, highlighting that they generally adjusted well to their new environment, and indicating that they had the requisite social skills to get along with others and that they were able to make friends. The responses about emotional adjustment, however, had more negative responses than the social adjustment subscale, which indicates that students were particularly homesick and had difficulty coping with the stress of being in a new environment (Almukhambetova & Hernández-Torrano, 2021), noting that these emotional aspects are more indicative of typical difficulties faced by all students (Godfrey, 2016). The qualitative responses also suggested that the social aspect of gifted students' post-secondary experience was crucial to their overall positive adjustment, and that students had actually enjoyed, and some even preferred, being around similarly-abled peers. Gifted students indicated that social events and other social opportunities helped them feel satisfied with their university experience, while those who were unable to take advantage of these opportunities or who primarily communicated with their family and peers from secondary school felt lonely and isolated (Almukhambetova & Hernández-Torrano, 2021).

Although Almukhambetova and Hernández-Torrano's (2021) description of the emotional experience primarily detailed emotional experiences applicable to most students in this life state, they also described experiences specific to the gifted social-emotional transition, where some students noted being unhappy and that they struggled with their gifted identity and coming to terms with not being the smartest anymore. This idea of gifted identity and not being the smartest in their new environment is directly related to the Big Fish, Little Pond phenomenon. They also described how the emotions experienced by gifted students during their transition "added layers of complexity to their process of adjustment" and how students with positive social functioning also typically experienced more positive emotional functioning as well (Almukhambetova & Hernández-Torrano, 2021, p. 82).

Tying the academic and social-emotional literature together, it is clear that there is an interplay between the variables that appeared in the reviewed studies which can, in part, be explained by the Achievement-Orientation Model put forth by Siegle and McCoach (2005, as cited in Ritchotte et al., 2014). This model suggests that gifted individuals possess the necessary competencies to do well in their academics but that the students' value and meaningfulness ascribed to their academics, the perception of support in their current learning environment, and their belief in their ability to do well and reach their potential (i.e., social and emotional factors, Ritchotte et al., 2014) are why some gifted students do well while others do not. Further, in their discussion of the model, Siegle and McCoach (2005, as cited in Ritchotte et al., 2014) acknowledge that transitional periods, whether it is between elementary and secondary school (Barbier et al., 2019) or secondary to post-secondary education, can contribute to underachievement (Almukhambetova & Hernández-Torrano, 2021; Steenbergen-Hu et al., 2020), even if only for a relatively brief period of time, but that other significant factors, such as social-emotional ones as reviewed in this study, may result in prolonged poor academics.

The three-pronged model relies on these three factors, which are termed Goal Valuation, Environmental Perceptions, and Self-Efficacy in the literature (Ritchotte et al., 2014). These factors work together to contribute to gifted students' motivation to do well, in turn creating a positive or negative academic outcome. Motivation is an important construct contributing to academic and personal success in gifted individuals (Snyder & Wormington, 2020), as it is unlikely that underachievement or failure is a result of inability to learn the concepts or material necessary for success according to the literature (Almukhambetova & Hernández-Torrano, 2021). If any combination, or all of the three factors in the model are described negatively as was shown in various studies reviewed, it skews the gifted students' motivations, which could provide context into some of the studies that demonstrated negative functioning during this time period.

Geerling and colleagues' (2022) research corroborated the findings of the model, demonstrating that students with negative attitudes and beliefs about their academics and themselves in their educational context had poorer grades. It was found that negative attitudes and beliefs about abilities indicated by negative responses on items such as "This education is a good fit for me" and "I am intrinsically motivated to make all assignments for this education" were associated with poor performance, and that a positive attitudes and beliefs, despite any associated required behavioural changes or effort, were associated with high performance (Geerlings et al., 2022). Although the results about academic functioning in the reviewed studies were primarily weighted positively, the discrepancies between the studies and even in the individual studies themselves on differing academic variables can possibly be explained by Siegle and McCoach's (2005 as cited in Ritchotte et al., 2014) model in that significant educational transitions can easily alter any of three contributing factors and as such, impact the educational experience for the individual.

Further, this model could be applied to how the Small Fish, Big Pond phenomenon has a significant impact on their educational experience. When students feel in competition with their peers and like they are unable to 'outperform them,' it may make them feel like they are unable to do well (self-efficacy) and in turn, result in poor academic outcomes and experiences. Alternatively, if the gifted emerging adult is in a class that they find valuable for their personal or vocational goals (meaningfulness) and are *not* just completing the work to compete with their peers, they are likely to perform well academically, resulting in a more positive transition experience in terms of their academics and social-emotional wellness as was demonstrated in Almukhambetova and Hernández-Torrano (2020) and Davis (1998)

Emerging Adulthood

The theoretical framework of emerging adulthood put forth by Arnett (2000) was used to help contextualize some of the universal experiences that emerging adults have as they make the significant transition into post-secondary education. There were some studies that did compare gifted and non-gifted students across domains in this review (e.g., Gomez Arizaga, 2012; McDavitt Green, 2005; and Miller & Dumford, 2018) which helped to provide evidence for what types of experiences are unique to gifted individuals, but using the emerging adulthood framework further characterized the transition experience for gifted students. One caveat of this framework is that it does not specifically discuss academics, which is why it is beneficial to have the three studies noted above to compare the functioning of gifted students academically during this transition.

Reviewing the literature, it appears that feelings of loneliness, difficulty managing finances, difficulty prioritizing competing demands, and isolation are common experiences of both gifted and non-gifted students during emerging adulthood and the transition into post-secondary. These variables characterize the social-emotional functioning of gifted students, and these emerging adulthood characteristics were also noted to create difficulty for gifted students specifically (Almukhambetova & Hernández-Torrano, 2020, 2021; Gomez Arizaga, 2012; Meadows, 2017). For example, in Gomez Arizaga's (2012) study, some students noted that the transition into post-secondary and emerging adulthood created difficulties for them in their education in terms of managing finances and being away from home: "The main difficulty is to be far away from home, to have little money. However, one gets used to being away, makes new friends, etc.” (p. 143) and “Living in another city has been the most difficult thing because there are more responsibilities and family is missed.” (p. 144).

These findings suggest that gifted students are not immune to the general difficulties that many students experience as they enter post-secondary, and that some of the experiences noted in the literature are not unique to their gifted status. As such, there is no way for special education policies and practices to help support students in these specific areas. Instead, gifted individuals should use their supports systems, such as their families (Kaplan Sayı & İçen, 2019), as well as educational departments outside of special education, such as curriculum or student support services.

This is not to say, though, that all the social-emotional difficulties experienced by gifted students are related to their new emerging adulthood status. For example, Haggerty (2019) and others (e.g., Baudson & Ziemes, 2016; Glaeser, 2003; Gross, 1998; Speirs Neumeister, 2002) noted that gifted students experienced difficulties with their gifted identity development due to having to incorporate conceptions of being labelled as smart or gifted prior to post-secondary and having that label change in post-secondary. Further, the general gifted post-secondary literature suggests that gifted students experience other unique social-emotional difficulties on top of emerging adulthood tasks that many non-gifted students do not experience to the same extent, such as issues with vocational discernment due to their multipotentiality (Leung, 2007). Some of these difficulties, namely the issue of identity and social-emotional difficulties due to their ‘smartness’, can be further explained by the Big Fish, Little Pond phenomenon (Marsh & Parker, 1984).

Big Fish, Little Pond Phenomenon

The other theoretical framework utilized in the current study was the Big Fish, Little Pond phenomenon (Marsh & Parker, 1984), which describes a series of behaviours and thought patterns that gifted students experience in relation to their giftedness. It was utilized specifically as it focuses on gifted students' unique experiences, including academic, which were not addressed by the emerging adulthood framework, and which helped to interpret the results from the reviewed findings. Unsurprisingly, in line with other gifted literature, the studies reviewed discussed how key aspects of this phenomenon such as competitiveness and feelings of no longer being smart enough (or smart at all) can negatively impact gifted students' transition into post-secondary.

For example, Gomez Arizaga (2012) found that although gifted students were less concerned about their GPA and had higher levels of intellectual stimulation than their non-gifted peers, gifted students were more critical of their performance than their non-gifted peers. In line with the phenomenon, gifted students are frequently acknowledged and awarded for their academics and are often labelled as the 'smart kids' (Neuber Haggerty, 2019), which is a significant contributor to their self-concept (Zhang, 2021). For many gifted students, changes to their academic performance can result in a decrease in their self-concept, which prompts them to be critical of their academics to maintain their self-concept. These results from Gomez Arizaga (2012) are particularly useful in identifying how this phenomenon impacts gifted post-secondary students, as the non-gifted comparison group used in the study did not demonstrate the same responses as gifted students on measures of variables implicated by the Big Fish, Little Pond phenomenon. Other reviewed articles indicated that gifted students experienced levels of competitiveness and a pressure to perform well (Almukhambetova & Hernández-Torrano, 2020, 2021), which also implicates this phenomenon. These results are similar to other findings examining the whole post-secondary career of gifted students (Valadez Sierra et al., 2015; Zhang, 2021), as well as into adulthood that demonstrate feelings of pressure to perform (e.g., Rinn & Bishop, 2015).

Limitations

There were limitations in the current study that are important to note should someone choose to replicate the work contained herein, and as readers interpret the information gathered in the review. Firstly, there were limitations associated with conducting a rapid review and evidence synthesis piece in general. Outside of the generic evidence synthesis limitations such as potential bias, which are reduced by implementing systematic search criteria and analysis as described in Chapter Three of the current paper, the present work had specific limitations due to the way the systematic review was carried out.

In line with the rapid review methodology, the data was constrained to allow for completion of the work in a timely manner (Dobbins, 2015), which is a limitation. Although there were not many constraints given that the literature pool in general is small, which is presented as a limitation following this discussion, the constraint of using literature that could readily be obtained and in the English language means that potential eligible articles may have been excluded. For example, there were two articles whose abstracts were screened to be eligible but the full article could not be accessed through the university’s online system or through an interlibrary request, and as such, were excluded from the present study. Future studies should consider the impact of these sorts of constraints and could consider running a preliminary search of possibly relevant articles that include these types of articles to determine whether the impact will be sufficient to warrant inclusion in the work.

There were also limitations evident with the literature used for the review. Firstly, the pool of literature was not as broad as is typically suggested when conducting an evidence synthesis piece, which impacts the generalizability of the findings. Unlike reviews which contain a large number of articles, the current review only had 13 articles, which means there were fewer data points available to draw conclusions from and therefore, required heavier scrutiny from the reader in order to interpret. Having a smaller number of articles also meant that the data were representative of a small number of countries, again, making it more difficult to generalize the results across geographical locations. Had there been more articles, it would have meant that there would be less room for new data to skew the current findings, making this study more robust against the introduction of future data points.

There are two final limitations, both of which pertain to the actual information contained in each article. Firstly, although specific criteria were outlined regarding allowable conceptualizations and operationalizations of giftedness, they were not directly in line with how giftedness is typically described and defined as a general construct. Giftedness is typically defined as having an IQ within the top two percent of the population (National Association for Gifted Children, n.d.), which is difficult to utilize within a study given the difficulty and cost of obtaining IQ scores from participants, whether as part of the research process or part of collecting prior IQ scores received through psychoeducational assessments. As such, many articles utilize the operationalized definition of students within the top certain percentage of their class, or enrollment in an honours program. These students, although also labelled as gifted in most studies, are also called high-achieving students which could extend outwards to capture students who perform well but are *not* classically gifted. This, again, cannot be remedied as much of the empirical literature does not utilize concrete intelligence scores, but must be noted as it pertains to the interpretation of the findings.

Specifically, if data points are capturing students who are high achieving due to their work ethic and study habits, it is unlikely that they would experience the same drop in academics, for example, that typically gifted students would experience due to their *lack* of study habits as the literature describes (Gomez Arizaga, 2012; Gómez-Arízaga & Conejeros-Solar, 2013; Meadows, 2017). However, this also acts as a benefit because including IQ as the requirements for participation in an empirical study may exclude students who are actually gifted but have not been formally identified through a comprehensive psychoeducational assessment due to costs or other limiting factors. Specifically, marginalized groups are more likely to be excluded due to a lack of formal assessment because of funding or implicit bias (Hodges et al., 2018), thus resulting in a more diverse participant pool in the reviewed studies and a more robust results section inclusive of many different demographics in the present paper.

One of the other limitations in the current paper is the lack of comparative studies between gifted and non-gifted students. Having a more direct comparison of variables outside of academics specifically, would make the findings more robust and provide more insight to practitioners and policy makers to determine what types of support gifted students need specifically. The current study utilized the theory of emerging adulthood (Arnett, 2000) to provide some context into the potential experience of typical students during this transition, but without a direct comparison from the same environment on the same variables, it is difficult to determine whether the experiences identified in this study are unique to gifted students. Although this is important information to examine in the literature, it is still worthwhile to note that any experience identified in the gifted literature, regardless of if it is shared with non-gifted students, should be used to support gifted students during this difficult transition.

Future Directions

The present study highlighted the key findings regarding gifted students' adjustment to their first year of post-secondary studies. However, it also revealed deficits, particularly as it pertains to the research that suggests the need for further research. As identified in the limitations section of this chapter, one of the significant caveats that needs to be addressed in future research is comparative studies between gifted and non-gifted students specifically examining transition related factors. The current comparative studies included in this study focus on academics, presumably as that is one of the key features of giftedness, and often the most important to universities due to the potential that high achieving students bring to the institution (Almukhambetova & Hernández-Torrano, 2020). However, social and emotional aspects are also significant aspects that should be compared between the two groups of students as they enhance retention and success in post-secondary (Parker et al., 2017).When conducting these comparative studies, both qualitative and quantitative data should be collected, when possible, to capture the transition experience in its fullest for both groups of students and to provide a substantive comparison to better inform policy and practice.

Although the present literature reviewed was effective at utilizing both qualitative and quantitative methods to solely examine gifted students, it was limited in regard to comparing the experiences of gifted and non-gifted students. As such, similar methods should be used in future studies but expanded upon to include both gifted and non-gifted students. Given that the literature identifies positive and negative experiences in all domains, the comparative literature would be useful to more conclusively determine what the transition experience is like for gifted students, accounting for variables that are existent in both gifted and non-gifted students at the time of the study, such as culture, post-secondary environment, and geographical location. Comparing separate studies between gifted and non-gifted students is useful, although it does not allow for a high degree of reliability when interpreting the results given that separate studies cannot adequately control for variables such as environment or educational context.

Future studies should also focus on piloting and examining programs and services for gifted students *not* enrolled in honours programs in post-secondary, as much of the literature focuses on how honours programs support gifted students' development, which are primarily offered in the United States (Rinn & Plucker, 2019). There is a significant pool of literature examining enrichment programs for gifted students offered prior to post-secondary (e.g., Armstrong et al., 2019, Callahan et al., 2017), but this does not provide evidence for the best way to support gifted students while they are going through the transition to post-secondary education. Further, developing, piloting, and analyzing the effect of programs targeted at first-year gifted university students will help attract and retain high achieving students, which will help these students meet their academic and personal potential, as well as enhance the reputation of the institution (Hébert & McBee, 2007), as gifted students have the potential to earn grants and prestigious scholarships. This type of research examining post-secondary programs for students with other special education needs is not uncommon and has demonstrated favourable outcomes for the students that the programs serve (Lindsay et al., 2019).

One of the final areas for further research is examining the experiences of diverse gifted students such as those from racialized or lower socio-economic backgrounds, which has become increasingly important to minimize attrition and underachievement and enhance access to opportunities for minorities (Ford et al., 2016). While conducting the literature search in the current study, there was only one eligible article that examined the experience of Black students (Davis, 1998) and few others that appeared in the complete search, although they were ineligible due to their focus on non-gifted students (e.g., Sewell and Goings, 2020). Research examining equity seeking groups is on the rise, as there has been some crucial literature examining the identification practices and representation of minority students in gifted education (e.g., Card & Giuliano, 2016; Ecker-Lyster & Niileksela, 2017; Hodges et al., 2018; Wright et al., 2017).

However, further researching topics such as assessment and representation of minority students will eventually lead to more representation and identification of gifted minority students, which will result in more support for these students and thus higher instances of achievement and access to crucial opportunities to support their success (Ford et al., 2016). The literature has identified that this group of students has two combining factors (i.e., minority status and giftedness) potentially hindering their transition to post-secondary and as such, literature should also focus on this intersection to determine how to best support these students (Sewell & Goings, 2020). This research is crucial to support student development and retention of vulnerable students in post-secondary, thus benefitting the institution by increasing diversity and the number of gifted and high-achieving students enrolled.

Implications

One of the defining features of evidence synthesis works is the utility in decision making for policymakers and practitioners (Dobbins, 2015; Wollscheid & Tripney, 2021), who often do not have the background to effectively interpret and utilize empirical articles. Given that the delivery of special education services, especially in developed nations such as Canada or the United States, is driven by legislation and policy developed by government, this paper is especially useful to these individuals to support the development and refinement of special education policies and practices, and in particular, as they pertain to gifted education. Since the practical aspect of service delivery is primarily left up to individual school jurisdictions *based* on the established policies, it is crucial to ensure that the policies supports the development of strong and supportive practices for gifted students.

The discussion of how the results of the present study will impact policy and practice primarily center around jurisdictions such as Ontario, Canada that do not have a policy in place for gifted students during the preparation for and transition to post-secondary (Ontario Ministry of Education, 2017). However, even in jurisdictions that *do* have policies pertaining to this time period, such as Alberta, Canada (Alberta Education, 2006), the results from this study may help them refine and bolster their policies to enhance gifted students' success in post-secondary. Further, in jurisdictions or countries that do not have formal transition or individualized education plans, having secondary school staff provide students and families with important information would be a useful practice (Lannie & Clelland, 2013).

Based on the results of the current study, it would be beneficial to create policies that require gifted students in their upper years of secondary school to collaboratively create formal transition plans to enter post-secondary, as it was identified that they may experience difficulties, especially pertaining to their emotion management (Almukhambetova & Hernández-Torrano, 2021; Haggerty & Kaplan, 2019; Noldon & Sedlacek, 1998). Some jurisdictions do require gifted students to create an informal transition plan as part of their classes (e.g., Ontario Ministry of Education, 2017), but this is not an adequate document for the services that help accommodate students in post-secondary. Further, having students create their own transition plan in lower secondary school grades (i.e., not their final year of secondary school) means that they likely are not accounting for specific things they will need to be supported in their specific program, at their school of choice, or given their current academic and social-emotional status.

Although difficulties pertaining to their emerging adulthood status such as financial planning and management or being away from home are not unique to their gifted status and therefore do not require a transition plan, it was shown that gifted students did experience difficulties pertaining to their gifted status such as feeling isolated or lonely, having negative self-perceptions due to their change in attention, and negotiating their identity as 'the smart kid' (Haggerty & Kaplan, 2019). Further, given that gifted students are supported in other educational transitions such as elementary to secondary schooling in some jurisdictions (Ontario Ministry of Education, 2017), removing their existent transition plan during the transition to post-secondary might contribute to some of the difficulties experienced. By having students actively contribute to the development of a plan that outlines academic as well as ancillary services available to them in post-secondary, it will help them flourish during this transition period and reduce the likelihood of attrition and underachievement.

Furthermore, one implication for practice, that also aligns with suggestions for future research, is the finding that the reviewed studies heavily demonstrated the importance of preparatory programs, especially at the secondary level but also at the post-secondary level. For example, Meadows (2017) highlighted how students who did not receive any preparatory training felt ill-prepared during their secondary school education compared to students who had received preparatory training in the form of an "upper-level writing course" (p. 71) or other college preparatory courses in secondary school. Meadows (2017) reported the students who received the college preparatory training felt much more equipped academically as compared to their peers who did not complete these programs. In Meadows' (2017) study, one participant noted that the "difficult classes" (p. 84) were the ones that actually helped them feel prepared and their laissez-faire attitude towards a lot of their courses in secondary school became a significant detriment when they tried to take the same approach to their post-secondary courses. These anecdotes demonstrate the importance of preparation prior to post-secondary and when that is not feasible, how post-secondary institutions should ensure that they are providing the necessary supports to gifted students during their transition.

This preparatory support could be formal, such as the implementation of an official honours program, or since these are uncommon outside of the United States (Rinn & Plucker, 2019), a similar program that would serve the same purpose as enrichment programming in elementary and secondary schooling. Although each honours program (or enrichment program prior to post-secondary) is run differently and may have a different composition of enrichment activities, the common elements amongst these programs include increased opportunity to actualize students' potential through advanced academic classes and extracurricular activities focused on leadership, research, and engagement with potential mentors (Hébert & McBee, 2007). These programs are held for a small group of gifted students, which provides social and emotional as well as academic benefits. Research has indicated that students who belong to honours programs in post-secondary benefit from having like-minded peers and opportunities for academic and personal growth (Hébert & McBee, 2007). Although possibly considered counter-intuitive to the Big Fish, Little Pond phenomenon, it is possible that being put into a smaller environment and the inherent acknowledgement of their giftedness in this type of programming could counteract some of the difficulties that gifted students face because of their transition to non-honours post-secondary programming.

On top of formal preparatory and transitional support, post-secondary institutions could also consider implementing a variety of other supports such as dedicated gifted programming, ancillary services, or education provided to students and their families to help equip them with the knowledge they will need to transition into post-secondary successfully (Mendaglio, 2013). Providing wrap-around supports for gifted students, especially those who have academic or social-emotional challenges because of their unique gifted traits, and who are at risk of experiencing compounding mental health concerns such as depression or suicidal ideations (Mueller & Winsor, 2018; Perrone et al., 2015) would help to ensure that the potential of these talented individuals does not go unrealized.

Conclusion

The current study systematically reviewed literature pertaining to gifted students' academic and social-emotional functioning during the transition into post-secondary. There has been a plethora of literature examining the transition to post-secondary for typical students, as well as for other students with special education needs such as students with learning disabilities (Mendaglio, 2013; Sauder, 2015), but few studies have examined the transition for gifted students who enter post-secondary with their same age peers. Further, some of the studies that do examine this transitional period for gifted students do so from timepoints other than during the transitional period itself; for example, see Laycock (1984) and Gerdes and Mallinckrodt (1994). This insight is useful, but does not provide adequate evidence for supports that should be put in place to support students during the specific transition time.

Due to gifted students' unique traits such as their asynchronous development (Greene, 2015; Pfeiffer, 2008) and advanced perception, cognition, and reasoning abilities (Cross & Frazier, 2009; Lovecky, 1986), gifted students may be vulnerable to particular experiences such as competitiveness, difficulty making friends, and heightened feelings of inadequacy as they make the significant transition into post-secondary education (Haggerty & Kaplan, 2019; Meadows, 2017).This is explained in the literature as the Big Fish, Little Pond phenomenon (Marsh & Parker, 1984). Further, this transitional period is also hallmarked by difficulties with the gifted students' new emerging adulthood status, which is a developmental time period characterized by increased independence and financial responsibility, navigating adult-like responsibilities, and a changing identity that occurs between the ages of approximately 18 to 25 (Arnett, 2000, 2006).

Reviewing the variability in the literature that specifically examined this transitional period for gifted students, it is clear that although some gifted students may have the capacity to 'bounce back' from difficulties during their transition (Meadows, 2017), other students are not able to reach that point and end up withdrawing from their studies due to the difficulties they experience (Laycock, 1984). Even though not all gifted students will require the same degree of support, it is important to ensure that the proper resources and preparation through programs and services are put in place for the students that *do* require these types of supports. This ensures that this group of students is poised to contribute to the post-secondary reputation (Hébert & McBee, 2007) and that they are able to excel academically (Cross & Frazier, 2009).

As such, it is crucial that both secondary and post-secondary institutions help prepare these students by supporting them in developing plans for their transitions, providing programs and services as funding allows, and sharing information with gifted students and their families about what to expect as a gifted student making this significant transition (Mendaglio, 2013). Further, ongoing research should be conducted that examines this transitional period for students, as well as their longitudinal functioning on account of their post-secondary experiences. Despite their typically above average GPAs, this group still requires support to ensure that they are able to reach their full potential, similar to how other special education groups are supported in all levels of their education.

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