An Exploration of the Sense of School Belonging, Connectedness, and Life Satisfaction of Students from a Residential High Ability High School, Differentiated by Sexual Orientation and Gender Identity

A DISSERTATION

SUBMITTED TO THE GRADUATE SCHOOL

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE

DOCTOR OF EDUCATION

BY

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May 2020
ACKNOWLEDGEMENTS

This has been the most incredible educational journey I could have ever imagined. Since starting the doctoral program for Educational Leadership, I have learned so much. I used to be terrified to say the words “I don’t know” and now – having said them so much over the last 5 years – I see them as an opportunity to explore and to learn. A huge thanks to the amazing Ed Leadership faculty – you exemplify what fabulous teaching is.

My committee has truly been the dream team – four incredibly brilliant, scholarly educators. I have enjoyed learning from each of you and getting to know you. Dr. Lori Boyland, Dr. Kendra Lowery, Dr. Lisa Rubenstein, and Dr. Serena Salloum (committee chair), thank you for guiding me, teaching me, and being the “refiner’s fire” that I so desperately needed.

Dr. Salloum, you are everything an educational leader should be and it has been a privilege and a blessing working with you. Your kindness, guidance, instruction, mentorship, and encouragement, are more appreciated than I could ever fully express. I am so thankful to have had the opportunity to learn from and work with you on this study.

Thank you to my children Dustin (Breanna), Shae (Nick), Mariah (Desmond), and Sophie; my unofficial child Andrew (Whitney), and all of my grandchildren for walking this journey with me. Always remember, you are never too old to follow your dreams. Never. Step out in faith and enjoy the journey.

As my only child still at home, Sophie, your support and sacrifices have meant the world to me. Thank you for understanding when I needed to study, thank you for doing your homework sitting next to me while I was doing mine, for proofreading my paper, for joining in on long discussions dad and I had about giftedness and Non-Normative students. I’ll never forget the day I found you in my home office reading my educational law textbook. At the age of 7, you looked up at me and said, “Mom, you won’t believe the ridiculous things some schools do.” I have appreciated your endless supply of insightfulness and one-liners….and the endless supply of your “run-by huggings”.

I saved the best for last. To my best friend, loudest cheerleader, proofreader, and amazing husband – words fail me. Without you, I would never have taken this journey. Thank you for taking this trip with me and supporting me when I was ready to toss it all in. Thank you for taking on the majority of home-life, so that I could do what I needed to do. Thank you for all of your sacrifices. Thank you for the endless times you proofread and talked me through what I was really trying to say. I am so glad you speak “Jo”! Thank you for the elephant, which I am now passing on to you – as I take away your endless supply of red pens – because it is your turn now.
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Limited research has been conducted on the intersection of high ability and sexual orientation and/or gender identity/gender expression, particularly as it pertains to school belonging and overall life satisfaction. Using Self Determination Theory (Deci and Ryan, 2008) as a framework, this study presents an examination of high ability students’ sense of their autonomy, competence, and relatedness and their influences on the student’s sense of belonging and connectedness to their high school, as well as their influence on overall life satisfaction, and whether there were differences in these areas based upon sexual orientation and/or gender identity/gender expression. High ability students (n = 505) in this study all left their hometown high schools to attend the Indiana Academy for Science, Mathematics, and Humanities – a public, residential high school for high ability Indiana students. An analysis of survey data found: 1) an educational environment with a specific high ability focus had positive effects on gifted students overall, but more so on gifted Non-Normative students; 2) school climate, the ability to be/discover who they are, and lack of like-minded peers make a difference in school choice for gifted Non-Normative students, whereas these three areas plus bullying make a
difference for gifted Normative students, while academics do not make a difference in school choice for either group; and 3) competence, autonomy, and relatedness carry on from a student’s high school environment into their adult lives, and the more the environment fosters autonomy, competence, and relatedness, the greater the overall life satisfaction.
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CHAPTER 1
INTRODUCTION

Whether formally recognized or not, awareness of giftedness has existed as far back as Plato (Dillon, 2004) giving rise to the need to provide an appropriate high ability education. While that need for high ability education exists, societally a love-hate relationship exists with the idea of focusing educational efforts on gifted students, which stems from the conceptual battle between equality and excellence in educational resources and delivery. Society is committed to making sure every child has an equal opportunity to benefit from education, which is the equality argument (Gallagher, 2004), and while society celebrates those with exceptional abilities in athletic arenas, on stage, and in high intellectual circles, it also labels high ability youth as elitist by some of those not identified as high ability and is interpreted as favoring those who are already gifted with even more advantage, which is the excellence argument (Beisser, 2008).

Delving deeper into the challenges of the gifted student, within the high ability youth population is the subset of students whose sexual orientation and/or gender identity/expression are non-conforming in our heteronormative society. This makes the provision of appropriate gifted education more challenging, as described in the following. In order to successfully fulfill the obligation to provide for the whole of the high ability, LGBTQ+ student, they must be

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1 LGBTQ+ (Lesbian, Gay, Bisexual, Transgender, Queer/Questioning, plus) will be referenced using different combinations of these initials through this dissertation. This is done to uphold the integrity of the works by the cited authors.
properly identified as being high ability, receive an appropriate education, and must feel safe and connected to their school environment. Plainly stated, high ability Non-Normative students cannot easily thrive in a traditional context, they must be known, feel – and be – supported, and be connected. They must feel they belong, or they risk disconnecting entirely.

**Sense of School Belonging**

The results of the national Gay Lesbian Straight Education Network (GLSEN) survey of LGBT youth (Kosciw, Greytak, Zongrone, Clark, Truong, 2018) showed 70.1% had been verbally harassed at school over their sexual orientation, 59.1% over their gender expression, and 53.2% over their gender identity. These students were also at risk of physical assault because of their sexual orientation and/or gender expression/identity (Robinson & Espelage, 2011, 2012). According to GLSEN 28.9% of students were physically harassed and 12.4% were physically assaulted due to the sexual orientation. Based on their gender expression, 24.4% were physically harassed and 11.2% were physically assaulted. Finally, 22.8% were physically harassed and 10% were physically assaulted based upon their gender identity. Of the students who were harassed or assaulted, 60.4% reported it to their schools who then either did nothing, or told them to ignore what had or was happening, and another 55.3% did not report it because they believed it would not help, or might even make the situation worse (Kosciw et al., 2018).

LGBQ students who had been harassed but were in school systems that they perceived as supportive reported fewer negative consequences, such as depression, suicide, and substance abuse (Robinson & Espelage, 2011). To emphasize the point, LGBTQ+ students are five times as likely as heterosexual students to miss school due to feeling unsafe (Massachusetts Department of Education, 2004). LGBTQ+ students, even when they are not the target of
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bullying and harassment, may still feel unsafe or isolated due to antigay sentiments, or lack of supportive attitudes and behaviors on the part of the school itself (Robinson & Espelage, 2011).

Because these experiences may lead LGBTQ+ students to feel unsafe and as if they do not belong in the school environment, they may not develop a strong sense of connectedness to the school, other students, or teachers (Nichols, 2008; Robinson & Espelage, 2011). This awareness drives the need for this study.

Chapter one introduces the study, its problem statement, purpose, and significance. It also contains the guiding research questions, delimitations, definitions, conceptual framework, and background behind them.

Problem Statement

In light of the GLSEN statistics mentioned in the introduction, it is imperative for educators to establish a school environment that allows all students to feel safe, connected, and to thrive academically and socially. To do so, educators must have an understanding of what high ability LGBTQ+ students experience within their school setting, and the effect it has upon how they see themselves as fitting into, being connected to, and being a part of the school.

According to Wexelbaum and Hoover (2014), LGBTQ+ individuals often hide their sexual orientation and/or gender identity by pushing to the forefront the high ability identifier. Whether they are high ability or high achieving, this label allows students to hide within plain sight, choosing the lesser of two stigmas.

High ability students are faced with challenges, including but not limited to, developing friendships, a lack of appropriate educational resources, and the misperception that they do not need additional services because it is assumed that high ability students can take care of
themselves. While, in part, this can be true, high ability students need challenge so that they do not become complacent, bored, and, ultimately, at-risk. Being ‘okay’ and thriving are not the same thing. For the high ability non-normative student, the challenges faced by being identified as high ability are, many times, easier to handle than those faced by being identified as non-normative, which is potentially an explanation of why a student who is non-normative would bury that identity.

When it comes to establishing friendships, typically students, at least initially, develop friendships within their own grade, with their peers (Neihart, Reis, Robinson, & Moon, 2002). High ability students, though, seek out friendships based upon an intellectual, or mental age, instead of a chronological or peer age (Neihart et al., 2002). This can be challenging for the student to navigate as they may have the same mental age as a much older student, but they are in very different places in their lives developmentally and experientially. Additionally, Neihart et al. (2002) clarify that high ability students may feel things or experience life at a heightened level of intensity. When the high ability and LGBTQ+ identities come together in one student, it is not known what their experiences are, particularly within the school, and whether or not they feel connected to their peers and as if they belong, nor how it effects their overall life satisfaction post high school.

**Purpose of Study**

The purpose of this study was to examine the high ability student’s sense of their competence, autonomy, and relatedness and its influences on their sense of belonging and connected to their high school as well as its influence on their overall life satisfaction. Further, results were differentiated by sexual orientation and gender identity/gender expression;
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conforming to societal norms or non-conforming. This study was done within the context of a two year high school created to nurture high ability students in an inclusive environment. The results provide educators valuable information about high ability non-normative students and provides a foundation upon which educators may build to create fully inclusive environments within their school systems.

**Significance of the Study**

A review of the literature shows that little research has been conducted on the intersection of high ability and sexual orientation and/or gender identity/gender expression, particularly as it pertains to school belonging and life satisfaction. The evaluation of these data provides educators insight into the educational and life experiences of high ability non-normative students, the factors that influence their sense of school belonging and connectedness, as well as their overall life satisfaction, and provide a broad-base understanding including potential areas for school improvement in order to create a safe and inclusive environment.

**Conceptual Framework**

In order to understand the relationship between students who are identified as both high ability and LGBTQ+ and their sense of school belonging and connectedness, Self Determination Theory (SDT) was used to frame and add context to the study.

SDT as developed by Deci and Ryan, provides a framework for human motivation and personality (Deci & Ryan, 2008). Deci and Ryan (2002) assert that “…all individuals have natural, innate, and constructive tendencies to develop and ever more elaborated and unified
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sense of self” (p. 5). These tendencies are affected by socio-contextual factors which can either enable or disrupt growth (Deci & Ryan, 2002).

SDT identifies three basic psychological needs – the need for competence, for autonomy, and for relatedness (Deci & Ryan, 2002). According to Deci and Ryan, competence refers to a person’s interactions with their social environment and their experiences with opportunities that challenge them and allow them to enhance their skills and capabilities. Within the educational environment this would include participation in classes at an appropriate level of academic challenge.

Autonomy refers to the roots of a person’s behavior, which can be influenced by outside sources. According to Deci and Ryan (2002) autonomy is often misunderstood to be synonymous with independence however, according to SDT, there is no antagonistic relationship between autonomy and dependence, as long as the individual is in agreement and it does not violate that person’s sense of self (Deci & Ryan, 2008). In this way, autonomy is connected to motivation and autonomous motivation, then, can be extrinsic or intrinsic in nature.

Extrinsic motivation is comprised of controlled motivation or introjected regulation (Deci & Ryan, 2008). Controlled motivation is externally regulated, meaning that the individual’s behavior is directed by external rewards or punishments received (Deci & Ryan, 2008). Within the school environment, examples of extrinsic motivations would include GPA, respect or admiration of others, team leadership positions, etc. (Deci & Ryan, 1985; 2008). Introjected regulation is characterized as somewhat external in motivation, meaning that the individual’s behavior is directed partially by internalized motivation and partially by external motivation (Deci & Ryan, 2008). Within the school environment, examples of introjected regulation would
include pride in self over a good grade, avoiding shame, knowledge that they made a good decision, seeking approval, etc. (Deci & Ryan, 2008).

Intrinsic motivation is characterized by an individual being internally driven (Deci & Ryan, 2008). Their drive, or source of motivation, could come from their interests, ethics, values, etc. (Deci & Ryan, 2008). Within the school environment, examples of intrinsic motivation would include a sense of accomplishment when a difficult assignment or project is completed, the personal knowledge that they helped a fellow student, pride in their GPA, etc.

It is important to note another type of motivation which is referred to as amotivation. Amotivation is characterized by anxiety surrounding aspects of competence (Deci & Ryan, 2002) including drive; amotivated persons are likely struggling to have their needs met. In many ways this could be considered at least partially to be an example of a failure to thrive academically, socially, emotionally, and, as a potential outgrowth, mentally. While the other motivation classifications can be illustrated by traits, trends, or positive outcomes, amotivation might simply be called ‘applied entropy.’

Table 1 shows the motivation continuum of self-determination theory.

<table>
<thead>
<tr>
<th>Type of Motivation</th>
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<td>Type of Regulation</td>
<td>Non-regulation</td>
<td>External regulation</td>
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*Note. The self-Determination Continuum, with Types of Motivation and Types of Regulation (Ryan & Deci, 2002, p. 16)*
Finally, relatedness refers to the connection a person feels with others; unity (Deci & Ryan, 2002). Within the realm of education, SDT includes a student’s academic pursuits and confidence in their own abilities (Deci, Vallerand, Pelletier, & Ryan, 1991), including the effects of their social and cultural experiences (SDT, 2018), as well as their connection to peers, teachers, and others within the school setting.

Applying this foundational background to the modern school environment, students are typically placed with a single teacher in large groups by age. According to Ryan and Deci (2017), curricula are not packaged to be intrinsically motivating or pertinent to the students’ daily lives. This neglects the varied intellectual, academic, and psychological needs of many students. The greater focus of the curricula are high stakes testing and accountability, which link sanctions and reward for students, teachers, and administrators to testing outcomes (Ryan & Deci, 2017). This implies two things, 1) that extrinsic, outcome-focused motivators will promote academic success and 2) that the intellectual goals on the tests are the most important and beneficial aspects of education (Ryan & Deci, 2017).

Through the lens of SDT, this study examined the participants’ competence, autonomy, and relatedness as they pertain to their home high school, to the Indiana Academy, and to their post-high school life satisfaction. For the high ability population, the ability to develop competence at a level of challenge that is appropriate to their needs may or may not be met within their educational environments and may then translate into their overall life satisfaction.

The ability of the participants to be who they are may be influenced by their high ability identification as well as their sexual orientation and/or gender identity/expression identification. This ability may affect where they fall on the self-determination continuum where intrinsically
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motivated behavior is reflective of the true self and extrinsically motivated behavior is conformist.

Relatedness encompasses the connection that is felt within the various formal and informal groups and environments that each individual is a part of; the greater culture. This study examined the relatedness to the participant’s home high school and to the Indiana Academy. The three factors together determine a student’s relative perceived place in life.

Research Questions

Within the high ability educational environment of the Indiana Academy, the research questions which guided this study were as follows:

1. How do non-heterosexual and/or gender non-conforming students’ sense of competence, autonomy, and relatedness compare between their home school and that of the high ability residential high school, as well as in comparison to other students in the school?

2. How do non-heterosexual and/or gender non-conforming students’ sense of competence, autonomy, and relatedness relate to the reasons for leaving their home high school in comparison to other students in the school?

3. How do non-heterosexual and/or gender non-conforming students’ perception of competence, autonomy, and relatedness relate to their post-high school life satisfaction in comparison to other students in the school?

DELIMITATIONS

This study has the following delimitations. First, the Indiana Academy for Science, Mathematics, and Humanities opened in 1990 as a residential high school for 300 high ability
juniors and seniors. Then in 2011, the school added a non-residential component, where the 30+ non-residential students commute daily.

In 2015, the Academy added an international student component that consists of both residential (students reside is the residence hall) and homestay (students reside in host family homes) students from around the world. The changes to the original structure of the school changed the overall dynamic of the school and the student experience. In addition, as the only public residential high school in Indiana, there is no other cohort with which to compare.

While the survey was offered to all alumni in the sample population, participation was self-selected. Additionally, questions regarding the students’ sexual orientation, gender identity, and coming out experiences was optional due to the personal nature of the content.

**ROLE OF THE RESEARCHER**

Born and raised in central Indiana, I earned my undergraduate and graduate degrees at Ball State University. In 1989, while working on my one of my undergraduate degrees, I began working in the Admissions Office at Ball State University, as an Office Assistant. In the fall of 1991, I transferred to the Office of Admissions at the Indiana Academy for Science, Mathematics, and Humanities – a two year, residential high school for high ability students – located on Ball State’s campus. The Academy had opened its doors in 1990.

From 1991 until 1997, I acted as the Secretary for Academy’s Office of Admissions. In that role, I spoke extensively with prospective students and their families while helping them apply to the Academy. In addition, I worked closely with the Academy students who resided in the building. In 1997, I moved to the position of Coordinator of Admissions. In this position, I worked closely with current students who filled the role of Academy Ambassador – students who gave tours, participated in panels, and shared information about the Indiana Academy with
prospective families. Additionally, I assisted with orientation, and move-in activities, which allowed me to continue assisting new and returning students and their families.

In 2001, I assumed the position of Assistant Director of Admissions and worked to find, inform, and recruit high ability students into the unique living/learning environment that the Academy offered. I provided directions and advise on how to apply and navigate the Admissions and entry processes. Additionally, I participated in Preview Day presentations, and coordinated Orientation, and move-in activities.

Then, in 2006, I was placed into the position of Associate Director / Head of Admissions, a position I continue to hold. In this role, I work with senior leadership to establish recruitment strategies and forecast needs, represent the Academy at various conferences (through attendance and/or by presenting) across the country, and work to find, inform, and recruit students from across the state of Indiana. I provide prospective students with advice and recommendations and work very closely with those students who present as gifted underachievers or gifted at risk.

Having been at the Academy for 29 years, I have had the privilege of knowing every Academy graduate, experiencing every growing pain of a young institution, participating in various ways with policy development and implementation, and more. I know the student and organizational timelines, and stories. The Indiana Academy, its educational leaders, faculty, and students have all had a profound effect on my life, my passions, and how I view education – especially high ability education.

My in-depth knowledge of the Indiana Academy, its students and staff, may be represented in my study.

DEFINITIONS
This study utilized the following definitions.

- **Gifted and talented (G/T) and High ability (HA)** are used interchangeably to describe students who perform or show the ability to perform at a high level academically/intellectually, creatively/artistically, or through their leadership abilities (Indiana Code, 2005).

- **LGBTQ+ or any combination of these initials** stand for the following and the definitions.
  - **L = Lesbian** (usually female). Lesbian refers to a person whose primary attraction and sexual orientation is geared toward people of the same biological sex (LGBTQIA Resource Center, 2020).
  - **G = Gay** (usually male). Gay refers to a person whose primary attraction and sexual orientation is geared toward people of the same biological sex (LGBTQIA Resource Center, 2020).
  - **B = Bisexual**. Bisexual refers to a person whose primary attraction and sexual orientation is geared toward people regardless of their biological sex (LGBTQIA Resource Center, 2020).
  - **T = Transgender**. Transgender refers to the incongruence that can exist between a person’s internal knowledge of their gender and their external biology (LGBTQIA Resource Center, 2020).
  - **Q = Queer or Questioning**. The term queer has been reclaimed from negative, historical meanings of abnormal or strange, to mean not fitting into social norms. Questioning refers to a person who is in the
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process of exploring their sexual orientation and/or gender identity

(LGBTQIA Resource Center, 2020).

- Gender identity is the social construct, boy or girl, man or woman, with which a person identifies. This may or may not be congruent with the sex and gender assigned at birth (LGBTQIA Resource Center, 2020).

- Gender expression is the way in which a person expresses their gender identity, typically through their appearance and behavior (LGBTQIA Resource Center, 2020).

- Cisgender describes a person whose gender identity and biological sex at birth are in agreement; correspond with each other (LGBTQIA Resource Center, 2020).

- Agender describes a person whose gender identity is neither boy or girl/man or woman (Cambridge Dictionary, 2020).

- Normative, for the purposes of this study, describes a person whose gender identity, gender expression, and biological sex at birth are in agreement; correspond with each other.

- Non-Normative, for the purposes of this study, describe a person whose gender identity, gender expression, and/or biological sex at birth are not in agreement; they do not correspond with each other.
Chapter two will provide an overview of the literature as it pertains to both the high
ability and LGBTQ+ identifiers, as well as a historical basis for a group of individuals who are
currently undergoing a quest for equality, respect, and inclusion.
CHAPTER 2

Literature Review

This chapter reviews the literature covering the relevant major issues as they pertain to high ability students and education, as well as to students whose sexual orientation and/or gender are societally non-normative. The literature was reviewed through the framework of self-determination theory, and was thus categorized as pertaining to competence, autonomy, or relatedness. For the purposes of this study, competence includes literature that pertains to a student’s academic ability; autonomy includes literature that pertains to a student’s ability to be who they feel they are; and relatedness includes literature that pertains to a student’s ability to connect with others individually and within society.

Competence

According to Ryan and Deci (2002), competence refers to the feeling derived from interacting with one’s social environment and the realization of one’s capabilities based upon those experiences. From a very young age, humans demonstrate that it is their nature to seek challenges appropriate to their capabilities and which enhance their individual skills and abilities. This provides motivation to seek out future challenges. Elliot, McGregor, and Thrash (2002), suggest that an example of this is a baby seeking to reach an object just outside of their grasp. The baby will work to reach the object and, if the baby is successful, it will experience feelings of efficacy. These feelings of efficacy will increase its levels of motivation to tackle future challenges (Elliott et al., 2002; Rubenstein, Siegle, Reis, McCoach, & Burton, 2012).

The feeling of competence is particularly relevant in the educational environment for high ability students who need classes that provide an appropriate level of academic and
intellectual challenge. The introduction of new topics needs to be presented with depth and breadth, as well as at a faster pace than is found in the traditional, non-advanced, class (Rubenstein et al., 2012). Tasks seen as meaningful and value-added provide motivation to seek additional challenging tasks. Likewise the successful completion of those tasks leads to feelings of efficacy which, in turn, increases motivation (Elliott et al., 2002; Rubenstein et al., 2012), creating a somewhat cyclical process.

Competence is a relatively complex concept comprised of a balance between enabling and inhibiting factors, abilities, and attributes. The aggregate presence and status of competence is in its own way a situational IQ that provides a reasonable measure for one’s perception of their own ability to thrive in a given environment. Since perception is the immediately apparent reality for a given individual, the following analysis of the components provides detail about how that perception of competence gets built.

Factors that inhibit competence for high ability students. For the purposes of this study, the three major factors that inhibit competence for high ability students were: access to a high ability education, feelings of difference, and the societal stigma of giftedness. The degree to which these factors are positively or negatively combined appears to directly impact the high ability student.

Access to high ability education is a very real challenge for many students, whether due to improper identification practices – or a total lack of identification practices - or lack of available services. According to the 2014-2015 State of the States in Gifted Education (National Association for Gifted Children [NAGC], 2015) only 32 of the responding U.S. states have established legal requirements mandating identification of and provision of services for gifted education. In other words, in potentially 36% of the United States, budget-strapped school
systems are told – albeit passively – that they are welcome to voluntarily divide their resources to provide services to gifted students, but are not required to do so, as opposed to the other populations to whom they are legally obligated to serve.

All 32 of those states, who do mandate identification of giftedness, however, have varied methods by which that identification is done, and only 12 states provide specific and required identification criteria and methods for the schools. Additionally, as Callahan (2017) pointed out:

- In 21 of the states, the identification criteria and methods are left entirely to the discretion of school systems at the local level.
- In 3 of the states, the identification criteria and methods are determined at both the state and local levels.
- In 8 of the states, there is no requirement to use any specific identification criteria or method.

Unfortunately, not all schools offer high ability services and there is growing evidence that those who do offer services have gaps in the services they are able to offer (Azano, Callahan, Brodersen, & Caughey, 2017). In school systems where efforts were made to identify gifted students and provide some form of services, rural, low income, non-native English speakers, and racial and ethnic minorities may not have been accurately identified due to the limited exposure to success factors and experiences they may not have had (Azano et al., 2017; Card & Guiliano, 2015). And, among the groups, all of whom may have varying degrees of protection, those in the group with the emergent gender/sexual identity conflicts give rise to what might be termed “illegal non-conforming alien” group, who are not protected at all in many cases and who form a neo-caste within our society.
Feelings of difference come to awareness at an early age for high ability students as they realize they are both academically and socially different from their chronological peers (Gross, 1998). Upon entry into a traditional school, these students may begin to hear negative comments about giftedness and begin to make comparisons between themselves and “normal” students (Gross, 1998). While being identified for high ability services has a positive connotation, and the label of “gifted” is socially valued, in many ways, “…labeling is a social process that can have both positive and negative effects on the labeled student” (Berlin, 2009, p. 219) and a gifted student may feel ambivalent about the label (Kerr, Colangelo, & Gaeth, 1988), as well as some limitations it imposes, both real and perceived.

Studies conducted by Kerr et al. (1988) and partially replicated by Manaster, Chan, Watt, and Wiehe (1994) found that the majority of respondents felt that the worst part about being labeled as gifted was the social aspects, with student often feeling that they must hide or downplay their abilities and/or successes in order to appear like a normal student (Cross, Vaughn, Mammadov, Cross, Kim, O’Reilly, Spielhagen, Da Costa, & Hymer, 2019; Cross, Coleman, Terhaar-Yonkers, 1991). Manaster et al. (1994), commented that gifted students face behavioral stereotypes, are labeled “nerd” and/or “snob,” and are faced with peer jealousy and misunderstanding. The misunderstanding especially can aggravate stereotypes about and attitudes toward gifted students, as well as leaving them faced with social isolation and alienation. Yet, contrary to these two studies, Berlin (2009) found that students labeled as gifted considered social factors and negative stereotypes as unimportant and indicated that making friends was a positive side effect of their giftedness. Interestingly, a study by Dauber and Benbow (1990) that looked at the popularity and peer acceptance of moderately gifted and extremely gifted students found that moderately gifted students viewed themselves as being more
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popular and having a better, more active social life than the extremely gifted students.
Extremely gifted students ranked themselves at the lowest social standing category. On both
points, their non-gifted peers agreed. The net effect is that the stereotypes of giftedness are both
widely accepted, and mutually accepted, which becomes systematic stigmatization of anyone
who is highly gifted, plus is a member of another group struggling for societal acceptance.

The social stigma of giftedness, which accompanies being labeled, asserts that the label
taints the student with a set of variables which, in turn, influence the student to change the way
they would typically interact with others in an effort to blend in with non-labeled (non-gifted)
peers (Cross & Coleman, 1993).

There is evidence to show that the gifted are influenced by their peers’, parents’, and teachers’ feelings about their abilities. If they
are seen as mental freaks, unhealthy personalities, or eccentrics simply because they are brainy or creative, many of them will avoid
the stigma through conformity. Some would rather underachieve and be popular than achieve honor status and receive social ostracism (Tannenbaum, 1983, p. 466).

Cross and Coleman (1993) conducted a study of 1,465 high school students, attending a
four-week residential summer program. The study tested the Stigma of Giftedness Paradigm
which says, 1) gifted students want to have normal social interactions, 2) gifted students believe
they are treated differently when people know they are gifted, and 3) they can influence how
others interact with them by controlling the social information they provide (Cross & Coleman,
1993). They found that 60% of the respondents felt limited in their ability to be themselves in
their high school, and 85% indicated that there were only some to a few students in their school
who were like them. In a cross-cultural study conducted by Cross et al. (2019), which included
participants from France, Ireland, South Korea, the United Kingdom, and the United States, they
found that students with gifts and talents were not denying their abilities or using humor or extra-
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Curricular activities to deflect, but were engaging in proactive behavior to increase their likeability among their peers. These findings underscore the conflict that shapes gifted students’ perceived competence, because they are a sub-group which is definitely within the minority of the student population, which as a location within the social strata is a de facto guarantee of some degree of struggle when seeking equity. However, this equity still needs to be reached, because in order to reach their potential, gifted students must feel accepted in school (Cross, 1997; Tannenbaum, 1983). Tannenbaum (1983, p. 466) sums it up, “…a climate of social acceptance has to be created at school and in the community so that the gifted will want to realize their potential rather than suppress their exceptionalities”.

Factors that Facilitate Competence for High Ability Students

Not all factors are stacked against the gifted label though. There are some factors which facilitate competence for high ability students that can be classified into three over-arching categories: cognitive ability, personal-psychological attributes, and environment-social factors (Hartzell, 2012).

Cognitive ability. Cognitive ability includes both an individual’s analytical and creative-thinking ability (Hartzell, 2012; Hong & Milgram, 2008). Analytical ability is often represented by an “Intelligence Quotient” (IQ) score, which has been historically measured using intelligence testing such as the Stanford-Binet Intelligence Scales and the Wechsler’s Adult Intelligence Scales, among others. These tests are considered a key piece in identifying gifted students in some cases for special programs (Hartzell, 2012) due to the strong relationship that was found between intelligence, or analytical thinking ability, and domain-specific academic achievement that requires analytical-thinking ability (Hong & Milgram, 1996). Students who have a high
degree of analytical thinking ability can learn materials faster and in greater depth than students with lower degrees of analytical thinking ability (Gagne, 2004; Hartzell, 2012).

The ability to look at something from a fresh perspective in order to conceive of something new or original can be defined as the ability to construct meaning through the process of problem solving or creative thinking (Hartzell, 2012; Runco, 2003). Creative thinking can be assessed through testing such as The Torrance Tests of Creative Thinking, which measures both verbal and non-verbal aspects (Torrance, 1974). It involves a student’s ability to sense problems, inconsistencies or inaccuracies, or missing elements of an event, sequence, or other problem, (Torrance & Goff, 1990) combined with the ability to “think outside the box,” synthesize information across disciplines and apply information to form creative solutions or new definitions.

**Personal-psychological attributes.** These attributes include a student’s motivation, self-regulation, and interest, all of which are key identifiers of high ability. Ackerman and Beier (2003) suggest that motivation and interest provide high ability students with the impetus and desire to put forth the effort needed in order to be successful. According to Self Determination Theory (Deci & Ryan, 2000), motivation is on a continuum and where a student falls on that motivation continuum explains, or describes, the quality of their motivation and need satisfaction. On one end of the continuum is autonomous motivation, where the student is fully engaged in learning because of personal interest and perceived value (Mammadov, Cross, & Ward, 2018). On the other end of the continuum is controlled motivation which is created by either an internal or external pressure of a “…coercive demand or seductive offer” (Mammadov et al., 2018, p.3). A student’s personal interest keeps the student focused on the individual tasks (Hartzell, 2012), a lack of interest makes it difficult for the student to not only stay focused but
also to care about the task(s) needing to be completed (Ackerman & Beier, 2003; Hartzell, 2012). Self-regulation is connected to academic motivation and achievement and aids students through guidance and motivation to do the academic tasks they know how to do (Mammadov et al., 2018).

**Environment-social factors.** These factors can be broken down into three primary categories: familial environment, educational environment, and social environment. The familial environment not only influences a student’s developmental and social processes but also has an impact on the educational pathway a student may choose to follow. The family is the crucible in which the student’s initial exposure to a supportive (in terms of giftedness) environment is formed (Cho & Campbell, 2011; Hartzell, 2012; Lubart, 1990). In addition to soft factors, such as emotional support, this includes components related to the access the student has to resources, such as books, a home computer, conducive study environment, access to enrichment opportunities; and parental expectations and guidance (Cross, Stewart, & Coleman, 2003; Hartzell, 2012).

After the initial formation, and ongoing influence of the family, the educational environment also plays a major role in the development of the high ability student. It is clear that high ability students need to be educated in a manner that is appropriate to their talent level, and when they are not they can develop one of two self-perceptions (Hartzell, 2012). They may see that they are “smarter” than their peers, which gives them a boost in their self-confidence (Dai, Moon, & Feldhusen, 1998; Hartzell, 2012), or, if the high ability student is ridiculed or made fun of, they may develop lower self-esteem that may cause them to not reach their full potential (Cross et al., 2003; Hartzell, 2012). When a gifted student is in a traditional school, particularly a school which utilizes inclusion in general education classes, the social elements and the
treatment of gifted students may be the most instructive portion of the student’s development. Additionally, high ability students left in a regular classroom, which as a practice will tend to lead to teaching to the middle of the student comprehension curve, can become bored, uninspired to learn, and begin to underachieve or begin to get into behavioral trouble (Hartzell, 2012; Kanevsky & Keighley, 2003). One option which exists for some students in some situations is a separate program – or even separate school – specifically designed for high ability students. When high ability students have the opportunity for participation in these exclusively high ability programs or schools, they may feel as though they are “regular” like the other students, thus eliminating the social ostracism of being academically “different” (Hartzell, 2012). However, being in such programs or schools can also allow the student to see others who are more advanced than they are and create feelings of inadequacy (Cross et al., 2003; Hartzell, 2012).

Social environments of all types also influence competence through the importance of friendships and peer expectations that affect the development of high ability students. High-achieving friends can positively influence students to push themselves and take advanced classes (Hartzell, 2012; Riegle-Crumb, Farkas, & Muller, 2006), to work harder, be more creative, and to “think outside the box.” In a study by Field, Harding, Yando, Gonzalez, Lasko, Bendell, and Marks (1998) investigating the feelings and attitudes of gifted high school students compared to those of non-gifted students, it was found that gifted high school students considered their friends to be more important than their families.

**History of Gifted Education in Indiana**

Indiana’s recognition of the need for specialized education for gifted students began to emerge in the 1950s. According to Virginia H. Burney (2006), Indianapolis Public Schools Superintendent H. L. Shibler stated in a letter to parents that 5th and 6th grade gifted classes
would begin in the fall of 1952, with additional classes to be added in 1953 and 1954. Like education in general, though, gifted education programs were tightly tied to available funding, which has traditionally been very limited.

A heightened interest in gifted education blossomed nationally when, in response to the Soviet Union’s launch of Sputnik, a substantial amount of money was provided through federal funding of the National Defense Education Act of 1958 which sought to identify the brightest and most talented students in the United States, particularly in the fields of mathematics and science (Burney, 2006; U.S. Department of Health, Education, and Welfare, 1959). This was the first large-scale effort undertaken by the federal government focused on providing gifted education. In addition to identifying the best and brightest students, it was intended to improve education in science, mathematics, and foreign languages in order to better meet the defense needs of the United States (Burney, 2006; U.S. Department of Health, Education, and Welfare, 1959). Interest in and research on gifted students continued and grew throughout the Cold War, driving a refinement of methods and attention to the exceptional students.

Though there was a fervent interest in general gifted education due to the quest for competitive advantage, there was no specific definition for giftedness. So, in 1972 the U.S. Office of Education, in a Report to Congress, established a definition for gifted children. The Marland Report, as it is commonly referred to, encouraged schools to define giftedness broadly and include not only academic talent, but also leadership ability, visual and performing arts, creative thinking, and psychomotor ability (NAGC, n.d.). However, a report is not the law, nor is it a budget instrument. Aside from establishing federal funding levels, and supporting the general philosophy that the government should provide an adequate, free public education, federal
lawmakers have traditionally left actual delivery of said education to the states (U.S. Department of Education, 2012).

Geopolitics kept pressure on the established academic structures, demanding more focus on excellence and exceptionalness, leading locally to the 1980 Indiana Public Law 200 change that included gifted students (Burney, 2006). According to Burney (2006), Public Law 200 mandated the Department of Public Instruction to develop a program for gifted students to help them develop to their optimal intellectual, social, and artistic potential. This was a start to formalizing, or even normalizing, gifted education, but in many ways the provision for the concept of gifted education was not the same as actually providing gifted education. Comparatively it was similar to building a new residential subdivision in the middle of a brownfield site – providing an option without appropriate disposition of the environmental factors which kept it from flourishing.

This provider-less provision changed when a major move in Indiana’s gifted education history took place in 1984 (Burney, 2006). Governor Robert Orr requested significant funding from the Indiana General Assembly to establish a residential high school for mathematics, sciences, and language arts, as well as a summer teachers’ institute for professional development at one of the state’s major public universities. That residential high school, the Indiana Academy for Science, Mathematics, and Humanities, was subsequently founded by the Indiana General Assembly in 1988 and opened its doors on the campus of Ball State University in 1990. A public residential high school with a dual mission of educating 300 of the state’s most academically advanced students, as well as providing a summer institute for teachers, the Indiana Academy was initiated as a charter-driven focus of Indiana’s high ability goals (Indiana Code 20-24.5-3).
Summary

The need for specialized education targeted at high ability students has existed for many years. In the maturation process for gifted education, even while many myths have been dispelled, there are still misunderstandings about the needs of gifted students. In its approach to gifted education, Indiana followed the Marland Report’s recommendations, and established a definition for high ability, and was among the first states to establish and fund a residential high school with the purpose of educating high ability students.

Equality, Equity, Excellence

This section will examine an argument about appropriate educational delivery of equality, equity, and excellence, the major overarching philosophies. Similar to the fundamental political argument about the actual difference between a democracy and a republic, or the “nature vs. nurture” debate, the contrary positions these approaches can generate frame many of the lively discussions taking place within the primary and secondary educational space. The balance and status of these two concepts form a major component of a student’s competence.

Americans have long had a love-hate relationship with the battle between equality, equity and excellence (Beisser, 2008). As a society we have celebrated those with exceptional skills and abilities, such as football great Peyton Manning, theoretical physicist Stephen Hawking, and poet Emily Dickinson. However, those identified and labeled as gifted, or having attained excellence in an academic skill or without the benefit of fame, have often been seen as elitist by those not identified as such (Beisser, 2008). At the same time, we have been societally committed to equity, which can be defined as making sure that every child has an equal opportunity to benefit from their education (Gallagher, 2004). While committing to equity, equality is practiced, with few exceptions, providing a cookie-cutter education (Arizona K12
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Center, 2019; Duncan-Andrade, J., 2016). We have said as a society that giftedness exists, we have measured it, required it and promoted it, yet simultaneously under-valued it, underfunded it, under-certified it (Burney, 2006; Gallagher, 2004), and viewed it as gap coverage for standardized test scoring, rather than a competitive advantage to be used by our society to excel at a new, global series of tests in the geopolitical/economic realm. This contrast is telling about how we as a society in general, and a state in particular, deal with the concept that not all are created equal in ability.

Gallager (2004) suggests that it is the appearance of genetic unfairness, advantages derived from the very genes with which we are born, which may be the underlying cause of the unequitable treatment of high ability students. It is easier to blame social conditions, which can be blamed for perceived slights, than an unfair universe. Yet, while we have struggled over providing an appropriate education that maximizes excellence, the future of our nation has been left hanging in limbo. The desire to understand and delineate the disadvantages that are assigned to social factors has led to the use of proficiency standards in an effort to address the non-genetic inequalities present. This can be problematic because, in terms of minimum or basic proficiency, there is not a one-size fits all model (Jolly & Makel, 2010). Proficiency can seek a basic standard, which does not challenge gifted students (Gallager, 2004), or it can seek an above-basic standard, which is too challenging for most students (Jolly & Makel, 2010). One potential way to address this is brought out when Xiang, Dahlin, Cronin, Theaker, and Durant (2011) suggest that societally we need to change our emphasis from accountability systems for educators of the whole student population to growth of low-, middle-, and high-achieving students equally. Bluntly stated, we cannot forget excellence in our zealouslyness to achieve equality. Mathematically, overall educational performance can be improved when any student
improves their performance (Jolly & Makel, 2010). Therefore Jolly and Makel (2010) suggest that instead of leaving gifted students behind, educational policy should focus on improving every student.

Since much federal mandate has historically been spawned from the womb of public perception, this unspeakable unfairness perception and attitude about some people just being different from the norm by genetic happenstance may be what underscores the reason there are federal policies and funding for individuals with disabilities (Individuals with Disabilities Education Act) (Gallagher, 2004), but no policy - and realistically no funding - for services for high ability students. This is in stark contrast to the National Defense Education Act of 1958 (Hunt, 2016) which could be taken to indicate a bias toward science/mathematics giftedness as a weapon for international dominance instead of a tool for national growth. Due to the absence of federal policies, it is left to each state to develop its own policies for identification (Callahan, Moon, & Oh, 2014). Just as there are many definitions of giftedness applied, there are likely as many ways to identify those who are gifted. From this confusing cluster of competing factors, abilities, attributes, mandates, delivery styles and theories, some plan and/or methodology must begin to coalesce to bring order, to this end, in an effort to order the seemingly disordered gifted identification space. The next section will review identification methods and practices in the context of gifted education in Indiana.

**Gifted Education in Indiana**

Giftedness is a vast and complex subject, so in order to provide context and historical perspective it will be reviewed within the framework that includes bureaucratic and social norming influences for a given location, in this case, Indiana.
According to Steven I. Pfeiffer, in Essentials of Gifted Assessment (2015), giftedness is not real or concrete but is a social construct, much like that of sexual orientation and gender identity/expression, whose purpose is to provide a way of discussing, or labeling, students who perform well in a domain in which society places value (Pfeiffer, 2015). Gifted education is about providing for the educational needs of students who outpace other students; it is not about preparing gifted students to save the world (Fisher, 2008).

**Identification and Assessment in Indiana**

Since the federal government does not have a mandated identification method, in the additional absence of a state-mandated method, Indiana allows each district to develop their own multiple criteria model, following research based practices, to identify gifted students in grades K-12. According to the Davidson Institute (2015), during the 2012-2013 school year, Indiana had 991,325 public school students with 144,072 of those students identified as gifted and talented, which is 14.53% of the total student population. Indiana legislation mandates that high ability K-12 students be served with or without parental involvement in identification and service decisions, which on the surface should remove some familial/culture barriers between gifted students and services available to them.

As a rule, those services are delivered via a programmatic approach, but without a set of specific delivery guidelines, so there is a degree of uncertainty in their formation. In effect, the localized identification and creation of programs to meet the statewide-mandated performance causes a sometimes extreme variation in how programs and services are actually delivered between school systems which may in other ways be similar. In an effort to manage that issue, all school districts are required to have a gifted education administrator to oversee identification. They also are supposed to determine whether services are individually delivered, or delivered via
gifted education programs, which are mostly geared toward acceleration. The focus on acceleration is important because of the known link between educational challenge level/pace and overall success for the gifted student. Thusly, acceleration appears to be the default path of lowest resistance when providing gifted services for many schools.

**Program Acceleration Options in Indiana**

In addition to identification, Indiana policy leaves the local educational agency (LEA) to determine whether acceleration for gifted students is permitted, and to what extent (Davidson Institute, 2015). In cases where it is permitted, Indiana offers some grade- and content-based acceleration options for high ability students. The three primary, grade-based acceleration options are early entrance into kindergarten, whole-grade acceleration (grade-skipping), and early high school graduation.

For kindergarten enrollment, Indiana recently changed the eligibility rules that stated students must be age 5 on or before August 1st (Kissling, 2017) to October 1 for the 2020-2021 school year (House Enrolled Act 1001, 2019). For students who are ready for school prior to age 5, parents may appeal for early admission, using the process developed by the LEA under Indiana Code 20-33-2-7 (2005). A noteworthy aspect is that, though the process is uniform, the definition of each individual testing/interview process is left up to each school system.

Whole-grade acceleration, which is essentially accelerating a student past a grade (grade-skipping) is primarily done at the elementary school level, but can be done in middle school as well, depending on the program parameters. Each LEA determines the process and criteria for doing the whole-grade elevation. Indiana Code 20-36-5 allows the minimum number of high school semesters to be waived, which allows a student to graduate early, though that is an acceleration option available to all students, not just those classified as high ability (Indiana
The code does not waive the credit hours required by the diploma the student is seeking (Indiana Department of Education, 2006).

Content-based acceleration is primarily done through any or all of the following: dual or concurrent enrollment in high school for middle school students, dual credit, and advanced placement (AP). It is very common for middle school high ability students to take high school classes in subject matters in which they exhibit advanced abilities, and in Indiana those areas are most commonly mathematics, science, and world language. It is up to the LEA to determine whether a student may do so, as well as if the student will receive both middle and high school credit for each class. State policy permits dual credit classes for high school and college credit, however it is the LEA which determines the earliest grade or age at which the student is permitted to take them (Acceleration Institute, n.d.). Of the three methods of content-based acceleration, the first two are more localized, depending on the local school district to deliver them, such that what is considered acceleration for one school system is considered the standard education in another. Even the preparation for the AP exam is localized and allows for significant deviation in the methods used, which leads to the delivery of sometimes inconsistent results.

The state of Indiana not only permits students to take AP classes, but according to a June 3, 2019, memorandum from Dr. Charity Flores, who is the Director of Student Assessment at the Indiana Department of Education, the Indiana General Assembly has provided funding (House Enrolled Act 1001) to pay for students from state accredited public and nonpublic schools to take the AP Exams in English/Language Arts, Mathematics, and Science with the College Board (Flores, 2019). The funding of AP examinations is not governmental largesse, because as part of the graduation requirement for the Core 40 with Honors Diploma (Academic Honors Diploma),
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students must receive AP or dual credit in order to graduate with that diploma (Indiana Department of Education, 2006). If they do not receive those credits, they receive the general, Core 40, diploma, and part of providing a public high school education is making sure that cost is not a barrier for any student.

Summary

While national standards and research-based practices around giftedness and gifted education have been developed, only identification of gifted students is mandated, and each state has the flexibility to define their own identification standards. For a nation consisting of 50 states, 360 million-plus people, and a landscape representing every major climate- and environment-based difference, save perhaps equatorial life, this generalization does lead to some gaps in identification and outcomes within some subgroups, either as a side-effect from generalization, or a societal relic of bias. For students with LGBTQ+ identities, this factor could further increase the chances of not being identified and receiving the educational services they need to thrive. In this situation, this subgroup definitely meets the definition of gifted at risk.

Gifted At Risk

Gifted and talented students have the potential to excel academically, however, many are at risk for underachievement and are at risk for falling through the educational “cracks” (centerforcsri.org, 2008). There are abundant restraining factors which can impact a gifted student, such as family bias and environment, systemic discrimination, and economic restraints, but arguably the largest factor for students who are gifted at risk is in their social development.

Social Development

“The most highly talented are the most vulnerable, probably because they are exceedingly ‘out of sync’ with school, friends, and even their family in a society where the only
readily accessible references to giftedness come from sitcoms and other mass entertainment media, students can find it difficult to turn common views into accurate view. So, they may become superficially adjusted but sacrifice possibilities for outstanding fulfillment and significant, socially valued contributions” (Janos & Robinson, 1985, p. 182). In studies of extremely gifted students, it was found that those with an IQ of 170 or higher had a much more difficult time with social interactions than did the moderately gifted children (Burks, Jensen, & Terman, 1930). Additionally, those with IQs of 160 and above are unlikely to find chronologically aged peers who share their abilities and interests (Hollingworth, 1926; Hollingworth, 1942). While it makes sense that differing intelligence potentials would lead to a divergence in what gifted students are interested in and how they interact with same-aged peers, there is a further complication. Since whole grade acceleration is a common form of addressing the needs of high ability students, it is not difficult to conceptualize the compound effect whole-grade acceleration – placing a younger student in with older students – has on a student’s development when they already have issues interacting with students their own age, and their own physical development, and their own motor control. That removal from the company of their same-aged peers was studied, and Gross (1993, 1998) found that students with IQs of 160 or higher who were allowed to grade accelerate or who were in an inclusion classroom had significantly more difficulty with peer relationships.

When they find themselves in the traditional, or moderately gifted student population, according to Sylvia Rimm (2002), gifted adolescents tend to value their intelligence and understand that their giftedness comes with a price, which may vary over time, but can be seen manifested in ways such as feeling different than their peers (Swiatek & Dorr, 1998). Even, in cases where high ability youth do not feel different, they often assume that others see them as
different and they see this as an impediment to their peer social interactions (Coleman & Cross 1988). In a study of 8,000 high school students in California and Wisconsin, Brown and Steinberg (1990) found that less than 10% of the respondents were willing to be identified as gifted for fear of social problems they would encounter. Further, they found that the respondents preferred to hide their intelligence, to “dumb down”, in order to deflect the social consequences of giftedness. One can only imagine the impact of an additional socially polarizing factor, such as being non-heteronormative and/or having a non-normative gender identity or expression.

In further agreement, a factor analysis of Swiatek and Dorr’s (1998) Social Coping Questionnaire points toward five social coping factors used by high ability students. These factors are: hiding their giftedness, denial of giftedness, perceived impact of giftedness on their social interactions (peer acceptance), acknowledgement of the importance placed on popularity, and involvement in extracurricular activities (social interaction). Consequently it is vital that schools and families monitor the social and emotional development of high ability students and assist them in developing appropriate peer pressure coping mechanisms, because with the potential exception of the last factor – though it still requires a potential feigned interest in an activity or activities – all of the coping factors can be understood as denial of self, degradation of personal identity, and potentially fear-based concealment of their essential character and construction.

There are older, younger, and same-aged peers who shape the social strata for gifted adolescents, but another important portion of their environment is found in what was the first major influence on their development from infancy until their peers were regularly contributing to it - their families. Within the family structure, it is important that a positive environment be maintained. As a dichotomy, high ability students who incessantly quarrel with their parents are
more apt to seek out and depend upon peer norms instead of familial norms (Hill, 1980; Rimm, 2002), even though the familial bond and acceptance should be solid, which could both hinder the growth of and even place in jeopardy their social and emotional development, given the aforementioned social difficulties and negative bias so prevalent among peers. Additionally, Rimm (2002) indicates the importance of parents not placing emphasis upon student popularity or social successes, but suggests instead to place value upon the student’s gift(s) and continually point out the positives and rewards ahead, such as admission to the college of their choice, scholarships, career potential, etc.

The third circle in the Venn diagram of a gifted student’s life is the school itself, and the school also shares an important function with the peers and families of high ability students in supporting their social development. It is important for schools to provide high ability students with access to counselors and school psychologists who are specially trained in working with gifted students. The counselors and school psychologists must be able to not only understand the gifted students’ peer pressures and isolation (Rimm, 2002), but also be able to help them with peer relationships, emotional adjustment, social adjustment, and stress management (Moon, Kelly, & Feldhusen, 1997; Moon, 2002). Given the high percentage of gifted students, whose first coping mechanism is denial, professionals who are knowledgeable in appropriately drawing out and working with gifted adolescents are of critical importance.

When trying to best manage the health and development of a gifted student, an often effective preventative strategy that can be used by parents, counselors, teachers, etc. is bibliotherapy. Bibliotherapy uses books to aid in emotional, mental, and behavioral treatment. As for appropriate therapy materials, there are basically three types of self-help books written for gifted students and their families and they include 1) books to help them understand and cope
with their giftedness, 2) collections of quotations from gifted children, and 3) gifted child parenting guides (Moon, 2002). Readers can identify with the characters in the books and not only try on new roles, but also see different ways of looking at issues, exploring different emotions, and finding alternative ways of solving problems or conflicts (Moon, 2002).

Another method both parents and schools can utilize to support high ability students is to make sure they have access to a group of true peers in relationship to their actual abilities, not just their chronological age. These new peer groups can ideally be formed from other gifted students, a gifted cohort group, through such things as a debate team, Saturday and/or summer programs, gifted peer discussion groups, etc. (Rimm, 2002). This allows high ability students to be who they are, “show” and use their abilities, as well as be challenged by the abilities of others. Without these forms of support, it is possible for the social isolation gifted students experience to then turn into self-hatred and anger towards themselves and others and “…they are indeed at risk of using their gifted cognitive abilities and sensitivities to harm themselves and society, instead of making the contributions of which they are capable” (Rimm, 2002, p.17).

In addition to the social factors, familial factors, and their impact on the students, there are also more system – and symptom – related issues which can get in the way of gifted students’ competence in their academics. Gifted at risk students are also at risk of academic underachievement in comparison to their academic potential (Reis & McCoach, 2000). The reasons for their underachievement are as varied and diverse as their gifts. Reis and McCoach (2002) assert that there are three main reasons why gifted students underachieve: 1) underachievement masking a serious physical, cognitive, or emotional issue(s) (e.g. ADD/ADHD), 2) underachievement being symptomatic of an incongruity between the
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educational institution and the student, and 3) underachievement resulting from a personal characteristic(s) (e.g. low self-esteem) (Reis & McCoach, 2002; Siegle & McCoach, 2002).

**Underachievement masking a serious physical, cognitive, or emotional issue.** This includes a diagnosis of learning disabilities, attention-deficit/hyperactivity disorder, learning challenges, a need for differentiated learning styles, emotional problems, or a compound challenge that involves more than one of these areas (Siegle & McCoach, 2002). As with all conditions which can impact quality of life for students, an official diagnosis provides both a basis for services to students and a potential strategy for maximizing success, so it is recommended that underachieving students be screened for a wide variety of physical, mental, and/or emotional challenges before focusing upon the actual underachievement (Moon & Hall, 1998; Siegle & McCoach, 2002). If testing indicates such, appropriate intervention should be determined and implemented in order to reverse the underachievement (Siegle & McCoach, 2002). Interventions that do not address the physical, cognitive, or emotional needs, but instead just address the systems, can end up doing more harm than good (Reis & McCoach, 2002).

**Underachievement being symptomatic of a mismatch.** This mismatch exists between the educational institution and the student and is where the student often views school in general negatively (McCoach & Siegle, 2001). In order for a student to view the school positively, the student must understand the educational system, see how they fit into the system, and then master that system (Siegle & McCoach, 2002). As previously discussed, gifted students often feel that they are different to begin with, and therefore do not fit in, due to their giftedness. Underachievement, then, can represent a coping strategy they use to camouflage themselves and that allows their intellectual and/or academic abilities to go unnoticed, thus avoiding any giftedness stigma that may exist in the school environment (Cross, 1997).
Underachievement resulting from a personal characteristic(s). This is caused via factors such as low self-esteem, low self-regulation, or low self-efficacy (Siegle & McCoach, 2002). As Siegle and McCoach point out, a student’s self-confidence develops in many different ways and it is that self-confidence that is linked to what type(s), to what level, and even if a student will participate in activities at all. School-related activities could include athletics, band/orchestra, theatre, various clubs, etc. and the student’s self-perception of their skills will influence how much they challenge themselves at and persist in the activities with which they become involved (Ames, 1990; Bandura, 1977; Siegle & McCoach, 2002). Additionally, a student’s self-worth is tied to their abilities within the classroom, which is also known as self-efficacy, and is specific in that their self-concept of their ability is assignment- or situation-specific (Ames, 1990).

A student must have both choice and control over their own learning (Siegle & McCoach, 2002) in order for them to exercise self-regulation, which involves both a student’s organization skills and attitude toward executing tasks (Zimmerman, 1989; Zimmerman & Martinez-Pons, 1986), to occur. Gifted students typically progress through elementary school without experiencing any real challenge, so they often do not develop some of the necessary skills that other students do because of their ability to retain information and process it quickly (Siegle & McCoach, 2002). However, these are skills they will need to utilize as they progress throughout their educational careers and they should include general study skills, note taking, and time management skills (Siegle & McCoach, 2002). The lack of these skills may feed into a larger state of under-achievement, which either limits, or even excludes a gifted student from maximizing their potential. These factors make it essential that schools adopt best practices when identifying, education, and developing the skillsets of gifted students.
Best Practices in Gifted Education

Best practices in gifted education can be divided into four broad areas which feed into a sequence of gifted student actualization. They are identification, educational environment, socialization, and family.

**Identification**

Identification is the first step. Best practices dictate that identification processes, methods, and evaluations be research-based. The most effective research-based practices in student identification for gifted programs are considered to include multiple criteria and do not rely simply on intelligence testing (IQ), because low-income, rural, ELL, and other under-represented populations may not be identified through this traditional measure (Olszewski-Kubilius & Clarenbach, 2012). Utilizing multiple identification criteria from multiple sources, including parents, teachers, testing, performance, etc., can produce more accurate identification that is more representative of the diversity within society (Robinson, Shore, & Enersen, 2007).

With a need to identify giftedness comes a need for some type of testing to gauge levels and types of giftedness, however testing is not a panacea, and is not the only method to use. Whether using intelligence testing, such as the Stanford-Binet and Wechsler series, or achievement testing, such as the Woodcock-Johnson Test of Achievement, testing should always include observation (Davidson Institute for Talent Development, 2004). Observation is broadly defined and can include reviewing a student portfolio, classroom observation, teacher recommendation, peer nominations, student interview, parental nomination, etc. (Davidson Institute for Talent Development, 2004). It is important that whatever identification method is established by a school system, it meets the goals of, and matches, the high ability program requirements (Robinson, Shore, & Enersen, 2007).
Once students are identified as gifted, it is up to the *educational environment* to provide services that best fit the student and their respective setting. As Rogers (2007) points out, there is no specific method or practice that will fit every school and every gifted learner, however, her expansive review of the literature in this area illuminates five important success factors.

Firstly, high ability students need daily challenges in their specific areas of talent. This can be accomplished through the use of one of the many forms of ability grouping (Davidson Institute for Talent Development, 2004; Robinson, Shore, & Enersen, 2007; Rogers, 2007) or through supervised, structured independent learning (Rogers, 2007).

Secondly, on a regular basis high ability students should be provided an opportunity for independent work in their areas of passion. As a result of this opportunity, an improvement in achievement and motivation for learning can be experienced at the secondary education level (Callahan and Smith, 1990; Gladstone, 1987; Rogers, 2007).

Thirdly, high ability students should be provided with various forms of acceleration to meet their educational needs. Acceleration is simple and cost-effective for educational environments to offer and can be accomplished through grade acceleration (a.k.a. grade skipping) or subject acceleration, which allows students to move into higher grade levels for a specific subject(s) based upon their individual needs (Davidson Institute for Talent Development, 2004; Rogers, 2007).

Fourthly, high ability students should be provided with opportunities to socialize and learn with other high ability and/or likeminded peers. When high ability students are grouped in some manner so that they are with students who have similar academic abilities and/or are performing at similar levels, whether part-time or full-time, they experience significant academic
growth (Rogers, 2007). Additionally, they experience positive effects both socially and emotionally (Rogers, 2007).

Fifthly, high ability students should be provided with differentiated curriculums that provide students with an appropriate level of challenge. These curriculums should pay attention to organization of content presentation, amount and type of homework, and the pace of delivery (Davidson Institute for Talent Development, 2004; Rogers, 2007).

To augment the challenge, independent work, acceleration, and differentiation, providing opportunities for and encouraging the development of creativity is another important key within the educational setting. While classroom instructors have several different ways they can encourage creativity in their students, Nickerson (1999) suggests that a student’s personality traits and home environmental factors work together to facilitate or inhibit their creativity. It could seem counter intuitive that academic success would be tied to emotional and other “soft” factors, but their activation apparently affects the harder academic portion of a gifted student’s psyche, and the two actually combine to form the competence, which then gets demonstrated.

Socialization

Socialization is another important best practice. High ability students, like all students, need socialization with like-ability peers. Often high ability students experience problems in friendships due to their asynchronous development. While helping students to socialize with like-ability peers can be accomplished, in part, through ability grouping within the educational environment (Robinson, Shore, & Enersen, 2007; Rogers, 2007) the student’s socialization must also be extended outside the classroom. High ability students should be taught that they can function within several different peer groups, such as an academic peer group, an athletic-
oriented peer group, an extra-curricular activity peer group, etc. (Robinson, Shore, & Enersen, 2007). The diversity of their interests can be mirrored in their social groups, if done properly.

Woven throughout identification, educational environment, and socialization, is Family. Family members, especially, can have the most powerful influence on gifted children – they are largely responsible for the initiation of several avenues of early identification, provision of early literacy, providing emotional support, setting limits, establishing and providing enrichment activities, etc. Corbin and Denicolo (1998) found that the students who were thriving were those who had parents who were interested in the educational system, supported the school, set high expectations for their children, worked with their students’ teachers, placed value upon education and the educational process, and were not distracted by marital crisis. Additionally, it is within the familial environment where students first begin building their understanding of who they are, their value – or perceived value, and what makes them unique (Robinson, Shore, & Enersen, 2007). This initial programming has much to do with the students’ burgeoning competence.

Competence is basically akin to praxis, where the theoretical / potential meets the practice. For gifted students this means that their innate abilities and limitations, their social and familial environments, and their variation from the academic norms combine to provide an overall level of ability to thrive and perform academically within an educational environment. This is one-third of the model for analysis of these students in particular, the other components being autonomy and relatedness.

**Autonomy**

While competence describes a student’s practical ability to excel, autonomy refers to the roots of a person’s behavior and the choices they make. Within the construct of Self Determination Theory, autonomy further focuses on the degree to which a person’s behavior is
self-motivated and self-determined (choice). Virtually everyone has the need to feel in control of their decisions, and their lives, so they can be who they are.

Within the educational environment, this means that students need to be provided with opportunities for personal growth, personal endorsement of their behavior, and the ability to make their own choices and decisions (Deci, LaGuardia, Moller, Scheiner, & Ryan, 2006; Legate, Ryan, & Weinstein, 2012). When students experience systemic support for their autonomy, they feel supported in who they authentically are (Legate, Ryan, & Weinstein, 2012). As a result, they feel safe and empowered to pursue their interests and to hold their own values (Legate, Ryan, & Weinstein, 2012).

This independence of action and core identity has been shown to be a vital component of post-high school accomplishment. Benware and Deci (1984) conducted a study in which they examined the learning outcomes of college students. In the study, one group of students were told they had to teach science materials to others, and the other group of students were told they had to pass an exam. Those who were told they had to teach others developed a deeper conceptual understanding of the material. This study not only demonstrated intrinsic motivation, but illustrated one way in which teachers can affect autonomy within the classroom; by reducing exams/evaluations and encouraging active student participation in learning (Benware & Deci, 1984; Kowcz, 2015; Niemiec & Ryan, 2009). Deci, Koestner, and Ryan (1999) found that external rewards, such as an exam grade, tend to have a substantially negative effect on intrinsic motivation by reducing or eliminating their ability to self-motivate and self-regulate.

Additionally, autonomy plays a vital role in each student’s psychological health as well as in their overall well-being. It does so by allowing them to feel like they have control over their daily decisions as well as the way in which they carry out their lives (Cherry, 2019). It suggests
that students are motivated to grow, develop, expand, and change through their own inherent psychological needs (Cherry, 2019). Legate et al. (2012) suggest that when people feel support for their autonomy, for being who they genuinely are, they feel able to truly express themselves, pursue their interests, and follow their values.

As with competence, there are competing factors that may inhibit and facilitate the feeling of being able to be oneself. This is true for all gifted students, but it may be different for gifted students who are non-heterosexual and/or non-gender conforming.

**Factors That May Inhibit the Feeling of Being Able To Be Oneself**

Many people feel the need for control, when a student is in a low autonomy or controlling social context they will feel pressure to accomplish a specific outcome (Legate et al., 2012) regardless of how that outcome aligns with their own ideas, needs, or preferences. This control can either be a direct external form of control or control through expectation and/or contingent reward (Legate et al., 2012; Roth, Assor, Niemiec, Ryan, & Deci, 2009). The locus of control is crucial and is actually the locus of self-determination.

Autonomy support is characterized by accepting others as they are. The amount and type of autonomy support a student feels within their educational setting will determine what they share with others about their personality and themselves (Legate et al., 2012). This is particularly relevant with the extent to which non-heterosexual or non-gender conforming students may come out in a given setting or with a particular person or group of people. If there is not support for a student’s autonomy then the self they display may be false, a poor basis upon which to build and sustain competence or relatedness.

In a study conducted by Hutcheson and Tieso (2014), some LGBTQ+ students reported feeling uncomfortable in some of their classes or extra-curricular activities due to
heteronormative activities and comments which, in part, caused them to feel separate from the rest of the class. This caused for them a feeling of separation, a lack of validation or acknowledgment that they exist (Wiest, Brock, & Pennington, 2016). Additionally, it was noted that some LGBTQ+ students indicated they felt different not only due to their sexual orientation or gender identity/expression but also because of their giftedness, causing them to feel twice alone (Hutcheson & Tieso, 2014).

Fear of rejection by the people who are in their environment is another inhibiting factor. There are very real fears of not being accepted for who they are as individuals, of experiencing social repercussions, and of encountering discrimination and open harassment (DeWitt, 2012) from both institutions and individuals. This is often exacerbated by worry over whether or not their parents, friends, and teachers will accept them when they openly identify as LGBTQ+ and whether or not they will still be treated the same as they were when familial and societal connections viewed them as “normal” (Hutcheson & Tieso, 2014; Wiest, Brock, & Pennington, 2016; Youth.gov, n.d.).

The factors are not only found within the individual’s feelings and their social context, there are also factors which are systemic in nature. As an example, there are often inadequate support systems within the school, which inhibit a student from being who they are (Youth.gov, n.d.) with the same level of support as those who are publicly settled into their identity. There are tutors who work with athletes on teams and there are IEP conferences for students who have been identified as being in need of services. Those, and other support systems exist for clearly-identified groups of students, however the identification process is the difference. Within our heteronormative society, unless a student is out, they do not have the support of other non-heterosexual and/or gender non-conforming students; thus student do not have a sense of
community (Wiest, Brock, & Pennington, 2016). In a study conducted by Safren and Pantalone (2006) about social anxiety and resilience among LGB youth, they found that social anxiety in lesbian and gay students was associated with lower satisfaction of their social support systems, which was predictive of depression and suicide ideation, above and beyond the traditional effects of social anxiety.

Finally, stress is another significant inhibiting factor on being one’s self. Non-heterosexual students may experience heightened levels of stress from trying to hide their sexual orientation (Wiest, Brock, & Pennington, 2016) from their classmates, families, friends, etc. because of the aforementioned biases. As a result, within the educational environment, that heightened stress is often manifested in higher rates of absenteeism, decreased academic performance, and lower college aspirations (Wiest, Brock, & Pennington, 2016).

**Factors That May Facilitate the Feeling of Being Able to Be One’s Self**

The complete breakdown and restructuring of the heteronormative society at large to one that is fully inclusive is overwhelmingly difficult to imagine and will, undoubtedly, take some time to achieve. Within the current school system, however, there are things that can be done to aid all students in general – and LGBTQ+ gifted students, in particular - in being able to be who they are.

Safety is a basic need, and all students need to feel safe. It is the duty of all schools to provide equal access to education as well as equal protection for all students. Unfortunately, as statistics illustrate, for many non-conforming students, school is not safe and instead of education being the priority, that lack of safety means trying to be safe is (Weiler, 2003).

Therefore, it is vital that school leadership create and enforce policies that prohibit discrimination and bullying which specifically and clearly state that they include bullying on the
basis of sexual orientation or gender identity. Creating such policies provides administrators and teachers with expectations and direction, as well as enforceable disciplinary and legal consequences should such discrimination and/or bullying exist (DeWitt, 2012; Sadowski, 2017). By feeling and seeing the support of their school system, teachers and administrators are more likely to step in and engage students in anti-discrimination/anti-bullying education and redirection in an effort to create a more inclusive and respectful environment (DeWitt, 2012).

In order for administrators and teachers to fully understand the issues gifted LGBTQ+ students face, and to begin developing a non-heteronormative school climate, colleges and universities must do a better job with incorporating LGBTQ+ topics into their training and licensure programs (Boyland, Swensson, Ellis, Coleman, & Boyland, 2016) and schools must incorporate ongoing professional development as a vital component of a professional approach. It is particularly important that all school personnel have a solid foundation in understanding sexual orientation, the LGBTQ+ social movement in America, the effects of mainstream religious influence, current adolescent psychological perspectives, social norms, and the conditions of members of the LGBTQ+ community and the law.

**Understanding Sexual Orientation**

A person’s sexual orientation is, in American society, one of the most focused-on aspects of their identity, and plays a large role in the ways that challenges are presented in their lives. From social stigmas to religious beliefs to legal definitions - even to psychological definitions - the interaction between society at large and the LGBTQ+ community has been difficult. To unpack this, the component parts must be analyzed so that the sum of the parts can be understood.
Currently the American Psychological Association (APA) (2008), states that, clinically, sexual orientation is about whom a person is attracted to and with whom they want to have an emotional, romantic, and/or sexual relationship. Furthermore, from a clinical standpoint the APA states that while contemporary society tends to think of sexual orientation as having three categories (heterosexual, gay/lesbian, and bisexual), sexual orientation actually runs along a continuum that has at one end heterosexual (opposite sex) orientation and at the opposite end, homosexual (same sex) orientation, with variance in-between. The socialized definitions, though, are as varied and sometimes incendiary as any others in a modern social context.

Adding to the confusion and disagreement/vehement opinions is the lack of common clarity in the general population about the definition and meaning of terms such as “gender,” “sex,” “orientation,” and others. Due to this lack of knowledge, each member of society is left to apply whatever socially-contextual definition which they may have acquired to those who are in the LGBTQ+ community. In an interesting parallel to the giftedness identification difficulties caused by leaving that determination up to each state, focusing on Indiana especially, and each school system to provide their own definitions and identification of giftedness and the resulting spread of methods and results, this spectrum of understandings and perceptions about the above terms provides additional barriers in the process of identifying gifted LGBTQ+ students. In educational circles there are occasionally references to an individual being twice gifted, but in this situation, a gifted LGBTQ+ student might be considered to be twice stigmatized.

For clarity, sex and gender are terms often used interchangeably in discussions and in the basic understanding of general society, however, to be accurate, they are quite different in actual definition. Sex is a biological term which refers to the physical body with which a person is born. Biologically, bodies have either male or female genitalia, with the exception of .5% of the
population which is hermaphroditic (Hida, 2015). Gender, on the other hand, is considered to be a cultural affectation, a social construct. People are assigned a gender by society (boy or girl; man or woman) and either come to identify with that label – or not – through further socialization (Stryker, 2017). The gender label generates a large flashpoint currently as gender and sex are intermingled in the patois of the public, and there is a major backlash against any idea considering the concept of sex and gender as being entirely separate things.

This pressure shows up in the LGBTQ+ student’s life via a sometimes expressed sentiment that they do not “belong” to either one of the two gender checkboxes on the form used so thoroughly in all manner of record-keeping. One explanation of that sentiment, at least in part, is the concept of gender dysphoria, which is an unhappiness that results from an incongruence between how an individual perceives their gender and how their gender is perceived by others (Stryker, 2017). By combining the concepts of gender and sex, a forced norm/binary choice communicates very clearly that, if there is no proper description for who you are, your only option is to assume one of the two identities, neither of which really fits. There can be little confusion then about why a young person would feel they have to hide themselves.

**Brief Narrative of the Early LGBTQ+ Social Movement in America**

Many of the difficulties for LGBTQ+ identifying students have roots in the modern social context so it is appropriate to review the LGBTQ+ social movement in a historical context, to understand where the current conflict comes from. The early social movement saw non-heterosexual people move from a relatively peaceful co-existence with heterosexual people, to being victims of ostracism within popular society.

In the United States during the Harlem Renaissance (1920s), gay life began to flourish in urban areas such as Greenwich Village and Harlem (Morris, n.d.). Prohibition’s speakeasy clubs
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displayed a defiance of both race and sex roles by introducing straight patrons to the gay underworld via an entertainment route, with gay and lesbian issues highlighted in blues music and celebrated in the performances of drag stars, both male and female (Morris, n.d.).

While weathering the Great Depression (1929-1939), “the closet” also began to develop. “The closet” is a term that means to hide away, in this context, specifically, to hide away what was considered a deviant sexual orientation. This was due, at least in part, to the commonly seen scenario of men struggling to provide economically for their families within a societal context which held them as the breadwinners. Jobs, money, and food were scarce, and so the pressure on society switched from a standard of co-existing within a tableau of plenty to a standard of surviving within an environment of scarcity, a transition that does not bring out the best behaviors, or results from society in general. This struggle made gay men and lesbian women seem like threats, not only in the workplace but to traditional gender roles as well (Stulberg, 2018), and in that framework of scarcity, the scapegoat philosophy grew into a factor. Anyone in a non-traditional segment of the population became the “them” who were “stealing” the jobs, replacing the “good people” – the traditional reactions seen repeatedly in recent history. The “then” changes, but the scapegoating tactic remains the same.

Even though the ostracization was happening nationally, during the pre-World War II era in New York, gay men integrated themselves into the social lives of their heterosexual neighbors and neighborhoods (Stulberg, 2018). They developed dress codes, style, and speech that allowed them to identify other non-heterosexuals without having to ask (Stulberg, 2018). They participated normally in society and, perhaps most powerfully, non-heterosexual people did not consider themselves to be sick or criminal, which society did (Brownworth, 2015) due to the definition by the American Psychiatric Association, which classified homosexuality as a mental
disorder. During that time, non-heterosexual society celebrated their differences (Stulberg, 2018) as they began to fight against homophobia.

America’s involvement in World War II (1939-1945) fundamentally altered the country’s perceptions and usage of all manner of resources. There were fuel rations, meat rations, and a suspension of barriers to becoming a soldier, as a larger goal emerged. This brought with it the dissolution of some of the hard rules around gender roles because it created a human resources problem: it created the demand for women to enter the workforce as men went off to battle (Faderman, 1991; Stulberg, 2018). This temporary change brought about by need added additional challenges to the already troubled notion of gender roles. Until this point, the military had not banned or excluded gay men, and had no policies regarding barring lesbian women from service (it should be noted that females in general were forbidden to serve as soldiers no matter their orientation, being relegated to nursing or canteen-type work for the most part), but had instead just criminalized sodomy between men (Berube, 2010). As is the case most of the time, situational expediency trumps the rules at a given point in time, and the struggle with gender roles and the military exclusion had to be put aside following the bombing of Pearl Harbor (Stulberg, 2018). Eventually the newly enlisted non-heterosexual men and women found one another (Duberman 1993; Stulberg, 2018) and “…developed collective identities and a new sense of shared experience, came out, and built communities” (Stulberg, 2018, p. 15). This experience changed their collective identity as they began to realize their strength and acknowledge their pride in their wartime contributions (Stulberg, 2018).

Emerging from World War II, the military side-stepped the natural by-product of their suspension of policy, which allowed non-heterosexual individuals to serve, and instead changed the focus from the legality of homosexuality to its classification as a mental illness and thusly
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relied on an oversimplification of the fear of serving with someone who was mentally ill to legitimize discriminating against the non-heterosexual (Berube, 2010; Faderman, 2015; Stulberg, 2018).

In 1949 the Department of Defense once again banned homosexuals from the military (Faderman, 2015; Stulberg, 2018) based largely on the belief that they were not sound of mind. Then, not to be outperformed by the military side of the governmental structure, Congress became involved in the issue and desired to enact a more restrictive environment for non-heterosexuals when, in 1950 the U.S. Senate published a report urging the president to sign an order banning all gay and lesbian people from holding federal jobs (D’Emilio, 1998; Stulberg, 2018). The senate stated that this was imperative because of the purported lack of emotional stability and lack of moral fiber on the part of the non-heterosexuals, which they determined would be destructive to the work environment (D’Emilio, 1998; Stulberg, 2018) and, furthermore, that due to the increased risk of blackmail toward gays who were in the closet, their employment could pose a risk to national security (Stulberg, 2018; Brooks, 2015). In April of 1953, the executive branch demonstrated agreement when President Dwight D. Eisenhower signed Executive Order 10450 (Stulberg, 2018) to remove all homosexual federal employees from their places of employment (Stulberg, 2018; Safe School Coalition, n.d.).

The next decade was one of repression and the “Red Scare” (the fear of the rise of communism), and so it was not until June 28, 1969, when a major turning point occurred for gay liberation in the United States.

In the early morning hours of Saturday, June 28, 1969, nine policemen entered the Stonewall Inn, arrested the employees for selling alcohol without a license, roughed up many of its patrons, cleared the bar, and—in accordance with a New York criminal statute that authorized the arrest of anyone not wearing at least three articles of gender-appropriate clothing—took several people into custody. It was the third such raid on Greenwich Village gay bars in a short period.
This time the people milling outside the bar did not retreat or scatter as they almost always had in the past. Their anger was apparent and vocal as they watched bar patrons being forced into a police van. They began to jeer at and jostle the police and then threw bottles and debris. Accustomed to more passive behaviour, even from larger gay groups, the policemen called for reinforcements and barricaded themselves inside the bar while some 400 people rioted. The police barricade was repeatedly breached, and the bar was set on fire. Police reinforcements arrived in time to extinguish the flames, and they eventually dispersed the crowd (Encyclopaedia Britannica, 2017, “The Riots,” para. 2-3).

This was referred to as the Stonewall Riot, and it ebbed and flowed for six days and nights (Stulberg, 2018). It was strongly influenced by transgender women, who stood up against the police on that first night when, as was the commonly-done practice during such raids, the police tried to examine them in order to substantiate “masquerading” charges (Mogul, Ritchie, & Whitlock, 2011; Stulberg, 2018).

Just as it was not the first time a raid was carried out, Stonewall was not the first time that the homosexual community stood up and fought together, but it was the one that finally stuck (Mogul et al., 2011; Stulberg, 2018). It was the pivotal moment in time that brought about a change in the degree of political activism within the homosexual community and launched the beginning of the fight for gay civil rights (Encyclopaedia Britannica, 2017; Stulberg, 2018). Within a few weeks of Stonewall, the Gay Liberation Front formed. Their focus was to become visible, to come out of the closet and begin to demonstrate that there was strength in numbers.

Today, almost 50 years after Stonewall, gay men and lesbian women are more culturally visible, however they still must fight against fear, stereotypes, oppression, and repression, all of which continue to make it difficult to come out of the closet to begin with. As Walters (2001) explains, there is a big difference between being culturally visible – being seen, or recognized - and being culturally included – having the same rights, responsibilities, expectations, opportunities, etc. as heterosexual counterparts without the constant battle to just exist. In general, the most easily recognizable type of cultural visibility is media visibility as the screen
tends to be a mirror of society. Where it was once taboo to even acknowledge the existence of non-heterosexual relationships, today non-heteronormative people, couples, experiences, etc. can been seen on television shows and in movies, which is a step towards inclusion. While this is a positive step forward it is not complete and inclusive in holistic terms, and more is needed, especially for those who are wear both identifiers – Non-Normative and gifted.

Summary

The history of the LGBTQ+ movement is a chronicle of a group which has existed since before recorded history, yet with the passage of time has been continually pushed to the fringes of society. Even though the expediency of “all hands on deck” in the Second World War temporarily eased the societal tension surrounding acceptance in society, that soon changed, and the current situation – fighting for equality in life, to be free from undue persecution, and for societal receptiveness to accepting variation – came to be. The LGBTQ+ movement has faced several challenges with mixed results, from federal marriage equality success to state-based failures such as failure to lobby successfully against Indiana’s Religious Freedom Act.

LGBTQ+ and Religion

The impact of religion on society might be well summed up in a quote from George Washington, from a letter he wrote to Sir Edward Newenham on June 22, 1792:

Religious controversies are always productive of more acrimony and irreconcilable hatreds than those which spring from any other cause; and I was not without hopes that the enlightened and liberal policy of the present age would have put an effectual stop to contentions of this Kind (National Archives, n.d.).

Truly, depending on one’s upbringing and the part of the country where one lives, religion could play a role in how a non-heterosexual cisgendered person is socialized, how they navigate society, and even in the status of their overall emotional health. This heavily religion-
oriented discussion regarding non-heterosexual relationships is at the center of a large stumbling block within society.

According to the 2017 Gallup (Newport, 2017), Pew Research Center (Hackett & McClendon, 2017), and WorldAtlas (n.d.) report, Table 2 shows the five most dominant world religions in comparison to those that are most dominant in the United States.

Protestantism/Christianity is the most dominant religion worldwide, including in the United States, with an estimated population of 2.3 billion adherents (Hackett & McClendon, 2017). Islam is the second largest religion on the worldwide scale and is at number five in the United States (Newport, 2017). However, according to Chappel (2015), Islam is expected to surpass Christianity by 2070 if its current growth trend continues, at its current rate of a 73% increase. He states that Christianity is expected to grow by 35% during that same time period. This is due, at least in part, to fast growing populations in some of the geographic areas where Christianity has a foothold (Chappel, 2015).

Table 2

<table>
<thead>
<tr>
<th>USA</th>
<th>Worldwide</th>
</tr>
</thead>
</table>

The Five Most Dominant World Religions
According to the Pew Research Center (Masci & Lipka, 2015), a generalized overview of the position some major religious denominations have on same-sex marriage is shown in Table 3, which leads to the question that if there are three possible positions to take – pro, con, and no position – why is the approved choice for gender considered to only be binary.

Table 3

<table>
<thead>
<tr>
<th>Religions’ Stand on Same-Sex Marriage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sanctions</td>
</tr>
<tr>
<td>Conservative Jewish</td>
</tr>
<tr>
<td>Episcopal Church</td>
</tr>
<tr>
<td>Evangelical Lutheran (US)</td>
</tr>
<tr>
<td>Presbyterian (US)</td>
</tr>
<tr>
<td>Reformed Jewish</td>
</tr>
<tr>
<td>Society of Friends</td>
</tr>
<tr>
<td>Unitarian Universalist</td>
</tr>
<tr>
<td>United Church of Christ</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

In Indiana, 72% of the adult population report being Christian, 2% are of Non-Christian faiths, and 26% are not affiliated with any organized religion (Pew Research Center, 2014).

Indiana’s religious composition, as reported in the Religious Landscape Study by Pew Research Center (2014) is shown in Table 4.

Table 4
Religious Composition of Adults in Indiana

<table>
<thead>
<tr>
<th></th>
<th>Christian</th>
<th></th>
<th>Non-Christian</th>
<th></th>
<th>Unaffiliated</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Evangelical Protestant</td>
<td>31</td>
<td>Jewish</td>
<td>1</td>
<td>Atheist</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Mainline Protestant</td>
<td>16</td>
<td>Muslim</td>
<td>&lt;1</td>
<td>Agnostic</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Historically Black Protestant</td>
<td>5</td>
<td>Buddhist</td>
<td>&lt;1</td>
<td>Nothing</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Catholic</td>
<td>18</td>
<td>Hindu</td>
<td>&lt;1</td>
<td>Don't Know</td>
<td>&lt;1</td>
<td></td>
</tr>
<tr>
<td>Mormon</td>
<td>1</td>
<td>Other World Religions</td>
<td>&lt;1</td>
<td>Other Faiths</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Orthodox Christian</td>
<td>&lt;1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jehovah's Witness</td>
<td>&lt;1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Christian</td>
<td>&lt;1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Pew Research Center; Religious Landscape Study

Religion is by and large practiced by the vast majority of the human race as a way to infer, understand, and relate to life, the unknown, and the vastness of the universe and the human experience. Indiana ranks 22nd in the nation when looking at the most religious states. Additionally 53% (20th nationally) of Hoosiers say religion is very important to them, while only 37% (18th nationally) attend church services weekly (Lipka & Wormald, 2016). For many people religion serves as a source of strength, a place of belonging and community, and aids followers in developing self-identity (Kashubeck-West, Whiteley, Vossenkermer, Robinson, & Deitz, 2017), however, for LGBTQ+ and gender non-conforming people, who have an extra degree of uncertainty when it comes to belonging to society in general, much less a specialized segment, it can send negative messages that hinder self-acceptance.

While some progress has been made toward improving both acceptance and the feeling of being accepted, the majority of mainstream religions view non-heterosexual individuals in a negative light, as flawed, or rebellious people, and deny them the ability to participate in organized religious activities, either totally rejecting them, or refusing them the ability to participate in leadership/fellowship. The outright rejection in such a base-level arena of human
life as religious participation, has influence upon a person that is hard to completely get past and likely plays a role in their psychological development.

**Review of Recent Adolescent Psychological Perspectives**

True to the natural desire to understand differences, the attempts to determine why people are non-heterosexual have posited a broad gamut of reasons. According to Forssell (2017), a small subset of past reasons include, but are not limited to, Kraft-Ebbings’ “loathsome disease”, Freud’s two concepts of “inadequate negotiation at the phallic stage” and genetic determinism, and Skinner’s learned behavior or “culturally constructed gender”. These theories can be reduced to the age old question of nature (they were born that way) versus nurture (mistakes were made in parenting/they chose to be that way) (Forssell, 2017). There are even theories unifying the two, for example according to Bailey, Vasey, Diamond, Breedlove, Vilain, and Epprecht (2016), sexual orientation is genetically and biologically driven but heavily influenced by the society in which they live as to how they express or suppress their orientation.

One key piece of research come out in 1957 when Dr. Evelyn Hooker published a study in which she compared gay men and heterosexual men and found the two groups were not psychologically different from each other (Forssell, 2017; Hegarty, 2018; Milar, 2011). Dr. Hooker, who chaired a study at the National Institute of Mental Health, recommended that private sexual acts committed between two consenting adults were not criminal and should not be considered as such (Hegarty, 2018; Milar, 2011; Safe School Coalition, n.d.). This was a major departure from the thinking of the time and it was so ingrained in the psyche of the time that it was not until 1973 when the American Psychiatric Association removed homosexuality from the list of disorders in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM) where it had been since 1952 (Forssell, 2017; Hegarty, 2018).
As homosexuality was removed, the APA focused on gender to attempt to explain differences, and the diagnosis of Gender Identity Disorder in Childhood was added to the DSM-III (Hegarty, 2018) in 1975. This diagnosis was indicated by two criteria: “cross-gender identification and persistent and intense distress about being assigned as a boy or as a girl” (Hegarty, 2018, p. 19). In 2013, the DSM did reclassify transgender individuals from having “gender identity disorder” to having “gender dysphoria” (Davy, 2015; Forssell, 2017) which changed the emphasis to the individual’s disconnect between sex at birth and gender (Davy, 2015; Forssell, 2017), rather than asserting that a defect exists.

According to Forssell (2017) recent research has moved to using a two-stage question about gender identity: A) sex assigned at birth and B) present gender identity. This addresses the broad issue within society where there is a widely-held misconception about the meaning of biological sex and the meaning of gender, the vast majority of the time the two being viewed as identical/interchangeable. A question about sex is capturing the biological data and a question about gender is capturing the social construct. This two stage approach allows for a deeper understanding of the person and their experiential spectrum. Though this may also be flawed as it addresses sex at birth and present day gender identity, but does not address present-day sex, when using the definition based upon genitalia and not chromosomes.

Understanding these two identities is still dependent on an incomplete base of knowledge. Each identity must be understood through the processes/stages of its development, and since the identities are human identities, they need to be studied in terms of how the human developed. According to Stephen L. Forsell (2017), LGBTQ+ individuals, like all people, go through four developmental stages that span a person’s life time: “toddler and childhood”, “adolescence”, “early- to mid-adulthood”, and “later adulthood and old age.” Each stage presents
specific developmental characteristics. Of particular relevance to this study are the first two stages, “toddler and childhood” and “adolescence,” which are discussed here in more detail.

The *toddler and childhood* stage brings with it both the realization of gender identity and sexual orientation. An emerging LGB or T identity can begin as early as toddlerhood (pre-school age) and childhood (early elementary school) (Forssell, 2017) and most children are aware to which sex they are attracted around age 9-10 (DeBord, Fischer, Bieschke, & Perez, 2017; DeWitt, 2012). This knowledge and attention to this issue may have led to some gradual changes in societal viewpoints. A recent trend shows that society is becoming more open to the diversity within the area of gender identity (Forssell, 2017). As an example, in a 2009 study by Hill and Menvielle, they found that parents with gender variant (gender identity and sex do not match) children are increasingly beginning to accept and support their children, rather than to try to change them, point blame, or trying to “fix” them. Along with this there has been an increase in the number of, and participation in, parent-oriented support groups (Forssell, 2017).

In helping youth to actualize their identities, parents have turned to medicine to support their children in being who they are. However, there is a medical/physiological-based concern specific to this age range about the use of hormones or hormone blockers at the onset of puberty, because hormones and hormone blockers have powerful effects on the human body in a number of ways (Fernandez, Guerra, Diaz, Garcia-Vega, & Alvarez-Diz, 2015; Forssell, 2017) including psychosexually, physiologically, biologically, emotionally, socially, and others. The concern forms one side of the debate about when the best time to administer these body altering drugs is, since not all self-identified transgender children will carry this identity into adolescence (Forssell, 2017; Zucker, 2008). A permanent physical change made for a transitory reason could cause serious issues during the formative years when identity can be fluid.
The change to the next life phase - *adolescence* – can be a difficult time in the life of just about every young person, however, for LGBTQ+ persons, it can be even more difficult as they deal with increased levels of physical harassment, bullying, verbal harassment, and assault because of their sexual orientation or gender identity (DeWitt, 2012; Kosciw, Greytak, Giga, Villenas, & Danischewski, 2016). While these rates are increasing (Kosciw, et al., 2016) the age at which LGB are coming out is getting earlier (DeWitt, 2012; Horowitz & Itzkowitz, 2011). Whether done from a standpoint of more support from within the individual’s peer and/or familial support structure, from a standpoint of establishing identity earlier so that society can “just deal with it,” or even from access to more encouragement due to the changes in social structure and social media, the cause of early declaration is perhaps secondary to the importance of understanding the effects it has on the individual who comes out.

LGBTQ+ youth can vary greatly in the timing and pathway taken for their gender identity and development (Rosario, Schrimshaw, Hunter, & Braun, 2006) as well as the age at which they come out to themselves, their families, and their peers. In late 2003/early 2004 the average age of coming out to a student’s peers was 17 compared to 18-24 for previous cohorts (Forssell, 2017; Grov, Bimbi, Nanin, & Parsons, 2006). Just a few years later, in 2008, a study of 133 gay and lesbian youth was conducted which showed the average age of coming out to their peers had decreased to 14.5 years (D’Augelli, Rendina, Sinclair, & Grossman, 2008; DeBord, Fischer, Bieschke, & Perez, 2017). According to Forssell (2017), transgender youth tend to come out to their peers much later. In some ways this is an interesting point to consider, since the topic of homosexuality is at a point of greater acceptance than the topic of transgenderism, even among the LGBTQ+ community (Forssell, 2017).
The trend of coming out earlier is due, at least in part, to societal changes which have brought about access to information via the internet, role models in media and in hometown communities, and legal progress. Social media can have positive impacts on LGBT youth, such as access to information, role models, and support groups, as well as negative impacts, such as cyber-bullying, misinformation, and harassment (Forssell, 2017). Unfortunately, youth who on average become aware of their same-sex attraction at around 9-10 years of age may experience 5 or so years of awareness without the support of friends or family (DeBord et al., 2017; DeWitt, 2012) which may elevate the importance of and reliance upon social media, positively or negatively oriented.

Summary

While all people go through the four developmental stages, each with their own importance, experiences, and impacts, the toddler and childhood and the adolescence stages provide a salient background for this study. As early as the toddler and childhood phase, the LGBT identifier can emerge as well as the awareness of sexual attraction. The life phase of adolescence introduces pressures and stressors, and, though support and encouragement are more available then they have been, there is a long journey from “something is wrong with you” to “you are you.” The comfort level with expressing a non-heterosexual identity has migrated from early adulthood to the mid-teens, the comfort level with expressing a transgender identity has lagged notably behind. In either case, even social acceptance and family acceptance will not place an individual into a place of wholeness if, legally, they do not enjoy an equitable playing field.

LGBTQ+ Legal Highlights
A hallmark of American political history is embedded in the beginning of the second paragraph of the Declaration of Independence: “We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable rights that among these are life, liberty and the pursuit of happiness.” The practical reality, though, is that equality is elusive until events and efforts bring it about, in specific terms the process of human progress is iterative, with clarifications and refinements adding to the quality of life. Take for example the U.S. Constitution. As written, it was a revolutionary document that changed the way about which government was thought. As revolutionary as it was, though, it needed more specificity in order to, paradoxically, be more generally relevant. A major revision, in Constitutional terms known as an Amendment, was the 14th Amendment. It was added in 1868, following the Civil War, in response to the need to make clear that freedom applied to all, and to ensure citizenship and equal rights for former slaves. The amendment requires states to provide equal protection to all citizens of their state. States cannot create arbitrary groupings of people against whom to discriminate under the guise of law (Hegarty, 2018). As interpreted by society, this was considered to primarily include discrimination based on race or national origin. Later, the 19th Amendment gave the right to vote to women, in fact adding females to the list of “suspect groupings.” However, it was not until the 1980s that sexual orientation and gender identity were considered a part of this grouping (Hegarty, 2018).

Sodomy

As part of the opening of the umbrella of protection for non-standard classifications of individuals, sodomy, the most tightly regulated expression of sexual desire, began to be examined by the legal system. By the early 1980s the inclusion of sexual orientation and gender identity to the list of “suspect classes” meant that most states had either repealed their sodomy
laws, or at least lessened the penalties for violations (Hegarty, 2018). An important case pertaining to sodomy law is that of the People V. Ronald Onofre, et al., which was a case that consolidated several other cases which challenged the constitutionality of the New York Penal Law that made it illegal to engage in anal or oral sex with another person. Argued on December 18, 1980, in a 5-to-2 majority opinion, Judge Hugh R. Jones wrote:

(T)he People have failed to demonstrate how government interference with the practice of personal choice in matters of intimate sexual behavior out of view of the public and with no commercial component will serve to advance the cause of public morality or do anything other than restrict individual conduct and impose a concept of private morality chosen by the state (Leagle, Inc., 2019).

In 1986 the case of Bowers v. Hardwick challenged the state of Georgia’s sodomy law. In this case, a police officer entered Hardwick’s home to investigate a defunct warrant (Hegarty, 2018) and interrupted Hardwick and another man having sex (Cornell Law School, n.d.; Hegarty, 2018). Hardwick was arrested and later sued the state’s attorney general, Michael Bowers (Hegarty, 2018). Joining in Hardwick’s defense was the Americana Civil Liberties Union (ACLU), the APA, and the American Public Health Association (APHA) (Hegarty, 2018). The U.S. Supreme Court upheld (5-4) the Georgia state law banning sodomy (Cornell Law School, n.d.; Daum, 2017; Hegarty, 2018).

The Hardwick case brought LGBT privacy rights, liberty guarantees, and equal protection into greater focus within social circles and legal arenas (Daum, 2017). The resulting support, changing society and social norms, and other factors finally reached critical mass, and the Hardwick ruling was overturned 17 years later in Lawrence v. Texas in a 6-3 decision (Biegel, 2010; Daum, 2017; Urofsky, n.d.).
Marriage

Childhood brings with it an anticipation of what adult life will be like. Adults ask children about their future plans – what they will study in college, what they want to be when they grow up, do they want to have children, etc. Given that marriage is such a common function in American society, it is definitely relevant to holistic development of adolescents. This single concept of marriage became a primary subject of the early social movement and early focus in the LGBT rights movement in the United States. In 1953, ONE magazine published an article on the question of same-sex marriage and urged the LGBT movement to consider the implications of seeking the ability to marry (Ball, 2016; Stulberg, 2018). After 15 years, in 1968, the summer following the Stonewall Riots, the first same-sex couples were married by the Metropolitan Community Church ministers (Ball, 2016) in California. In early 1970 about a dozen same-sex couples applied for marriage licenses and were turned down (Ball, 2016; Stulberg, 2018). Three of the couples sued saying that their Constitutional rights had been violated, which the courts rejected (Ball, 2016; Stulberg, 2018).

The next step in the evolution of LGBTQ+ marriage rights was centered around a degree of governmental permission. That was found in 1975, when a Boulder, Colorado county clerk and president of the local chapter of the National Organization for Women, became the first government official in the U.S. to issue same-sex marriage licenses (Ball, 2016). The state attorney general later deemed them invalid (Ball, 2016), but they had been issued officially, beginning forward motion as a sanction, however brief.

According to Ball (2016), while the Metropolitan Community Church ministers continued to marry dozens of same-sex couples each year, the 1980s saw a push for more limited forms of relationship recognition through concepts such as domestic partnership. A domestic
partnership is an alternative to marriage and provides same-sex couples a way to define their relationship, as well as provides them with some of the same marital benefits heterosexual couples have. Ball (2016) reports that some LGBT activists expressed concerns over expanding the scope of marriage and supported these alternative forms of recognition. In contrast, hundreds of same-sex couples participated in a marriage ceremony during the 1987 gay rights March on Washington (Ball, 2016; Daum, 2017).

Then in 1999 the Vermont Supreme Court stated that denying same-sex couples the right to marry and the benefits that come with that is a violation of their state constitution (Ball, 2016). The following year, the Vermont State Legislature enacted the country’s first civil union law which provided same-sex couples with the same rights and benefits that heterosexual married couples were afforded (Ball, 2016). Shortly thereafter, in 2003, the Massachusetts Supreme Judicial Court became the first state to hold that their state’s constitution required granting same-sex couples the opportunity to marry (Ball, 2016). Quickly following suit were the supreme courts of California, Connecticut, and Iowa; however, just as quickly Maryland, New York, and Washington upheld their states’ bans on same-sex marriage (Ball, 2016).

This mixture of results demonstrated that while limited progress was made, same-sex marriage was still contested. In the 2000s, more than half of the U.S. states passed amendments prohibiting the recognition of same-sex marriages (Ball 2016). One of the more notable amendments was California’s Proposition 8. On June 29, 2008, Proposition 8 received support from the Church of Jesus Christ of Latter Day Saints (LDS) (Camicia 2016; Rosky, 2016). In a letter from the First Presidency of the LDS read to their congregations during Sunday services in California, the church said that, “The church’s teachings and position on this moral issue are unequivocal,” and encouraged believers to, “do all you can to support the proposed constitutional
amendment by donating of your means and time.” The statement continued, “Local church leaders will provide information about how you may become involved in this important cause” (Mormonnewsroom.org, 2008; Rosky, 2016) Proposition 8 received a majority vote and brought to an end to the issuance of marriage licenses which had begun a few months prior based upon the state’s supreme court overturn of the same-sex marriage ban (Ball, 2016).

In 2013 in the United States v. Windsor, the US Supreme Court held that the national Defense of Marriage Act (DOMA) could not deny federal marriage benefits to same-sex couples who legally marry (Ball 2016; Daum, 2017). In 2014 the number of states that allowed same-sex marriage more than doubled, from 16 to 35 (Ball, 2016).

The cavalcade of states deciding in favor of permitting same sex marriage led to the issue being relevant enough for the Supreme Court to decide as to whether or not the federal Constitution guarantees same-sex couples the right to marry. In 2015, via the case of Obergefell v. Hodges, they decided that the right to marry applies equally to same-sex couples and declared state prohibitions on same-sex marriage to be unconstitutional (Ball, 2016; Daum, 2017).

Summary

The journey toward equality of legal status and equal treatment has made a ponderous journey from a sentence in the Constitution all the way to a recent Supreme Court ruling. This journey included pushes to legalize consensual sexual expression, to the declaration as unconstitutional any state’s declaration of same sex marriage to be illegal. There are still many obstacles to overcome and battles for rights to be fought, until full inclusion is experienced. The quest for equal rights is accomplished a state at a time.

Best Practices for Supporting LGBTQ+ Students in School
All educational institutions should provide their students with a safe and supportive environment so that they may learn, grow, and thrive. As discussed previously regarding gifted identification, without a standardized methodology of doing something, there will be variations of approach that will be less effective. So, to promote a consistently effective effort to support LGBTQ+ students, Boyland, Kirkeby, and Boyland (2018) conducted a comprehensive review of literature and identified thirteen best practices for schools to implement in supporting this student population. Their thirteen practices they identified follow.

1. Develop, implement, and enforce anti-bullying policies that specifically enumerate sexual orientation and gender identity. An example demonstrating the importance of this is found in the news of August 2019, when an 8th grader from the Alexandria-Monroe School Corporation (Indiana) was beaten in the locker room for being outwardly gay (Longnecker, 2019). A review of the corporation’s bylaws and policies on bullying (Alexandria Community School Corporation Bylaws and Policies, 2018) finds Indiana’s definition of bullying is provided, including the exemptions, as well as definitions of the responsibilities of the reporting, investigating, and notification process once a report has been made, but there is no mention the school’s position on bullying nor do the bylaws or policies mention, by name, any group who may be specifically targeted by bullying/harassment - sexual orientation or gender identity, race, ethnicity, national origin, or any other group or classification of people.

2. Implement a method for students and school personnel to anonymously report incidents of discrimination and/or bullying. The method of reporting should be established so that it is easy for a student to do and provides maximum anonymity. In the current technologically-oriented society, schools can set-up a method for online reporting, where
including the reporter’s name is optional and their IP address is not recorded. If a more traditional method is utilized, hosting of the paper/pencil drop-box inside the school must be done in a private, easily accessible, convenient location.

3. Provide consistent and frequent reminders of the anti-bullying policies as well as communication and demonstration of an inclusive school environment. These reminders should be built into the cultural fabric of the school, and exemplified by all school personnel.

4. Provide education and training for all students and school personnel on preventing LGBTQ+-based discrimination and bullying. Most, if not all states, can find training information through their department of education. For example, the Indiana Department of Education provides resources for school corporations regarding online trainings – general and by job type - workshops, and other materials on their website, https://www.doe.in.gov/school-improvement/bullying-staff-training (Indiana Department of Education, 2019). Additional resources are available at StopBullying.gov.

5. Review all school practices to ensure they are not discriminatory toward LGBTQ+ students, and make changes as necessary.

6. Ensure safeguards are in place to protect the privacy of LGBTQ+ students.

7. Train school personnel, and expect them to intervene on behalf of LGBTQ+ students who are experiencing discrimination and/or bullying.

8. Support the establishment of a school-based club that supports LGBTQ+ students.

9. Maintain and communicate a location for LGBTQ+ students to obtain information and receive support, as well as provide Safe Zones within the school. Safe Zones are
designated areas staffed by people within the school environment who are specially trained, where the student can feel safe to go for advice and support.

10. Review and update curricula so that they are inclusive of LGBTQ+ history, language, etc. Make sure that the school library provides easy access to a variety of LGBTQ+ literature.

11. All school personnel should support a student’s gender identity, even when parents have no knowledge of the student’s preferred identity.

12. All school personnel should use a student’s preferred name and pronoun. The school should communicate to the student that they will use their preferred names and pronouns, but for legal documents such as transcripts, report cards, etc., they must continue to use their legal name and biological sex, until those are officially/legally changed. They should also protect the legal name and biological sex from being known by other students.

13. Establish clear procedures for monitoring secluded hallways, outside areas, locker rooms, etc. in order to reduce opportunities for harassment and/or bullying.

By following these guidelines, educators provide a safer school environment for their LGBTQ+ students, provide school personnel with resources and support to know how to handle potentially upsetting or dangerous situations, and create a climate of inclusion.

**Relatedness**

Intricately connected to autonomy, is relatedness, or how people connect and interact with each other and within society in general. Human beings cannot fully function without relationships with other human beings (Ryan & Deci, 2017). They are predisposed to forming bonds with each other and have a basic need for belongingness, connections, and acceptance by others (Baumeister & Leary, 1995; Ryan & Deci, 2017).
When people have experiences that bring about feelings of fear, anger, sadness, hurt, happiness, joy, excitement, etc., they want and need to share their feelings with others (Ryan, LaGuardia, Solky-Butzel, Chirkov, & Kim, 2005). By doing so, they not only experience their feelings in different ways and on other levels, but that sharing helps them to manage their emotions and, ultimately, it may deepen their connection to the person with whom they have shared (Ryan & Deci, 2017; Ryan et al., 2005). Knowing they have this support, they are more apt to explore their environment, passions, interests, and self (Beiswenger & Grolnick, 2010). This process highlights the understanding that human psychological development cannot be healthy without relatedness to others (Ryan & Deci, 2017).

Circling back around to autonomy, sharing their experiences and feelings allows them to more easily be who they are to express their autonomy. When they feel as if they can be themselves, then the pressure to conform to the expectations of others is lessened, and there is then a type of freedom felt to freely associate with those whom they feel comfortable and accepted by. Hence, people tend to be friends with, related and/or connected to, those who support their autonomy (Ryan & Deci, 2017).

Within the educational environment, a close second to education – or perhaps even equal to – are socialization and friendship, referred to as peer relatedness. In a study conducted by Beiswenger and Grolnick, (2010), they studied the inter- and intra- personal factors associated with autonomy in adolescents, as it pertains to after-school activities. They found a positive association between adolescent autonomous motivation and their participation in after school activities, and a negative association with non-autonomous motivation. This suggests that students who experience support and have a sense of security (relatedness) with their peers are more likely to become involved with, and experience joy and satisfaction in, extra-curricular
and/or after-school activities. Additionally, they found that students who do not experience relatedness with their peers select their extra-curricular or after-school involvement based upon what they think others expect of them, instead upon what they really would like to do.

**Factors that inhibit relatedness.** Two important factors that inhibit relatedness are safety and curricular inclusion. Where safety is concerned, a study by Williams, Schneider, Wornell, and Langhinrichsen-Rohling (2018) found that students who avoided attending school due to concerns over their safety were associated with lower perceptions of school connectedness and lower perceptions of positive student/teacher relationships/interactions. Furthermore, students who are victims of harassment, bullying, and discrimination are more likely to have higher rates of absenteeism, lower grades, lower educational aspirations, lower rates of life satisfaction, higher rates of mental health issues such as depression, and higher risks of sexually transmitted diseases (Kosciw, et al., 2016; Russell, Ryan, Toomey, Diaz, & Sanchez, 2011; Toomey, Ryan, Diaz, Card, & Russell, 2010).

Lack of curricular inclusion is the second important inhibitor of relatedness. “Classes that do not have curricula inclusive of diverse individuals demonstrate to minority students (including LGBTQ individuals) that their identities and experiences are nonexistent at best and disdained at worst (Garvey & Rankin, 2015, p. 198)”. Garvey and Rankin (2015) found that LGBTQ students who are out and gender non-conforming students do not find the classroom climate to be accepting or inclusive. To combat a negative climate, educators can take steps such as purchasing books for the library that are representative of LGBTQ+ family structures or relationship development; incorporating significant LGBTQ+ historical events and people into history, social studies, and/or literature classes; incorporating social justice into the curriculum to teach and/or reinforce awareness and reduce bullying and harassment; or simply watching and
modifying word choices such as using the term “partner” instead of “husband” or “wife” (DeWitt, 2012; DeWitt, 2018; Garvey & Rankin, 2015)

Factors that may facilitate relatedness. Perhaps the keystone of an inclusive school environment is having a comprehensive school anti-harassment policy that specifically includes LGBTQ+ because this is associated with greater school connectedness (DeWitt, 2012; Diaz, Kosciw, Greytak, 2010). Otherwise stated, when everyone is included from the beginning, throughout the structure, it is a lot more difficult to exclude anyone.

While a lack of safety, or perceived lack of safety, is a limiting factor for relatedness, its opposite – deliberate and well-trained safety “ambassadors” can enhance a student’s perceived safety and thusly enhance relatedness. In a study conducted by Seelman, Forge, Walls, Bridges (2015), they found that the higher the number of safe adults a student perceives to be available to discuss sexual orientation or gender identity/expression within the school, the more connected they feel to the school. This seems to support Diaz, Kosciw, and Greytak’s (2010) study which found that LGBT students who had supportive school personnel had increased feelings of overall school connectedness.

Another key factor in facilitating relatedness is working to help students believe that adults in the school care not only about their learning, but about them as individuals (Blum, 2005; Pampati, Andrzejewski, Sheremenko, Johns, Lesesne, & Rasberry, 2018). In the process of administrating, standardizing, normalizing, and quantifying education, it is easy to anonymize a student. They have a student number they use instead of a name, a dress code or team uniform to drive down individuality, they are lumped together as classes and even tested and evaluated in a very standardized way so that a student may feel that the entire set of goals in their school is to create conformance to a cookie-cutter version of a student. But when a student, an individual,
Students from a Residential High Ability High School

has needs specific to themselves, and they feel as if their individual struggles and successes are important to their school, they feel the school relates to them, and they then reciprocate by relating to their school. This reinforces the need for professional development and training for all school personnel in how to properly be there for students at risk, as well as the need to have designated safe zones.

As an aid to LGBTQ+ students, logic dictates that perhaps specialized clubs or activities might increase relatedness. Just having a student organization, though, does not appear to make a different – existence is not participation. Gay-Straight Alliances (GSA) have not been shown to have a direct effect on relatedness, however, attending GSA meetings has (Diaz et al., 2010; Seelman et al., 2015). Schools who have active GSAs are associated with lower rates of victimization, especially when combined with supportive staff and a comprehensive anti-harassment/anti-bullying policy (Diaz et al., 2010).

Making sure that students feel safe, know and feel supported by the school and by their teachers, and can connect with the curriculum go a long way in facilitating relatedness and contributing to the overall school climate for the LGBTQ+ student population. That last point, connecting to the curriculum, is worthy of focus. Even if a student is made to feel safe, supported, and accepted, in a curriculum approach where students learn yearly about the Revolutionary War, the Civil War, women’s suffrage, and the fight against segregation, but can make it through college without hearing the name Stonewall, the message that is given to them is that they, and all others like them, are impermanent, that they have nothing notable to contribute. Thusly, the curriculum must be as inclusive as the interpersonal relationships to convey the permanent worth of the individuals. Children know when there are more pictures of a sibling than of the in their house, how much more do people notice their absence in history. The
importance and impact of school climate is not easy to overstate. In the next section is a more in-depth discussion of that climate.

**School Climate for LGBTQ+**

For the adolescent LGBTQ+, there is more waking time spent in one environment than any other – the school environment. While normative society has a generalized picture of what a school environment looks like, and, keeping with the metaphor, it is on glossy paper. For the LGBTQ+ student, though, the picture is much rougher, and there is a lot to take in. The following provides detail to the texture of that environment. Primary in the list is safety:

“Numerous surveys indicate that verbal harassment and abuse are nearly universal experiences among lesbian, gay, and bisexual people” (APA, 2008). The results of a national survey of LGBT youth showed 70.1% had been harassed at school due to their sexual orientation, 59.1% based on their gender expression, and 53.2% based on their gender identity (Kosciw et al., 2018). According to the 2017 GLSEN National School Climate Survey (Kosciw et al., 2018), LGBTQ+ students experienced the following over the past year:

- 28.9% were physically harassed (e.g., pushed or shoved) based on sexual orientation, 24.4% based on gender expression, and 22.8% based on gender identity.
- 12.4% were physically assaulted (e.g., punched, kicked, injured with a weapon) based on sexual orientation, 11.2% based on gender expression, and 10.0% based on gender identity.
- 48.7% of LGBTQ students experienced electronic harassment (cyberbullying - via text messages or postings on social media).
- 57.3% of LGBTQ students were sexually harassed (e.g., unwanted touching or sexual remarks) in the past year

As Robinson and Espelage (2011) express, even when not the target of bullying, LGBTQ+ students may feel a sense of disconnection and isolation from friends and teachers due to negative LGBTQ+ attitudes and behaviors within the school. Because LGBTQ+ students feel disproportionately unsafe (Biegel, 2010), they are also five times as likely as heterosexual students to miss school due to that unsafe feeling (Massachusetts Department of Education, 2004). LGBTQ+ students, even when they are not the target of bullying and harassment, may still feel unsafe or isolated due to antigay sentiment and actions or lack of supportive attitudes and behaviors on the part of the school itself (Robinson & Espelage, 2011). These statistics provide solid support for the need of a safe, inclusive, school environment where students can not only feel safe, but be safe, so that students can interact openly with teachers and classmates and fully contribute to their education, as well as the general academic well-being (DeWitt, 2018).

While it may seem complex to define a climate, according to DeWitt (2018), there are five key components that make up school climate. They are: safeguards that are provided for through the student code of conduct, school board policies, and staff consistency and response; inclusive curriculum that is representative of all students; inclusive books and novels in the classrooms and in the library that represent all subsets of students in the school; common language that is inclusive and is used by all staff members; and professional development that helps all staff members learn what to say, how and when to say it, and how to move forward (DeWitt, 2012; DeWitt, 2018).
School climate holds great importance because many LGBTQ+ students come from homes that teach hatred, are not accepting, favor ignorance, and that lack exposure to other cultures or minority groups (DeWitt, 2012) and they consider their school to be the safest place for them, the best part of their day (Johnson & Stecher, n.d.), a place that offers them hope (DeWitt, 2012). Many educators believe that they should remain neutral, however, “LGBT students need advocacy and protection, not neutrality” (Vaccaro, August, & Kennedy, 2012, p.84), in addition to support and resources (DeWitt, 2012).

Aside from the human issues and the tendency toward supporting children, there are practical considerations and ramifications if school environments are not properly set up for student support. It could be financially costly for schools who do not provide a safe, supportive, and inclusive environment for their students and a majority of Non-Normative students (62.2%) report experiencing LGBTQ-related discriminatory policies or practices within their schools (Kosciw et al., 2018). A relevant illustration of this was in Nabozny v. Podlesny, et al. (1996), where a student named Jamie Nabozny was experiencing harassment and assault at school (Mayo, 2014). School officials told Nabozny that he should expect such treatment because he was gay (Mayo, 2014). As a result of more physical harassment, he was injured so badly he required surgery to stop his internal bleeding. When a lawsuit was filed on his behalf, the result was that the district court held the school responsible for their indifference to same-sex homophobic violence and prior to the case going to the jury, they settled out of court for $900,000.00 (Mayo, 2014). Shortly thereafter, the National School Boards Association (NSBA) sent a pamphlet to every school board in the United States advising them of best practices, including the advisement to add sexual orientation to their nondiscrimination policy (Mayo, 2014).
Personal safety is only a part of the safe school environment though. Identity safety is also an important facet. Students have the right to be out as LGBTQ, a designation which has an identity specific unto itself (Vaccaro et al., 2012). LGBTQ has both an individual and a community aspect to identity formation. “Youth do not develop their identities in a vacuum” (Vaccaro et al., 2012, p. 25). Individual experiences with those they are close to and whether or not the individual is out with self, family, friends, acquaintances, etc. shape that identity formation. If that formation is hampered via harassment or abuse, it is dangerous to the wholeness of the student.

Stuart Biegel (2010) argues that the right to be out is protected by the Constitution and that sharing sexual orientation and gender identity is vital to students’ ability to fully participate in education whether that be in the classroom, or in an extra-curricular activity, sports, or anything else. It is important to note that just like heterosexual students, LGBTQ+ students’ identities are made up of more than their sexual orientation or gender identity. They are made up of many social identities such as race, social class, religion, and ability level in many areas such as academics, athletics, and music, etc. Mayo (2014) shares a salient story in LGBTQ Youth & Education: Policies & Practices. In this story, Constance McMillian was told that she could not wear a tuxedo to prom, nor could she attend the prom with her girlfriend. According to Mayo (2014), Constance asked the ACLU to intervene.

Initially the school cancelled prom but following the first round of negotiations with the school and a judge, the prom was reinstated and Constance was told she could wear a tuxedo and attend with her girlfriend. As it turned out, this was a “fake prom” to which Constance and other gay and lesbian students were invited to attend along with students with disabilities, while another prom at a local country club was held for all of the other students (Mayo, 2014).
Ultimately this school was held liable for violating Constance’s rights. Schools can and should do more than the legally required minimum to ensure the safety and equal education for transgender students (Lambda Legal, 2008; Mayo, 2014). While speaking specifically about transgender students, this statement is applicable to all students. Schools must think critically about how they support LGBTQ+ students, and the way school-based events and activities are organized, as well as the messages that are conveyed in the curriculum their schools are utilizing (Mayo, 2014).

**Curriculum**

Curriculum plays a large role in school climate. As Steven Camicia (2016) stated, “Curriculum as expressed through policies, course objectives, instructional materials, pedagogies, and learning activities is designed, implemented, and experienced within the unique contexts of different communities” (p. 3). This means that the curriculum is experienced differently and holds different meanings to each person based upon their own experiences and context. Therefore it is very important that curriculum be inclusive of all populations so that each student can see themselves reflected in the education.

Given the amount of time students are in school and the vast amount of knowledge, abilities, and history that need to be taught, it is impossible to include everything within a school’s curriculum (Camicia, 2016). Educators must pick and choose what to include and what to exclude (Camicia, 2016), finding a balance that incorporates exposure to the diversity that exists within our world (DeWitt, 2012), teaches them to think critically, and analyze with depth. It is important to note that whatever is included or excluded in the curriculum sends a powerful message to the student (Camicia, 2016; Vaccaro et al., 2012). For example, when an LGBTQ+ student does not see posters on the wall, books in the library, or lessons within the classroom that
reflect his or her family structure, sexual orientation, or gender identity, and may only be mentioned in connection with “do not ask, do not tell” or HIV/AIDS, it underscores a hidden curriculum that being heterosexual is normal and should be displayed and being gay is abnormal and should be hidden away, and that then indicates that heterosexual students are more important and justified than non-heterosexual students (DeWitt, 2012).

It is imperative that schools find ways in which to positively represent LGBTQ+ related topics. Educators must first be willing to address the biases and prejudices in their curricula and classrooms and be ready to make changes (Robinson, 2016). According to DeWitt (2012), two of the easiest ways to do that is through the use of age-appropriate classroom literature, which can present topics in thought-provoking ways, and school libraries that are well stocked with books that cover LGBTQ+ topics. Unfortunately, teachers, who can select from many books to illustrate a learning objective, and school librarians, who are charged with maintaining their collections, often fall prey to self-censorship. They “ban” books because they are concerned about how parents will respond (DeWitt, 2012) and it takes an act of bravery on the part of the school to stand up to parental, administrative, and/or community repercussions (DeWitt, 2012; Vaccaro et al., 2012), whether anticipated, perceived, or actual, and begin educating all populations within the school and the community.

The key to effective change is integration and interpretation across all disciplines and in all grade levels (Vaccaro et al., 2012). This needs to be done with school district support as the complete school curriculum, grades K-12, is evaluated and topics that highlight the contributions of and positive aspects of LGBTQ+ people are integrated. This integration is done so classrooms are created that, as Vaccaro et al. (2012) describes, are “windows and mirrors” for all students. “Mirrors” are components/facets where students see themselves in the curriculum and how they
fit into society in general, and “windows” are opportunities to take a macroscopic view where the students can see beyond themselves to experiences similar to, though not exactly like, their own (Vaccaro et al., 2012).

This process, and how students interpret it, relies upon the administration, and especially the classroom teacher, guiding the student through their own assumptions, beliefs, and realities, past heteronormative images and messages, to a point where they can make broader associations and connections (Vaccaro, 2012). This process of “mirror and windows” can also be used to assist heteronormative students in discovering biases, limitations, and other forms of misnomer about non-heteronormative students that are not only untrue, but actually serve to limit the otherwise rich body of experiences available to them from a relatedness perspective. Take for example the book The Family Book by Todd Parr. This children’s book presents family structures in a variety of ways, including a child with same-sex parents. The book is meeting the learning objective of the family and is inclusive of many different family structures, allowing more students to see themselves in the lessons and not feel a reason to hide their family structure. The teacher reads the book aloud to the class so that it is experienced collectively, then either orchestrates or recognizes and acts upon teachable moments, using this book to introduce and integrate the LGBT community for the students who are unaware of it (Vaccaro et al., 2012). As with a lot of other things, it is easy to get lost in translation so making the interpretation one that is unbiased is key.

**Success In A Conservative Indiana School**

Indiana is known to be a highly conservative, Christian-oriented, Republican-party supporting state. In the book Safe Is Not Enough by Michael Sadowski (2017), a high school in Avon, Indiana, a suburb of Indianapolis, has experienced steady population growth. Sadowski
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shares that the school is seeing increases of 150-200 high school students every year and has around 3,000 students in the high school.

Students, with the guidance from English teacher Dawn Fable-Lindquist, started a Gay Straight Alliance (GSA) after attending a leadership conference where they learned about safe spaces, support systems, and positive programming. This inspired the students who began to envision what changes would need to take place for their school to become LGBTQ-friendly (Sadowski, 2017).

While GSA was initiated by the students, teachers and administrators have been supportive and have been strategic in their support of GSA, implementation of policies, programs, and activities (Sadowski, 2017). This has led to change, and even embracing change, within the school as well as in the community. The school system is still progressing in its journey to being one that affirms LGBTQ+ students across the various aspects of typical school life and works to make sure that LGBTQ+ students are supported in their core values, policies, and more (Sadowski, 2017). It is a good example of how students, teachers, administrators, and the community working together to create a better school community.

Summary

Harassment, bullying, and abuse within a school and the subsequent administrative responses are key events and activities within a school climate. It takes both the central office and school buildings working together, developing and implementing policies of student and staff behavioral and response expectations and repercussions to effectively change a school climate. Schools need to also thoughtfully and strategically find ways to implement LGBTQ+ persons, experiences, issues, etc. organically into the curriculum. This combination of
administrative, educational, security, and social inclusivity is vital in structuring the school climate in a positive way.

In considering the specific subset of school population of academically gifted and LGBTQ+, the current literature does not indicate what factors within the school climate affect their sense of connection to their school.

**Putting it All Together - High Ability and LGBTQ+**

Both the high ability and LGBTQ+ populations endeavor to control how much is known about them, their abilities, and their identities. For many LGBTQ+ youth, it is easier to face the stereotypes and/or social ridicule of being high ability then it is to face that which comes with being non-conforming, hence, their knowledge of stereotypes is used to suppress their non-conformity (Hutcheson & Tieso, 2014). Though both populations, high ability and LGBTQ+, have patterns of high achievement and involvement in activities, they can both also struggle with feelings of isolation, depression, and underachievement (Cross, 1997; Hutcheson & Tieso, 2014).

Friedrichs, Manzella, and Seney (2018) identified a series of high ability LGBTQ+ intellectual and academic traits, as well as social and emotional traits which concisely compiles high ability and non-conforming traits. They describe these as follows.

- *Intellectual and academic traits.* High ability students face hurdles that include lack of academic challenge and boredom, bullying from non-gifted peers, and an overall feeling of not belonging. When combined with challenges that come with having a non-conforming sexual orientation and/or gender identity/expression, it can lead to the student feeling overwhelmed. Friedrichs et al. (2018) suggest that LGB may also feel discouraged from pursuing their true passions because their interests may not be considered
gender appropriate. Additionally, LB may appreciate exploring unorthodox or alternative thoughts and may also thrive on academic comradery.

- **Social and emotional traits.** LGB youth often feel isolated from other youth. This can stem from many different things including those stereotypes associated with high ability and sexual orientation and/or gender non-conformity. Those feelings of difference, as well as fear of being bullied or harassed, make it difficult to come out as non-normative. This is compounded by their perception that society is unconcerned about them and the lack of role models within their community, hence they feel invisible and as a result they may push further away from educators and/or any authority figures.

A high ability non-conforming student’s intellectual level, academic ability, emotional strength, and social interactions will certainly flavor the sense they have in terms of their own competence, autonomy, and relatedness.

Chapter three discusses the methods used to conduct the research for this study. It includes information about the instruments used, population sample, testing, and more.
CHAPTER 3

Methods

This quantitative study examined the educational and social experiences of high ability LGBTQ+ students (non-conforming) and the influences their respective experiences have had on their sense of belonging and connectedness to their home school (sending school/home school) and the subsequent residential high ability school (Indiana Academy), as well as their overall life satisfaction. This was done with the intent of providing educators insight into the factors that influence connectedness and belongingness for high ability non-normative students, as well as to provide an understanding of potential areas for school improvement.

The purpose of this chapter is to describe the research methods that were utilized in the study. The chapter includes the research questions, instruments, the research design, an accounting of preliminary procedures, the survey method, data collection procedures, and data analysis.

Research Questions

Within the high ability educational environment of the Indiana Academy, the research questions which guided this study are as follows.

1. How do non-heterosexual and/or gender non-conforming students’ sense of competence, autonomy, and relatedness compare between their home school and that of the high ability residential high school, as well as in comparison to other students in the school?

2. How do non-heterosexual and/or gender non-conforming students’ sense of competence, autonomy, and relatedness relate to the reasons for leaving their home high school in comparison to other students in the school?
3. How do non-heterosexual and/or gender non-conforming students’ perception of competence, autonomy, and relatedness relate to their post-high school life satisfaction in comparison to other students in the school?

**Research Design**

This study incorporated quantitative research methods using a descriptive research design. This approach enabled associations between a student’s sense of competence, autonomy, and relatedness and their influence on the students’ sense of school belonging and connectedness, as well as their life satisfaction.

To establish a concrete basis for this design, exacting definitions of the methods and instruments were required and are described in the sections that follow.

**Data Source**

Data for this study was collected from graduates of the Indiana Academy for Science, Mathematics, and Humanities, which included the classes of 1992 through 2018. This provided a population of approximately 3,550 alumni.

Established in 1988 by the Indiana General Assembly, the Indiana Academy for Science, Mathematics, and Humanities opened its doors in 1990 as the state’s only two-year public residential high school for high-ability Indiana students in grades eleven and twelve. All students were residential until 2011 when the Academy received permission to enroll students as non-residential. Students are either classified as residential and live in a residence hall or are classified as non-residential and commute daily. The Academy provides no parameter on distance for the non-residential students, though historically, they commute from within a two-hour radius. In 2015, the Academy brought in its first international students. International students, who total 10 or fewer per class, are either residential or non-residential (living in the
homes of host families). On average 70% of Indiana Academy graduates attend college within Indiana and approximately 30% attend colleges and universities across the United States.

The study relied on heterogeneous purposeful sampling. According to Creswell and Clark (2011) this meant selecting a large number of individuals who are representative of the population and not selected randomly.

Current students were excluded from the study. The rationale for selecting alumni, and excluding current students, was due to their stage in life. Current students were still going through the high school process and would not yet have the understanding, experience, or foundation for responding because they were still experiencing high school, and they might have been, more so then the alumni, still discovering who they were and how they related to others. Furthermore, they would not be able to answer scale questions regarding their perceptions post high school.

**Data Collection and Instrumentation**

To assess the participants’ sense of school belonging, connectedness, and life satisfaction three primary surveys were administered; Basic Need Satisfaction in General Scale (Appendix A), Basic Need Satisfaction in Relationships Scale (Appendix A) and The Satisfaction with Life Scale (Appendix B). In addition a series of supplemental questions were administered (Appendix C).

On the Basic Need Satisfaction in General scale, participants responded to the surveys from the perspective of their home school, the Indiana Academy, and post high school. The scale included 21 questions in three domains. The domains in which a person experiences satisfaction are autonomy (seven questions), competence (six questions), and relatedness (eight questions). Of the 21 questions, nine items were worded negatively and had to be reverse scored (subtract
the item response from eight); three were reverse scored in the autonomy domain, three in competence, and three in relatedness.

The Basic Need Satisfaction in Relationships Scale included nine questions in the three domains; three questions in autonomy, three in competence, and three in relatedness, each from the perspective of their teachers, friends, and family. Of the nine questions, three items were worded negatively and had to be reverse scored; one from each domain.

For both of these scales, subscale (autonomy, competence, relatedness) scores can be used separately to test hypotheses or averaged to produce an intrinsic needs satisfaction score.

The Satisfaction with Life Scale included five questions that utilized a 1-7 Likert scale indicating level of agreement or disagreement with each statement. Using the measurement instrument (Pavot & Diener, 2013), the summed aggregate was used to find the level of life satisfaction, including description (Appendix B).

Additional data were collected through a supplemental survey (Appendix C), which added context to the study. The survey sought demographic information that included the participant’s gender identity, whether they identified as LGBTQ+, biological sex as it appears on their birth certificate, race/ethnicity, and year of graduation. In addition, information on how or if the participant came out to themselves, family, friends, home high school, Indiana Academy, and post high school were collected, as well as whether specific factors played a role in their coming out. All questions regarding sexual orientation and gender identity were optional.

To understand whether a participant identified as Normative or Non-Normative, data from three questions were evaluated: whether they identified as LGBTQ+, their specified gender identity, and their biological sex as it appears on their birth certificate. Participants who identified as cisgender, and did not self-identify as LGBTQ+ were classified as Normative.
Participants who identified as a gender other than cisgender, and/or self-identified as LGBTQ+ were classified as Non-Normative. Finally, participants whose information was incomplete or whose responses were incongruent, were Unclassified.

Due to the topic and nature of the study, none of the survey questions nor supplemental questions were required.

**Collection procedures.** Following IRB approval, protocol number 1329495-1, alumni of the Indiana Academy received an email explaining the anonymous study and a web link for the survey. The email text and web link were also posted to the Indiana Academy alumni Facebook page as well as the Indiana Academy Alumni Association Facebook page. The survey remained active for 30 days. A reminder message was emailed and posted 15 and 29 days after the web link was originally shared.

**Data Analysis**

Descriptive statistical analysis was conducted on the demographic data collected. The following are the three research questions, each with details on how it was addressed.

Research question #1, “How do non-heterosexual and/or gender non-conforming students’ sense of competence, autonomy, and relatedness compare between their home school and that of the high ability residential high school, as well as in comparison to other students in the school?” drew data from the Basic Psychological Needs Scale as well as the supplemental survey question regarding why the student chose to attend the high ability high school. Analyses were conducted using 1) a paired samples t-test to evaluate the differences in the students’ perception of their competence, autonomy, and relatedness from the time they attended both their home school and the Indiana Academy, 2) comparison of the means to compare the competence, autonomy, and relatedness of the normative and non-normative students from their home school
to that of the high ability high school and a repeated measure difference of the means t-test to ascertain if the two means (home school and high ability school) were equal or not.

   Research question #2, “How do non-heterosexual and/or gender non-conforming students’ sense of competence, autonomy, and relatedness relate to the reasons for leaving their home high school in comparison to other students in the school?” Data were collected through the Basic Psychological Needs Scales – General as well as the supplemental survey question regarding why the student chose to attend the high ability school. Spearman’s rho correlation was conducted to identify statistically significant relationships between their reasons for leaving their home high school and their sense of autonomy, competence, and relatedness. To test the construct a Confirmatory Factor Analysis was conducted on both the General and Relationship scales of Deci and Ryan’s Basic Psychological Need instrument.

   Research question #3, “How do non-heterosexual and/or gender non-conforming students’ perception of competence, autonomy, and relatedness relate to their post-high school life satisfaction in comparison to other students in the school?” Data were collected through the Basic Psychological Needs Scales and The Satisfaction with Life Scale. A comparison of the means test was conducted on Life Satisfaction to compare Normative and Non-Normative participants. To test whether the difference was significant an independent samples T-test was performed, followed by Cohen’s d to assess the strength of the relationship.

Finally, a one-way repeated-measure ANOVA was conducted to see if any significant differences existed in the students’ sense of autonomy, competence, and relatedness during three distinct periods in their lives – while attending their home high school, while attending the Academy, and post high school. This was conducted for all cases, Normative only, and Non-Normative only.
Chapter 4 will highlight the results of the data analysis conducted for each research question.
CHAPTER 4

Results

This quantitative study examined 1) what influences a high ability student’s sense of belonging and connectedness to their high school and whether it varies with sexual orientation and/or gender identity/expression, 2) the nature of those influences on their sense of belonging and connectedness within the school environment, and 3) the relationship between their sense of belonging and connectedness and their school choice, as well as their overall life satisfaction. This study was conducted within the context of a two year high school created specifically for high ability students, with data collected from alumni from all existing graduating classes to date. The results are organized by descriptive statistics, followed by analysis of the three research questions, including inferential statistical testing.

Descriptive Statistics

The survey was sent to 3,550 alumni, 505 of whom participated in this study, which is a 14.41% response rate. Of the 505 survey participants, 366 surveys – or 72% - were complete. Participants responded to 30 questions from the perspectives of when they attended their home school (school prior to the Indiana Academy), when they attended the Indiana Academy, and from the perspective of their life post high school. Additionally, participants responded to five questions regarding their overall life satisfaction, and fourteen supplemental questions pertaining to demographics, sexual orientation, and gender identity/expression, etc. An additional eight questions were included for those whose sexual orientation and/or gender identity were self-reported non hetero-normative and/or gender non-conforming. Due to the sensitive nature of this survey, none of the individual questions required answers, and questions left blank were addressed accordingly in the data as unclassified.
The geographic population distribution of where the participants resided (legal residence) while in high school is somewhat different than that of the state of Indiana (Table 5), with a higher percentage coming from suburban (rural/mixed) areas, a significantly lower percentage coming from urban areas, and a significantly higher percentage coming from rural areas. Of the 325 respondents, 28 (8.62%) were from the Dense Population category, 153 (47.08%) were from the Moderate Population category, and 144 (44.10%) were from the Sparse Population category. These response distributions leave the Dense Population category with a lower representation than its respective population density for Indiana and a greater representation from the Moderate and Rural Population categories.

Table 5

Indiana Population Density

<table>
<thead>
<tr>
<th>Population Type</th>
<th>% Survey Participants</th>
<th>% Population Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dense: Urban</td>
<td>8.62</td>
<td>62.00</td>
</tr>
<tr>
<td>Moderate: Suburban</td>
<td>47.08</td>
<td>24.00</td>
</tr>
<tr>
<td>Sparse: Rural</td>
<td>44.10</td>
<td>14.00</td>
</tr>
</tbody>
</table>

*Note.* Population Density from the Center for Rural Development (2013)

Participants show equitable distribution across all graduated classes (Appendix D). The participants from the high ability high school, the Indiana Academy for Science, Mathematics, and Humanities, are identified in four categories as determined by where they lived during their time at the school. Indiana students who resided in the residence hall (Residential), Indiana students who commuted daily (Non-Residential Early College Program – NECP), International students who resided in the residence hall (Intl Residential) and International students who
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Participants’ (n=325) housing status breakdown shows that 98.46% were Indiana residential, 1.54% were Indiana NECP, and there were no International student participants in this study.

Of the participants (n=324), 21.6% were in college at the time they completed the survey. The class participation (n=325), is well distributed with the class of 2001 having the highest number of respondents at 22 (6.77%) and the class of 2013 with the lowest representation at 6 respondents (1.85%).

The racial and ethnic distribution at the Indiana Academy varies from year to year. The White, non-Hispanic, category has traditionally ranged between 60% and 84% yearly. The race distribution for this study is represented in the Table 6 below (n=325). The White, non-Hispanic, category percentage show a moderately higher representation than the yearly distribution percentages for each graduation year for which data were obtained. The yearly racial and ethnic distribution, by class, for the Indiana Academy can be found in Appendix E.

Table 6

Study Race Distribution Percentages

<table>
<thead>
<tr>
<th>Race</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>White, non-Hispanic</td>
<td>291</td>
<td>89.54</td>
</tr>
<tr>
<td>Black or African American</td>
<td>010</td>
<td>3.08</td>
</tr>
<tr>
<td>Asian</td>
<td>011</td>
<td>3.38</td>
</tr>
<tr>
<td>Native Hawaiian or Other Pacific Islander</td>
<td>001</td>
<td>0.31</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>007</td>
<td>2.15</td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
<td>001</td>
<td>0.03</td>
</tr>
<tr>
<td>Other</td>
<td>004</td>
<td>1.23</td>
</tr>
</tbody>
</table>

In addition, participants self-reported their cumulative high school and college grade point averages (Table 7). Of those responding (n = 315), 78.73% had cumulative GPAs of 3.5 or
higher on a 4.0 scale and 62.18% (n = 312) had a similar cumulative college GPA. At the time of the survey, 21.60% of participants (n=324) were in college.

Table 7

Cumulative Grade Point Average (4.0 Scale)

<table>
<thead>
<tr>
<th>Percent</th>
<th>High School (n=315)</th>
<th>College (n=312)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0 or higher</td>
<td>22.22</td>
<td>6.09</td>
</tr>
<tr>
<td>3.5 - 3.99</td>
<td>56.51</td>
<td>56.09</td>
</tr>
<tr>
<td>3.0 - 3.49</td>
<td>20.00</td>
<td>30.13</td>
</tr>
<tr>
<td>2.5 - 2.99</td>
<td>1.27</td>
<td>6.41</td>
</tr>
<tr>
<td>2.0 - 2.49</td>
<td>0.00</td>
<td>0.96</td>
</tr>
<tr>
<td>1.5 - 1.99</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>1.0 or lower</td>
<td>0.00</td>
<td>0.32</td>
</tr>
</tbody>
</table>

Finally, of particular relevance to this study, 33.12% of participants (n = 323) were Non-Normative in their sexual orientation and 5.88% were gender non-conforming. Based upon their admission into and commencement from the Indiana Academy, 100% of the participants (n=505) were classified as high ability.

Testing Constructs

To test how well the measured variables represent the constructs, a Confirmatory Factor Analysis was conducted in SPSS Version 25 on Deci and Ryan’s Basic Psychological Needs General and Relationship scales (Appendix A). Table 8 shows the percent of variance represented by each variable and the corresponding alpha reliability, which was strong for all variables.
Testing the Research Questions

*How does the non-heterosexual and/or gender non-conforming students’ sense of competence, autonomy, and relatedness compare between their home school and that of the high ability residential high school, as well as to that of other students in the school?*

Survey participants were asked to rate how connected they felt to their home high school and to the Indiana Academy (n = 324). Of the participants, 69.75% felt strongly connected to the Academy, while 10.80% felt strongly connected to their home school (Appendix F).
A paired-samples correlation and paired differences t-test (Table 9) were used to evaluate the difference in the students’ perception of their competence, autonomy, and relatedness from the time they attended their home high school and the time they attended the Academy. Perception of these three measures was lower during the time they attended their home high school in all three categories (Autonomy: M = 17.79, SD = 12.858, n = 503; Competence: M = 19.40, SD = 13.132, n = 503; Relatedness: M = 26.33, SD = 18.450, n = 503) than at the Academy (Autonomy: M = 24.07, SD = 17.499, n = 503; Competence: M = 22.24, SD = 16.143, n = 503; Relatedness: M = 31.53, SD = 22.719, n = 503). The difference for all three pairings was statistically significant (p < .05) where the paired sample indicated a t = -
10.856 for autonomy, $t = -5.956$ for competence, and $t = -7.594$ for relatedness, with $p = .000$ for each category.

A comparison of the means test (Table 10) was run to compare students’ perception of their competence, autonomy, and relatedness from when they attended their home high school to the time when they attended the Indiana Academy, differentiated by their Normative and Non-Normative classifications. Participants who did not respond to the survey questions regarding sexual orientation and/or gender identity/expression were excluded from the comparison of the means test.

Table 10
Comparison of the Means

<table>
<thead>
<tr>
<th></th>
<th>Home HS Autonomy</th>
<th>Home HS Competence</th>
<th>Home HS Relatedness</th>
<th>Academy Autonomy</th>
<th>Academy Competence</th>
<th>Academy Relatedness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normative (N = 214)</td>
<td>Mean</td>
<td>25.421</td>
<td>27.117</td>
<td>36.766</td>
<td>35.346</td>
<td>32.491</td>
</tr>
<tr>
<td>Non-Normative (N = 108)</td>
<td>Mean</td>
<td>21.907</td>
<td>25.620</td>
<td>34.019</td>
<td>35.944</td>
<td>33.843</td>
</tr>
</tbody>
</table>

While all three categories (autonomy, competence, and relatedness) showed differences for both Normative and Non-Normative students from the home high school to the Indiana Academy, the largest increases in mean are found in both autonomy and relatedness for both groups. The largest change in mean is seen in Non-Normative autonomy which was 21.907 at their home high school and 34.019 at the Indiana Academy. It is also interesting to note that the minimum response for the home high school autonomy, competence, and relatedness for Non-Normative participants was each zero while the lowest response in any of the categories for Normative was seven.
How does the non-heterosexual and/or gender non-conforming students’ sense of competence, autonomy, and relatedness relate to the reasons for leaving their home high school in comparison to other students in the school?

To address this question, survey participants responded to a series of reasons for leaving their home high school with the strength of their agreement with seven separate potential drivers for their decision to attend the Academy. There was an eighth category, Other, which allowed students to specify factors which were more unique to them.

A Spearman’s rho correlation (Table 11) indicated a significant association between the combined Normative, Non-Normative, and unclassified respondents (includes all cases of sexual orientation and/or gender identity/expression) with the respondents’ home high school sense of autonomy ($r_s[503] = -.608, p < .01$), sense of competence ($r_s[503] = -.600, p < .01$), and sense of relatedness ($r_s[503] = -.580, p < .01$). The negative correlation indicates a monotonic relationship, where as one variable increases, the other decreases. The closer the $r_s$ is to zero, the weaker the association between the variables. Additionally, Normative, Non-Normative, and unclassified showed an association with their ability to discover/be who they were as reasons for leaving their home high school ($r_s[263] = .223, p < .01$). The positive correlation indicates a monotonic relationship where when the value of one variable increases, so does the other variable.

A positive monotonic association was also seen between the respondents’ ability to discover/be who they are and three of their reasons for leaving their home high school: a) bullying/harassment ($r_s[148] = .352, p < .01$), b) desire to be with like-minded peers ($r_s[219] = .354, p < .01$), and c) the overall school climate ($r_s[247] = .378, p < .01$).
Finally, when looking at all students, bullying/harassment in the home high school showed a positive association with the home high school climate ($r_s[155] = .343, p < .01$) as did the desire to be with like-minded peers with home high school climate ($=r_s[230] .521, p < .01$).

Two additional Spearman’s rho correlations (Appendix G) were run to check for significant associations which may exist when looking within the individual populations of Normative and Non-Normative and the reasons for leaving their home high school. For Normative respondents, be/discover who you are showed a positive association with bullying ($r_s[89] = .433, p < .01$), home high school climate ($r_s[152] = .393, p < .01$), and the desire to be with like-minded peers ($r_s[132] = .368, p < .01$). Additionally, a desire to be with like-minded peers showed a positive correlation to climate ($r_s[141] = .517, p < .01$) and the ability to be/discover who you are ($r_s[132] = .368, p < .01$). Finally, home school climate showed a positive association with bullying as a reason Normative students left their home high school ($r_s[96] = .394, p < .01$).

For Non-Normative respondents, a positive association was seen between school climate and be/discover who you are ($r_s[93] = .273, p < .01$), a desire to be with like-minded peers ($r_s[87] = .543, p < .01$), and the category titled “other” ($r_s[21] = .436, p < .01$). Additionally, a positive association was seen between the desire to be with like-minded peers and be/discover who you are ($r_s[85] = .304, p < .01$) and between parents’ choice and bullying ($r_s[21] = .436, p < .01$). Finally, the category titled “other” had a positive association with no connection to teachers/admin ($r_s[12] = .369, p < .01$).
How does the non-heterosexual and/or gender non-conforming students’ perception of competence, autonomy, and relatedness relate to their post-high school life satisfaction in comparison to other students from the school?

A review of Life Satisfaction in Table 12 below (n=505) shows that 78.61% of all respondents are satisfied with their lives compared to 13.66% who are not, and 7.72% did not respond.
Table 12

Life Satisfaction

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>No Response</td>
<td>39</td>
<td>7.7</td>
<td>7.7</td>
</tr>
<tr>
<td></td>
<td>Extremely Dissatisfied</td>
<td>6</td>
<td>1.2</td>
<td>8.9</td>
</tr>
<tr>
<td></td>
<td>Dissatisfied</td>
<td>17</td>
<td>3.4</td>
<td>12.3</td>
</tr>
<tr>
<td></td>
<td>Slightly Dissatisfied</td>
<td>46</td>
<td>9.1</td>
<td>21.4</td>
</tr>
<tr>
<td></td>
<td>Slightly Satisfied</td>
<td>74</td>
<td>14.7</td>
<td>36.0</td>
</tr>
<tr>
<td></td>
<td>Satisfied</td>
<td>195</td>
<td>38.6</td>
<td>74.7</td>
</tr>
<tr>
<td></td>
<td>Extremely Satisfied</td>
<td>128</td>
<td>25.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>505</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The Satisfaction with Life scale contained five questions that use a seven point Likert scale where the summed aggregate provides a score that quantifies the respondents’ life satisfaction. The lowest life satisfaction score was by a Non-Normative participant, at five points which was half that of the lowest score for a Normative participant. The highest score was the same for both groups, thirty-five, which was the highest score available. Table 13 shows that Normative participants (n = 214) have an overall mean that is just under two points higher than Non-Normative participants (n = 108). To test whether this difference was significant, an independent samples T-test was performed, $t(320) = 2.861$, $p = .005$. Normative respondents have greater life satisfaction ($M = 27.07$, $SD = 5.083$, $n = 214$) than do Non-Normative respondents ($M = 25.22$, $SD = 6.174$, $n = 108$). To test the strength of the relationship Cohen’s $d$ was calculated and found to have a slightly stronger than small effect size, $d = .3377$. 
A one-way repeated-measure ANOVA was used to find significant differences in autonomy, competence, and relatedness in three different phases of their academic life: their home high school, attendance at the Indiana Academy, and post high school, for All Cases (Normative, Non-normative, Unclassified), Normative, and Non-Normative cases. Those results follow.

**All Cases**

*Autonomy* testing indicates there was a significant difference among the three periods of time analyzed, $F(2,1002) = 181.253$, $p = .000$, $\eta^2 = .266$. With Normative/Non-Normative as the covariant a significant difference was indicated, $F(2,1002) = 108.743$, $p = .000$, $\eta^2 = .178$. As seen in Appendix H participants reported experiencing their greatest sense of autonomy at the Academy ($M = 24.07$, $SD = 10.832$, $n = 503$). This was followed by Post High School ($M = 23.38$, $SD = 10.047$, $n = 503$) and Home High School ($M = 17.76$, $SD = 9.756$, $n = 503$).

Post hoc analysis indicates that the participants experienced a lower sense of autonomy in their home high school than when they were at the Academy (Mean Difference = -6.308, $p < .01$) as well as Post High School (Mean Difference = -5.618, $p < .01$) demonstrated in Table 14. The Between-Subjects Effects (Table 15) show a significant difference was found in the participants’ perception of their autonomy between Normative and Non-Normative groups, $F(1,501) = 1230.787$, $p < .01$, partial $\eta^2 = .711$.

### Table 13

Life Satisfaction Comparison of the Means

<table>
<thead>
<tr>
<th>Normative / Non-Normative / Unclassified</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Variance</th>
<th>Kurtosis</th>
<th>Std. Error of Kurtosis</th>
<th>Skewness</th>
<th>Std. Error of Skewness</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normative</td>
<td>27.07</td>
<td>214</td>
<td>5.08332</td>
<td>25.840</td>
<td>0.484</td>
<td>0.331</td>
<td>-0.877</td>
<td>0.166</td>
<td>10.00</td>
<td>35.00</td>
</tr>
<tr>
<td>Non-Normative</td>
<td>25.22</td>
<td>108</td>
<td>6.17401</td>
<td>38.118</td>
<td>0.735</td>
<td>0.461</td>
<td>-0.919</td>
<td>0.233</td>
<td>5.00</td>
<td>35.00</td>
</tr>
<tr>
<td>Not Classified</td>
<td>19.35</td>
<td>181</td>
<td>11.62501</td>
<td>135.141</td>
<td>-0.975</td>
<td>0.359</td>
<td>-0.748</td>
<td>0.181</td>
<td>0.00</td>
<td>35.00</td>
</tr>
<tr>
<td>Total</td>
<td>23.89</td>
<td>503</td>
<td>8.92517</td>
<td>79.659</td>
<td>1.591</td>
<td>0.217</td>
<td>-1.488</td>
<td>0.109</td>
<td>0.00</td>
<td>35.00</td>
</tr>
</tbody>
</table>

Note: Summed aggregate based upon a five question, seven point Likert scale where the point range per respondent was five to 35 total points.
Table 14

Pairwise Comparisons

<table>
<thead>
<tr>
<th></th>
<th>(J)</th>
<th>(I-J) Mean Difference</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Autonomy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home HS</td>
<td>Academy</td>
<td>-6.308*</td>
<td>0.530</td>
<td>0.000</td>
<td>-7.350</td>
<td>-5.267</td>
</tr>
<tr>
<td>Post HS</td>
<td>Academy</td>
<td>-5.618*</td>
<td>0.522</td>
<td>0.000</td>
<td>-6.643</td>
<td>-4.594</td>
</tr>
<tr>
<td>Academy</td>
<td>Home HS</td>
<td>6.308*</td>
<td>0.530</td>
<td>0.000</td>
<td>5.267</td>
<td>7.350</td>
</tr>
<tr>
<td>Post HS</td>
<td>Home HS</td>
<td>0.690</td>
<td>0.420</td>
<td>0.101</td>
<td>-0.136</td>
<td>1.516</td>
</tr>
<tr>
<td>Post HS</td>
<td>Academy</td>
<td>-0.690</td>
<td>0.420</td>
<td>0.101</td>
<td>-1.516</td>
<td>0.136</td>
</tr>
<tr>
<td></td>
<td><strong>Competence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home HS</td>
<td>Academy</td>
<td>-2.841*</td>
<td>0.447</td>
<td>0.000</td>
<td>-3.720</td>
<td>-1.962</td>
</tr>
<tr>
<td>Post HS</td>
<td>Academy</td>
<td>-1.533*</td>
<td>0.471</td>
<td>0.001</td>
<td>-2.458</td>
<td>-0.607</td>
</tr>
<tr>
<td>Academy</td>
<td>Home HS</td>
<td>2.841*</td>
<td>0.447</td>
<td>0.000</td>
<td>1.962</td>
<td>3.720</td>
</tr>
<tr>
<td>Post HS</td>
<td>Home HS</td>
<td>1.533*</td>
<td>3.363</td>
<td>0.101</td>
<td>0.596</td>
<td>2.021</td>
</tr>
<tr>
<td>Post HS</td>
<td>Academy</td>
<td>-1.308*</td>
<td>0.363</td>
<td>0.000</td>
<td>-2.021</td>
<td>-0.596</td>
</tr>
<tr>
<td></td>
<td><strong>Relatedness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home HS</td>
<td>Academy</td>
<td>-5.210*</td>
<td>0.631</td>
<td>0.000</td>
<td>-6.441</td>
<td>-3.960</td>
</tr>
<tr>
<td>Post HS</td>
<td>Academy</td>
<td>-1.453*</td>
<td>0.650</td>
<td>0.026</td>
<td>-2.731</td>
<td>-0.176</td>
</tr>
<tr>
<td>Academy</td>
<td>Home HS</td>
<td>5.201*</td>
<td>0.631</td>
<td>0.000</td>
<td>3.960</td>
<td>6.441</td>
</tr>
<tr>
<td>Post HS</td>
<td>Home HS</td>
<td>3.748*</td>
<td>0.527</td>
<td>0.000</td>
<td>2.712</td>
<td>4.783</td>
</tr>
<tr>
<td>Post HS</td>
<td>Academy</td>
<td>-3.748*</td>
<td>0.527</td>
<td>0.000</td>
<td>-4.783</td>
<td>-2.712</td>
</tr>
</tbody>
</table>

Based on estimated marginal means

* The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).
Students from a Residential High Ability High School

Table 15

Tests of Between-Subject Effects

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Square</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
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</thead>
<tbody>
<tr>
<td><strong>Autonomy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>627060.010</td>
<td>1</td>
<td>627060.010</td>
<td>3283.263</td>
<td>.000</td>
<td>0.868</td>
</tr>
<tr>
<td>Normative/Non-Normative/Unclassified</td>
<td>235064.141</td>
<td>1</td>
<td>235064.141</td>
<td>1230.787</td>
<td>.000</td>
<td>0.711</td>
</tr>
<tr>
<td>Error</td>
<td>95684.413</td>
<td>501</td>
<td>190.987</td>
<td></td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td><strong>Competence</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>567542.198</td>
<td>1</td>
<td>567542.198</td>
<td>3087.512</td>
<td>.000</td>
<td>0.860</td>
</tr>
<tr>
<td>Normative/Non-Normative/Unclassified</td>
<td>209914.839</td>
<td>1</td>
<td>209914.839</td>
<td>1141.967</td>
<td>.000</td>
<td>0.695</td>
</tr>
<tr>
<td>Error</td>
<td>92093.128</td>
<td>501</td>
<td>183.819</td>
<td></td>
<td></td>
<td>0.000</td>
</tr>
<tr>
<td><strong>Relatedness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>1053368.650</td>
<td>1</td>
<td>1053368.650</td>
<td>2977.301</td>
<td>.000</td>
<td>0.856</td>
</tr>
<tr>
<td>Normative/Non-Normative/Unclassified</td>
<td>386596.994</td>
<td>1</td>
<td>386596.994</td>
<td>1092.700</td>
<td>.000</td>
<td>0.686</td>
</tr>
<tr>
<td>Error</td>
<td>177253.722</td>
<td>501</td>
<td>353.800</td>
<td></td>
<td></td>
<td>0.000</td>
</tr>
</tbody>
</table>

*Competence* testing indicates there was a significant difference among the three periods of time analyzed, F(2,1002) = 83.536, p = .000, η² = .143. With Normative/Non-Normative as the covariant a significant difference was indicated, F(2,1002) = 68.949, p = .000, η² = .121. As seen in Appendix I (Estimates), participants indicate the strongest sense of competence was experienced at the Academy (M = 22.237, SD = 9.957, n = 503). This was followed by the home high school (M = 19.396, SD = 9.621, n = 503) and then post high school (M = 20.928, SD = 9.217, n = 503).

According to Table 14, the post hoc analysis indicates that the participants experienced a lower sense of competence in their home high school than when they were at the Academy.
Students from a Residential High Ability High School

(Mean Difference of -2.841, p < .05). Additionally, their sense of competence was higher Post High School than at their Home High School with a Mean Difference of -1.533 and p < .05. The Between-Subjects Effect (Table 15) shows a significant difference was found in the participants’ perception of their competence between Normative and Non-Normative groups, F(1,501) = 1141.967, p < .01, partial = \eta^2 .695.

*Relatedness* testing indicates there was a significant difference among the three periods of time analyzed, F(2,1002) = 90.328, p = .000, \eta^2 = .153. With Normative/Non-Normative as the covariant a significant difference was indicated, F(2,1002) = 68.530, p = .000, \eta^2 = .120. As seen in Appendix J (Estimates), participants indicate that they experienced the strongest sense of relatedness at the Academy (M = 31.529, SD = 13.994, n =503). This was followed by the post high school time period (M = 27.781, SD = 11.998, n = 503), then home high school (M = 26.328, SD = 14.084, n = 503).

As seen in Table 14, a post hoc analysis indicates that the participants experienced a lower sense of relatedness in their home school compared to when they attended the Academy with a Mean Difference of -5.210 and p < .05, as well as during their Post High School period (Mean Difference = -1.453, p < .05). The Between-Subjects test (Table 15) shows a significant difference in the participants’ perception of their relatedness between Normative and Non-Normative groups, F(1,501) = 1092.700, p < .01, partial = \eta^2 .686.

**Normative Cases**

*Autonomy* testing for Normative cases indicates there was a significant difference among the three periods of time analyzed, F(1, 426) = 136.639, p = .000, \eta^2 = .391. As seen in Appendix K (Estimates,) the respondents report experiencing the greatest sense of autonomy Post High
Students from a Residential High Ability High School

School (M = 36.294, SD = 8.294, n = 214) followed by the time period at the Academy (M = 35.346, SD = 8.118, n = 214), and Home High School (M = 25.421, SD = 6.787, n = 214).

As seen in Table 16, a post hoc analysis indicates that the Normative participants reported a lower sense of autonomy in their home high school than when they were at the Academy (Mean Difference = -9.925, p < .05) as well as Post High School (Mean Difference = -10.874, p < .05).

Competence testing for Normative cases indicates there was a significant difference among the three periods of time analyzed, F(1, 426) = 49.869, p = .000, \( \eta^2 = .190 \). As seen in Appendix L (Estimates), the respondents report experiencing the greatest sense of competence Post High School (M = 32.491, SD = 7.797, n = 214) followed by the time period at the Academy (M = 32.491, SD = 6.129, n = 214), and Home High School (M = 27.117, SD = 6.816, n = 214).

Table 16 shows a post hoc analysis indicating that the Normative participants reported a lower sense of competence in their home high school than when they were at the Academy (Mean Difference = -5.374, p < .05) as well as Post High School (Mean Difference = -5.453, p < .05).

Relatedness testing for Normative cases indicates there was a significant difference among the three periods of time analyzed, F(1, 426) = 63.205, p = .000, \( \eta^2 = .229 \). As seen in Appendix M (Estimates), the respondents reported that their greatest sense of Relatedness was experienced at the Academy (M = 46.075, SD = 7.680, n = 214) followed by the Post High School time period (M = 43.154, SD = 9.889, n = 214), and Home High School (M = 36.766, SD = 10.986, n = 214).
Table 16

Pairwise Comparisons: Normative

<table>
<thead>
<tr>
<th></th>
<th>(I)</th>
<th>(J)</th>
<th>(I-J) Mean Difference</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
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<tr>
<td></td>
<td>Home HS</td>
<td>Academy</td>
<td>-9.925*</td>
<td>0.785</td>
<td>0.000</td>
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<td>-8.378</td>
</tr>
<tr>
<td></td>
<td>Post HS</td>
<td>Academy</td>
<td>-10.874*</td>
<td>0.750</td>
<td>0.000</td>
<td>-12.352</td>
<td>-9.396</td>
</tr>
<tr>
<td></td>
<td>Academy</td>
<td>Home HS</td>
<td>9.925</td>
<td>0.785</td>
<td>0.000</td>
<td>8.378</td>
<td>11.472</td>
</tr>
<tr>
<td></td>
<td>Post HS</td>
<td>Home HS</td>
<td>-949</td>
<td>0.644</td>
<td>0.142</td>
<td>-2.218</td>
<td>0.321</td>
</tr>
<tr>
<td></td>
<td>Post HS</td>
<td>Academy</td>
<td>10.874*</td>
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<td>9.396</td>
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<td></td>
<td>Home HS</td>
<td>Academy</td>
<td>949</td>
<td>0.644</td>
<td>0.142</td>
<td>-0.321</td>
<td>2.218</td>
</tr>
</tbody>
</table>

Based on estimated marginal means

* .The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Table 16 contains a post hoc analysis indicating that the Normative participants reported a lower sense of relatedness in their home high school than when they were at the Academy.
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(Mean Difference = -9.308, p < .05) as well as Post High School (Mean Difference = -6.388, p < .05).

**Non-Normative Cases**

Autonomy testing for Non-Normative cases indicates there was a significant difference among the three periods of time analyzed, $F(2, 214) = 142.930, p = .000, \eta^2 = .572$. As seen in Appendix N (Estimates) the respondents reported experiencing their greatest sense of autonomy at the Academy ($M = 35.944, SD = 6.276, n = 108$) followed by the time periods Post High School ($M = 35.250, SD = 7.264, n = 108$), and Home High School ($M = 21.907, SD = 8.303, n = 108$).

As seen in Table 17, a post hoc analysis indicates that Non-Normative participants reported their sense of autonomy was lower in their home high school than when they were at the Academy (Mean Difference = -14.037, p < .05) as well as Post High School (Mean Difference = -13.343, p < .05).

Competence testing for Non-Normative cases indicates there was a significant difference among the three periods of time analyzed, $F(2, 214) = 51.991, p = .000, \eta^2 = .327$. Appendix O (Estimates) details that the respondents reported their greatest sense of competence was experienced at the Academy ($M = 33.843, SD = 6.006, n = 108$) followed by the Post High School time period ($M = 31.361, SD = 7.274, n = 108$), and Home High School ($M = 25.620, SD = 6.671, n = 108$).

Appearing in Table 17 is a post hoc analysis indicating that Non-Normative participants reported their sense of competence was lower in their home high school than when they were at the Academy (Mean Difference = -8.222, p < .05) as well as Post High School (Mean Difference
= -5.741, p < .05). Additionally, the participants’ sense of competence was reported as higher at the Academy than during their Post High School time period (Mean Difference = 2.481, p < .05).

Table 17

Pairwise Comparisons: Non-Normative

<table>
<thead>
<tr>
<th>(I)</th>
<th>(J)</th>
<th>N</th>
<th>(I-J) Mean Difference</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
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<td></td>
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<td>95% Confidence Interval for Difference</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>0.000</td>
<td>-16.146</td>
<td>-11.928</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post HS</td>
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<td>0.902</td>
<td>0.000</td>
<td>-15.130</td>
<td>-11.555</td>
<td></td>
</tr>
<tr>
<td>Academy</td>
<td>Home HS</td>
<td>14.037</td>
<td>1.064</td>
<td>0.000</td>
<td>11.928</td>
<td>16.146</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post HS</td>
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<td>0.827</td>
<td>0.403</td>
<td>-0.944</td>
<td>2.333</td>
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</tr>
<tr>
<td>Post HS</td>
<td>Home HS</td>
<td>13.343</td>
<td>0.902</td>
<td>0.000</td>
<td>11.555</td>
<td>15.130</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Academy</td>
<td>-0.694</td>
<td>0.827</td>
<td>0.403</td>
<td>-2.333</td>
<td>0.944</td>
<td></td>
</tr>
</tbody>
</table>

| Competence|         |         |                       |            |      |             |             |
| Home HS    | Academy | -8.222  | 0.891                 | 0.000      | -9.988 | -6.457      |             |
|           | Post HS | -5.741  | 0.804                 | 0.000      | -7.334 | -4.148      |             |
| Academy   | Home HS | 8.222   | 0.891                 | 0.000      | 6.457  | 9.988       |             |
|           | Post HS | 2.481   | 0.783                 | 0.002      | 0.928  | 4.035       |             |
| Post HS   | Home HS | 5.741   | 0.804                 | 0.000      | 4.148  | 7.334       |             |
|           | Academy | -2.481  | 0.783                 | 0.002      | -4.035 | -0.928      |             |

| Relatedness|         |         |                       |            |      |             |             |
| Home HS    | Academy | -13.509 | 1.225                 | 0.000      | -15.938 | -11.081   |             |
|           | Post HS | -7.778  | 1.114                 | 0.000      | -9.987  | -5.569     |             |
| Academy   | Home HS | 13.509  | 1.225                 | 0.000      | 11.081  | 15.938     |             |
|           | Post HS | 5.731   | 1.035                 | 0.000      | 3.679   | 7.784      |             |
| Post HS   | Home HS | 7.778   | 1.114                 | 0.000      | 5.569   | 9.987      |             |
|           | Academy | -5.731  | 1.035                 | 0.000      | -7.784  | -3.679     |             |

*The mean difference is significant at the .05 level.

b.Adjustment for multiple comparisons: Least Significant Diffrence (equivalent to no adjustments).
Relatedness testing for Non-Normative cases indicates there was a significant difference among the three periods of time analyzed, \( F(2, 214) = 72.320, p = .000, \eta^2 = .403 \). As seen in Appendix P (Estimates) the respondents reported their greatest sense of relatedness was experienced at the Academy (\( M = 47.528, SD = 8.105, n = 108 \)) followed by the time periods Post High School (\( M = 41.796, SD = 9.030, n = 108 \)), and Home High School (\( M = 34.019, SD = 10.943, n = 108 \)).

A post hoc analysis in Table 17 indicates that Non-Normative participants’ sense of relatedness was reported as lower in their home high school than when they were at the Academy (Mean Difference = -13.509, \( p < .05 \)) as well as Post High School (Mean Difference = -7.778, \( p < .05 \)). Additionally, the participants’ sense of relatedness was reported as higher at the Academy than during their Post High School time period (Mean Difference = 5.731, \( p < .05 \)).

The preceding analyses contain some information that is surprising and some information that is confirmatory of other work, leading to a better understanding of the complex interplay between gifted students – Non-Normative and Normative – and their academic, social, and familial environments. The application of these analyses to provide an appropriate framework for further improvements within schools of the autonomy, competence, and relatedness of gifted Non-Normative students is covered in chapter five.
Chapter 5
Summary, Conclusions, and Recommendations

This chapter summarizes the study, including its purpose, the research questions examined, and a brief review of the methodology. Additionally, the major study findings are discussed as they connect to the literature reviewed. Finally, implications of these findings and recommendations for future research conclude the chapter.

Summary of the Study

There is substantial research in the areas of both gifted education and sexual orientation and gender identity/expression, and each of these has its own sets of characteristics, needs, challenges, and successes. Unfortunately, a generous corpus for each of them individually does not provide sufficient knowledge for where the two areas of study converge, as there is very limited research dealing with the subset of the student population that is both identified as high ability and who self-identify as non-heterosexual and/or gender non-conforming. This group is of particular concern at this time in history as their emergent search for equality, validity, inclusion, and equitable legal protection has far-reaching importance, due to the fact that gifted students may already be vulnerable to ostracism, prejudice, or the trivialization that may come with the label “gifted.” This means that additional discrimination based on sexual or gender identification places them in two high risk “pools” simultaneously.

The purpose of this study was to first examine the gifted education-related components, then classify the results into three dimensions of belongingness – presented here as competence, autonomy, and relatedness – differentiated by their sexual orientation and/or gender identity/expression. Based on self-reported data, these three dimensions were each measured for three distinct phases of the study participants’ lives: during attendance at their home high school,
Data for this study come from alumni of the Indiana Academy for Science, Mathematics, and Humanities from the classes of 1992 (the school’s first graduating class) through the class of 2018. The 3,550 total alumni were provided a confidential and anonymous link to a Qualtrics survey. Participation was voluntary and of 3,550 total possible participants, 505 alumni participated in the survey. Longitudinally, all graduating classes were represented in the responses, so over two-and-a-half decades’ worth of real experiences were available for analysis.

**Discussion of Findings**

The conceptual framework used to analyze the research questions was Deci and Ryan’s (2000) Self Determination Theory which focuses upon an individual’s perception of their own competence, autonomy, and relatedness. This theory was chosen because the analysis of these three components provides a holistic method of understanding the practical connection of life
factors expressed and evaluated in an understandable framework. For clarity, the differentiated study groups are referred to as Normative (heterosexual and gender conforming) and Non-Normative (non-heterosexual and/or gender non-conforming). Where there was not sufficient data to completely differentiate a respondent, their data was placed into a group called Unclassified. Conclusions from analysis of the total survey respondent pool are referred to as All. This grouping methodology was necessary due to the sensitive nature of the questions asked.

**Research finding #1.** A specialized, gifted student-focused academic environment has positive effects on gifted students, and even more so on gifted non-normative students.

According to the paired-samples t-test all participants’ perception of their autonomy, competence, and relatedness was lower in their home high school than it was when they attended the Indiana Academy. A more detailed look shows that when differentiated by sexual orientation and/or gender identity/expression, Non-Normative students’ percentage change was higher in a positive direction, in all three dimensions, than that of the Normative participants, most notably in the area of autonomy. This suggests that, while an improvement for all students, regardless of classification, for Non-Normative students, the positive effects of a more narrowly defined socio-academic environment and/or a more inclusive climate are more dramatic. This further could indicate that a more narrowly defined socio-academic educational environment and/or a more inclusive climate could produce individual growth in greater degree for Non-Normative students. This conclusion aligns with the body of research that indicates a student’s sense of autonomy grows when the student is provided with opportunities for personal growth within an environment where they not only feel systemic support, but also feel empowered to make decisions, pursue interests, and be who they genuinely are (Deci et al., 2006; Legate, Ryan, &
Weinstein, 2012). This environmental condition can be of particular importance for students who are both high ability and Non-Normative as they may be prone to feel twice as alone in a traditional heteronormatively-focused school (Hutcheson & Tieso, 2014).

Further supporting this finding, in the Comparison of the Means test—which compared a student’s perception of their autonomy, competence, and relatedness from the time periods of their home high school and that of the Academy - the Normative students were shown to have a higher mean in all categories than Non-Normative students when compared to the data from the home high school. This is not surprising given that the Normative students would be a better fit than Non-Normative students in a traditional school environment. However, in reviewing the data from the Academy, Non-Normative students have means higher than the Normative students across all categories, indicating that removal of an environment based off of traditional norms can unblock repressed and suppressed gifted student performance. This also seems to align with Cross and Coleman’s (1993) study in which they found that 60% of the respondents felt limited in their ability to be themselves in their high school and 85% indicated that there were only a few students there who were like them.

Though Cross and Coleman’s study does not differentiate by sexual orientation and/or gender identity/expression, it illuminates the experiences of a high ability student, and, for the purposes of this study, Non-Normative students are also high ability students and thus, is affected by both stigmatizations. High ability students often feel like they must hide, or suppress, their abilities in order to fit in with their peers (Cross et al., 2003; Hartzell, 2012; Swiatek & Dorr, 1998). So it follows that if the peers in the school they attend are also members of the high ability group, there would be less reason to suppress one’s abilities to try to fit in, since the social fit would come more from displaying abilities than from hiding them.
Additionally, Non-Normative students’ overall lower perception of autonomy and relatedness while in their home school seems to align with the importance of the school climate being a safe place where students can experience social acceptance and be who they are (Cross, 1997; Tannenbaum, 1983). That safe place feeling provides positive increases in the sense of belonging, a refuge from latent denigration.

Being gifted and non-normative can increase students’ feelings of difference and loneliness, especially when classes, extra-curricular activities, comments, expectations, and society in general, tend to be heteronormative (Hutcheson & Tieso, 2014; Wiest, Brock, & Pennington, 2016). So, the detrimental effects on a twice-stigmatized population are notable. The change in perception when students attended the Academy demonstrates the importance and necessity of providing high ability non-normative students with an environment that is aware of and is purposeful in making certain that classes, activities, living environments, etc. are inclusive of all students (Baumeister & Leary, 1995; Boyland et al., 2018; Garvey & Rankin, 2015).

The higher perceptions of belonging across the board while students are at the Academy may support the idea that high ability students need to be around like-minded students with similar academic abilities (Rogers, 2007; Robinson, Shore, & Enersen, 2007). When students feel and experience support for their autonomy, they feel empowered to pursue areas of interest (Legate, Ryan, & Weinstein, 2012). This is supported by the positive percentage increase in autonomy and competence while at the Academy.

Starting from the conclusion that a specialized gifted educational environment enhances belonging and also research showing that when high ability students feel like they can be themselves, the pressure to perform is reduced which increases the freedom, comfort, and acceptance they feel (Ryan & Deci, 2017). An additional level of detail aids better understanding
of the factors which specifically contribute to a student’s choice to leave their home high school, in essence which factors most drive the students’ decision to leave their native environment in favor of the more specialized environment of the Academy. Determining the specific decision pressures which are most prevalent for all students, but especially for those in the Non-Normative category, can illustrate factors which should be intentionally addressed within the school environment. This discussion of the participants’ reasons for leaving their home high school in order to attend the Indiana Academy take place in the next research finding.

**Research finding #2.** School climate, the ability to be/discover who you are, and lack of like-minded peers make a difference in school choice for gifted Non-Normative students, academics do not.

Understanding how a student’s sense of belonging relates to their expression of their giftedness and personal comfort level is important, it is also important to remember there is a difference between how a student feels and the actions a student takes to improve their environment. With that in mind, an understanding of students’ motivations to change their school environment is useful when evaluating possible steps to improve a given school’s environment.

One potential option to explain the draw of an environment like the Indiana Academy, which almost seems a given based on the reasons behind the school’s founding, is that the academics are perceived to be better, which on the surface addresses the need for appropriate levels of challenge for high ability students (Davidson Institute for Talent Development, 2004; Gallager, 2004; Jolly & Makel, 2010; Rogers, 2007). Results of this study, however, tend toward the counter-intuitive as the Spearman’s rho correlation showed near zero (no) association with academics where both autonomy and competence were concerned for both Normative and Non-
Normative participants. This could suggest that a gifted student’s ability to be who they are (autonomy), or who they were meant to be, and where their motivation stemmed from, was not connected to the level, or quality, of academic challenge they were provided. Interestingly, the same could be said for competence, which could suggest that the participant’s exposure to challenge in their home high schools did not influence their perception of their own home high school academic opportunities. Instead, correlations for reasons students left their home high schools were seen in four variables: be/discover who you are, home high school climate, no like-minded people, and, for Normative students, bullying/harassment,

While youth is a time where most, if not all, people are seeking to discover who they are, this period can prove to be especially difficult and fearful for gifted, Non-Normative students. For Non-Normative students, in very measurable ways, being who they are comes with a price tag; 70.1% have been verbally harassed at school over their sexual orientation, 59.1% based on their gender expression, and 53.2% based on their gender identity. Of the students who were harassed or assaulted, 60.4% reported that their schools did nothing or told them to ignore it, and another 55.3% did not report it because they believed it would not help, or might even make the situation worse (DeWitt, 2012; Kosciw, et al., 2016; Kosciw et al., 2018; Robinson & Espelage, 2012, 2011). However, in this study there was no association for Non-Normative students between bullying/harassment and choosing to leave the home high school. This research result does not seem to align with what could otherwise be concluded from the literature on Non-Normative students. It is interesting to note, then, that this study found, when looking at the reasons for leaving their home high school, only Normative students had an association between bullying/harassment and the ability to be who they are, as well as overall school climate.
Non-Normative students, though, did show correlations between the desire to be with likeminded peers and the ability to be who they are. Being able to be who they truly are, and being able to authentically express themselves, their values, and interests is vital to their psychological health as well as their overall well-being (Cherry, 2019; Legate, Ryan, & Weinstein, 2012) from the stand-point of both high ability and Non-Normative identifications. Especially for this population, it appears an accepting environment is a stronger draw than even advanced academics. Understanding the motivations for a change of school environment is a critical component for designing a better structure for gifted education, and further analysis can shed light on the efficacy of an apparently more accepting environment and its longer-term effects on students who have changed schools. The following finding discusses those longer-term effects.

**Research Findings #3.** Competence, autonomy, and relatedness carry on from a student’s high school environment into their adult lives, and the more the environment fosters autonomy, competence, and relatedness, the greater the overall life satisfaction.

A review of the responses from the survey indicate that 78.61% of the participant pool (Normative, Non-Normative, and Unclassified) are satisfied with their lives. This was supported by the findings in the Satisfaction with Life Scale, where the mean score for Normative participants was 27.070 (n = 214) and 25.222 (n = 108) for Non-Normative participants. According to Pavot and Diener (2013) both Normative and Non-Normative participants have high scores. On a point scale of 5 (extremely dissatisfied) to 35 (highly satisfied), a high score is 25 points and higher. A high score indicates that the participants like their lives, even though their lives may not be perfect. Additionally, Pavot and Diener suggest that a high score also indicates that the individual is not complacent, finding that both growth and challenge add to the
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feeling of satisfaction. While they may be motivated by those aspects with which they are
dissatisfied, overall, they find life enjoyable and that things are going well with work or school,
with family and friends, as well as with their personal development and leisure-time (Pavot &
Diener, 2013).

As a whole, the study participants experienced the strongest sense of their autonomy,
competence, and relatedness while at the Academy. Secondarily, both autonomy and relatedness
show that while the greatest sense of those dimensions was experienced at the Academy, that
sense was followed in lesser degree by their life post high school, while competence showed the
greatest sense was experienced at the Academy followed in lesser degree by their experience at
their home high school. The results of this testing seem to be reflected in the more generalized
survey question that asked how connected they felt toward their home school and the Indiana
Academy. The responses indicated that 96.29% felt connected to the Academy (n = 324) and
56.17% felt connected to their home school.

When broken down into subcategories, Normative participants indicated a greater sense
of autonomy and competence during their time post high school, followed by their time at the
Academy. Additionally, Normative participants experienced the greatest sense of relatedness at
the Academy, followed by life post high school. Non-Normative participants felt their greatest
sense of autonomy, competence, and relatedness at the Indiana Academy, followed by their life
post high school.

The Normative and Non-Normative participants’ sense of relatedness was also lower at
their home high school. This seems to align with the study conducted by Nichols (2008) which
found that acceptance by family and friends, as well as the perception of school support, affects
students’ sense of belonging and their connectedness, in general, to the school, teachers, and classmates (Ryan et al., 2005).

In a deeper analysis at the means, Normative participants reported more overall life satisfaction as evidenced by a higher mean, which is further highlighted with their lowest score being double that of the lowest score from Non-Normative participants.

While sexual orientation and/or gender identity/expression do not make up the whole of a person, they do shape the way in which Non-Normative people navigate a heteronormative society (Baumeister & Leary, 1995; Beiswenger & Grolnick, 2010; Ryan & Deci, 2017; Ryan, et al., 2005). And while the social movement has made strides for Non-Normative community, society continues to be normative-focused (Biegel, 2010; DeWitt, 2012; DeWitt, 2018; Robinson & Espelage, 2011) and, therefore, could play a significant role in life satisfaction. As a structure-based society, a couple of the areas that have the greatest impact on daily life include religion and the law, both of which are salient to Non-Normative students, and relevant to current events.

Information about the current residential location was not collected from the participants, however they all hail from Indiana, given that it is a requirement to be eligible to attend the Indiana Academy. To highlight the tumultuous environment for Hoosier Non-Normative students, in Indiana about 72% of the adult population reports a religious affiliation of Christian, and the majority of mainstream religions consider Non-Normative people as flawed or rebellious and do not allow them to participate in religious activities (Pew Research Center, 2014). Additionally, the law still does not provide equitably for Non-Normative people. While the Supreme Court ruled in 2015 that states could not prohibit same-sex marriages (Ball, 2016; Daum, 2017) most churches will not conduct the ceremonies, leaving options for those who wish to conduct the ceremony very limited. And the issue goes deeper than just ceremonies in
churches, as in many cases individuals defy even Supreme Court rulings to exercise bias (Kobin, 2019). In an environment where there is raw and open bias against individuals who have acute intellectual abilities, it is no wonder that there are so many obstacles to overcome for those who also do not fall into what society considers to be normative in the most vulnerable and private aspects of life.

**Recommendations for further research.** While this study focused on the differences in perception of high ability Normative and Non-Normative students from a high ability high school, additional research should be conducted in a few specific areas. Gross (1993, 1998) found that students with 160 or higher IQs who were allowed to grade accelerate or who were in an inclusion classroom had significantly more difficulty with peer relationships. Therefore, one of the areas additional research should be conducted is on high ability students, differentiated by IQ, grade acceleration, sexual orientation, and gender identity/expression, within traditional school(s) that educate students in an inclusion environment. This would be done to see first, if the Gross’ results are duplicated and second, to analyze any differences between Normative and Non-Normative students.

Another area of research that would add value to the growing body of evidence, would be to consider the environment within which the study was conducted. This would be done in order to understand if there are constructs within the Indiana Academy environment that influenced the outcomes. By conducting this same study at one or more of the other high ability academies in the United States it would allow researchers to see result similarities as well as major variations.

Additionally, this study could be broken into more detail as to the experiences and perceptions of individual categories of high ability students: heterosexual / cisgender, lesbian,
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...gay, bisexual, transgender, questioning/queer, non-binary, etc. so that variances in their experiences can be studied.

Limitations. Study participants were all alumni of the Indiana Academy, for which they applied for admission to attend their junior and senior years of high school. The unique combination of the high ability and Non-Normative identifiers in combination with the decision to leave their home high school to attend the Indiana Academy, significantly decreases its generalizability to larger segments of education.

While there are typically under 20 residential, high ability academies in the United States, another limitation of this study is that it was conducted by collecting data from only one academy. Furthermore, due to the unique nature of the combination of the high ability and Non-Normative identifiers in combination with the decision to leave their home high school to attend the Indiana Academy, the generalizability to larger segments of education is limited.

An additional limitation is found in the response rate. Of the 3,550 alumni, 505 (14.41%) participated. Of the 505 survey participants, 366 – or 72% - were complete. Because participants self-selected to participate in the survey and, due to the content of the survey, many questions were not required to be answered, thus a more complete picture of that population may not have been captured.

Additionally, the study was retrospective in nature, having asked participants to respond to questions at three different points in their lives: from the time at their home high school, from the time they spent at the Indiana Academy, and from the time of their lives post high school. Conducting the survey in an ongoing or ‘real time’ manner as they are experiencing life, may have resulted in different outcomes.
Finally, while adults in the United States tend to estimate that 23.6% of Americans are LGBT, in actuality the most recent self-reported data is 4.5% (McCarthy, 2019). In this study, however, 33.12% self-identified as having a non-normative sexual orientation. Since the study participant percentage is significantly higher than what is found in the general population, the results may not be as generalizable.

**Final remarks.** One of the visual images presented in the musical group Pink Floyd’s video called The Wall, is the depiction of a strict teacher instructing cookie-cutter students as they roll along on a conveyor belt and are dropped into the sausage grinder of life. This visual depiction is likened to the equality-based educational system which provides a cookie-cutter style education that does not allow for differences, less perhaps those pertaining to special education. The educational system, instead of being focused upon the students and their needs, is being in many ways forced to focus on standardized testing, accountability, etc. – basically providing a lockstep framework for evaluation, or in this model, the frame for the cookie cutter, providing the equality that dominates so many of the demands made by society. And in much of social culture, it seems more value is placed on equality, where making sure every student receives exactly the same education, regardless of the education that they truly need, takes precedence over individualized education for all. As we dare not take a behind the scenes tour of a sausage manufacturing plant, we should also not allow the educational “sausage” to be stuffed with a lot of filler. When we force students to have the same educational experiences and force them into the same sexual orientation and/or gender identities, it invalidates – and removes – an essential part of who they are. This then impacts how they view themselves, how they view others, how they relate to society, and how they interact within society, hence risking stymying
their education and intellectual contributions and potentially reducing their overall life satisfaction.

This study supports, from an educational standpoint, how imperative it is that each gifted student – Normative and Non-Normative - be recognized for who they are and the different labels that they willingly – and unwillingly – wear, so that an educational environment can be created where every student can see themselves in the curriculum, where they can be safe, where they can connect with other like-minded students, faculty, and administrators, and where they can be academically, appropriately-challenged.
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Appendix A

Basic Psychological Need Satisfaction Scale

Scale Description

Central to self-determination theory is the concept of basic psychological needs that are assumed to the innate and universal. According to the theory, these needs--the needs for competence, autonomy, and relatedness--must be ongoingly satisfied for people to develop and function in healthy or optimal ways (Deci & Ryan, 2000). Many of the propositions of SDT derive from the postulate of fundamental psychological needs, and the concept has proven essential for making meaningful interpretations of a wide range of empirically isolated phenomena.

This 21-item scale addresses need satisfaction in general in one’s life and was adapted from a more broadly used measure of need satisfaction at work (Deci, Ryan, Gagné, Leone, Usunov, & Kornazheva, 2001; Ilardi, Leone, Kasser, & Ryan, 1993; Kasser, Davey, & Ryan, 1992). The Basic Psychological Need Satisfaction Scale in General has been used, for example, in Gagné (2003) and Thorgersen-Ntoumani, Ntoumanis, Cumming, and Chatzisarantis, (2011).

Please use the following references when using this scale: (Deci & Ryan, 2000; Gagné, 2003)


Basic Psychological Need Satisfaction in General

Feelings I Have

Please read each of the following items carefully, thinking about how it relates to your life, and then indicate how true it is for you. Use the following scale to respond:

1   2   3   4   5   6   7  
not at all      somewhat      very  
true      true       true

1. I feel like I am free to decide for myself how to live my life.
2. I really like the people I interact with.
3. Often, I do not feel very competent.
4. I feel pressured in my life.
5. People I know tell me I am good at what I do.
6. I get along with people I come into contact with.
7. I pretty much keep to myself and don't have a lot of social contacts.
8. I generally feel free to express my ideas and opinions.
9. I consider the people I regularly interact with to be my friends.
10. I have been able to learn interesting new skills recently.
11. In my daily life, I frequently have to do what I am told.
12. People in my life care about me.
13. Most days I feel a sense of accomplishment from what I do.
14. People I interact with on a daily basis tend to take my feelings into consideration.
15. In my life I do not get much of a chance to show how capable I am.
16. There are not many people that I am close to.
17. I feel like I can pretty much be myself in my daily situations.
18. The people I interact with regularly do not seem to like me much.
19. I often do not feel very capable.
20. There is not much opportunity for me to decide for myself how to do things in my daily life.
21. People are generally pretty friendly towards me.

Scoring information. Form three subscale scores, one for the degree to which the person experiences satisfaction of each of the three needs. To do that, you must first reverse score all items that are worded in a negative way (i.e., the items shown below with (R) following the items number). To reverse score an item, simply subtract the item response from 8. Thus, for example, a 2 would be converted to a 6. Once you have reverse scored the items, simply average the items on the relevant subscale. They are:

Autonomy: 1, 4(R), 8, 11(R), 14, 17, 20(R)

Competence: 3(R), 5, 10, 13, 15(R), 19(R)

Relatedness: 2, 6, 7(R), 9, 12, 16(R), 18(R), 21
Basic Psychological Need Satisfaction in Relationships

Scale Description

Central to self-determination theory is the concept of basic psychological needs that are assumed to the innate and universal. According to the theory, these needs—the needs for competence, autonomy, and relatedness—must be ongoingly satisfied for people to develop and function in healthy or optimal ways (Deci & Ryan, 2000). Many of the propositions of SDT derive from the postulate of fundamental psychological needs, and the concept has proven essential for making meaningful interpretations of a wide range of empirically isolated phenomena.

This 9-item scale addresses need satisfaction in interpersonal relationships. This scale was used in La Guardia, Ryan, Couchman, and Deci (2000).

Please use the following reference when using this scale: (La Guardia, Ryan, Couchman, & Deci 2000).


Basic Need Satisfaction in Relationships

Note: This questionnaire was designed for use with respect to need satisfaction in particular relationships. For example, it is to assess the degree to which a person experiences basic need satisfaction while relating to his or her spouse, or best friend, or mother, or children, or whomever. So, to use the questionnaire to assess need satisfaction in a relationship, replace the XXXXXXX with the relationship you are studying. Although we have never done so, you could try using it for relationships in general if that is the question that interests you.

In My Relationships

Please respond to each statement by indicating how true it is for you. Use the following scale.

1   2   3   4   5   6   7
not at all      somewhat      very
true      true       true

1. When I am with XXXXXXX, I feel free to be who I am.
2. When I am with XXXXXXX, I feel like a competent person.
3. When I am with XXXXXXX, I feel loved and cared about.
4. When I am with XXXXXXX, I often feel inadequate or incompetent.
5. When I am with XXXXXXX, I have a say in what happens, and I can voice my opinion.
6. When I am with XXXXXXX, I often feel a lot of distance in our relationship.
7. When I am with XXXXXXX, I feel very capable and effective.
8. When I am with XXXXXXX, I feel a lot of closeness and intimacy.
9. When I am with XXXXXXX, I feel controlled and pressured to be certain ways.

Scoring Information. Form three subscale scores by averaging item responses for each subscale after reverse scoring the items that were worded in the negative direction. Specifically, any item that has (R) after it in the code below should be reverse scored by subtracting the person’s response from 8. The subscales are:

Autonomy: 1, 5, 9(R)

Competence: 2, 4(R), 7

Relatedness: 3, 6(R), 8

Theoretical Note. There is something almost tautological about the statement that satisfying one’s need for relatedness in an interpersonal relationship with, say, your best friend would predict the quality of that relationship. Indeed, as would be expected, research has shown a strong relation between degree of satisfaction of the relatedness need in a particular relationship and the security of attachment and the quality of relationship with that partner (La Guardia, Ryan, Couchman, & Deci, 2000). However, the more interesting point is that security of attachment and the quality of relationships with particular partners is also predicted by the degree
to which one experiences satisfaction of the need for autonomy and the need for competence within those partners.

Appendix B

The Satisfaction with Life Scale

Description of Measure

A 5-item scale designed to measure global cognitive judgements of one’s life satisfaction (not a measure of either positive or negative affect).

Participants indicate how much they agree or disagree with each of the 5 items using a 7-point scale that ranges from 7 strongly agree to 1 strongly disagree.

Reference


Instructions

Below are five statements that you may agree or disagree with. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

- 7 – Strongly agree
- 6 – Agree
- 5 – Slightly agree
- 4 – Neither agree nor disagree
- 3 – Slightly disagree
- 2 – Disagree
- 1 – Strongly disagree

_____ In most ways my life is close to my ideal.
_____ The conditions of my life are excellent.
_____ I am satisfied with my life.
_____ So far I have gotten the important things I want in life.
_____ If I could live my life over, I would change almost nothing.
Students from a Residential High Ability High School

**Instrument Title: The Satisfaction with Life Scale (SWL)**

Instrument Author: Pavot, W., & Diener, E.


**Understanding Scores on the Satisfaction with Life Scale**

**Ed Diener**

(Note: If we divide by the number of questions, rather than use the summed aggregate score, then the cutoffs below instead should be:

- 6-7
- 5-6
- 4-5
- 3-4
- 2-3
- 1-2

**30 – 35 Very high score; highly satisfied**
Respondents who score in this range love their lives and feel that things are going very well. Their lives are not perfect, but they feel that things are about as good as lives get. Furthermore, just because the person is satisfied does not mean she or he is complacent. In fact, growth and challenge might be part of the reason the respondent is satisfied. For most people in this high-scoring range, life is enjoyable, and the major domains of life are going well – work or school, family, friends, leisure, and personal development.

**25- 29 High score**
Individuals who score in this range like their lives and feel that things are going well. Of course their lives are not perfect, but they feel that things are mostly good. Furthermore, just because the person is satisfied does not mean she or he is complacent. In fact, growth and challenge might be part of the reason the respondent is satisfied. For most people in this high-scoring range, life is enjoyable, and the major domains of life are going well – work or school, family, friends, leisure, and personal development. The person may draw motivation from the areas of dissatisfaction.

**20 – 24 Average score**
The average of life satisfaction in economically developed nations is in this range – the majority of people are generally satisfied, but have some areas where they very much would like some improvement. Some individuals score in this range because they are mostly satisfied with most areas of their lives but see the need for some improvement in each area. Other respondents score in this range because they are satisfied with most domains of their lives, but have one or two areas where they would like to see large improvements. A person scoring in this range is normal
in that they have areas of their lives that need improvement. However, an individual in this range would usually like to move to a higher level by making some life changes.

15 – 19 Slightly below average in life satisfaction
People who score in this range usually have small but significant problems in several areas of their lives, or have many areas that are doing fine but one area that represents a substantial problem for them. If a person has moved temporarily into this level of life satisfaction from a higher level because of some recent event, things will usually improve over time and satisfaction will generally move back up. On the other hand, if a person is chronically slightly dissatisfied with many areas of life, some changes might be in order. Sometimes the person is simply expecting too much, and sometimes life changes are needed. Thus, although temporary dissatisfaction is common and normal, a chronic level of dissatisfaction across a number of areas of life calls for reflection. Some people can gain motivation from a small level of dissatisfaction, but often dissatisfaction across a number of life domains is a distraction, and unpleasant as well.

10 – 14 Dissatisfied
People who score in this range are substantially dissatisfied with their lives. People in this range may have a number of domains that are not going well, or one or two domains that are going very badly. If life dissatisfaction is a response to a recent event such as bereavement, divorce, or a significant problem at work, the person will probably return over time to his or her former level of higher satisfaction. However, if low levels of life satisfaction have been chronic for the person, some changes are in order – both in attitudes and patterns of thinking, and probably in life activities as well. Low levels of life satisfaction in this range, if they persist, can indicate that things are going badly and life alterations are needed. Furthermore, a person with low life satisfaction in this range is sometimes not functioning well because their unhappiness serves as a distraction. Talking to a friend, member of the clergy, counselor, or other specialist can often help the person get moving in the right direction, although positive change will be up the person.

5 – 9 Extremely Dissatisfied
Individuals who score in this range are usually extremely unhappy with their current life. In some cases this is in reaction to some recent bad event such as widowhood or unemployment. In other cases, it is a response to a chronic problem such as alcoholism or addiction. In yet other cases the extreme dissatisfaction is a reaction due to something bad in life such as recently having lost a loved one. However, dissatisfaction at this level is often due to dissatisfaction in multiple areas of life. Whatever the reason for the low level of life satisfaction, it may be that the help of others are needed – a friend or family member, counseling with a member of the clergy, or help from a psychologist or other counselor. If the dissatisfaction is chronic, the person needs to change, and often others can help.

Part that is common to each category

To understand life satisfaction scores, it is helpful to understand some of the components that go into most people’s experience of satisfaction. One of the most important influences on happiness is social relationships. People who score high on life satisfaction tend to have close and supportive family and friends, whereas those who do not have close friends and family are more
likely to be dissatisfied. Of course the loss of a close friend or family member can cause dissatisfaction with life, and it may take quite a time for the person to bounce back from the loss.

Another factor that influences the life satisfaction of most people is work or school, or performance in an important role such as homemaker or grandparent. When the person enjoys his or her work, whether it is paid or unpaid work, and feels that it is meaningful and important, this contributes to life satisfaction. When work is going poorly because of bad circumstances or a poor fit with the person’s strengths, this can lower life satisfaction. When a person has important goals, and is failing to make adequate progress toward them, this too can lead to life dissatisfaction.

A third factor that influences the life satisfaction of most people is personal – satisfaction with the self, religious or spiritual life, learning and growth, and leisure. For many people these are sources of satisfaction. However, when these sources of personal worth are frustrated, they can be powerful sources of dissatisfaction. Of course there are additional sources of satisfaction and dissatisfaction – some that are common to most people such as health, and others that are unique to each individual. Most people know the factors that lead to their satisfaction or dissatisfaction, although a person’s temperament – a general tendency to be happy or unhappy – can color their responses.

There is no one key to life satisfaction, but rather a recipe that includes a number of ingredients. With time and persistent work, people’s life satisfaction usually goes up when they are dissatisfied. People who have had a loss recover over time. People who have a dissatisfying relationship or work often make changes over time that will increase their dissatisfaction. One key ingredient to happiness, as mentioned above, is social relationships, and another key ingredient is to have important goals that derive from one’s values, and to make progress toward those goals. For many people it is important to feel a connection to something larger than oneself. When a person tends to be chronically dissatisfied, they should look within themselves and ask whether they need to develop more positive attitudes to life and the world.

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Appendix C

Supplemental Survey Questions

Q76 While attending the Indiana Academy, did you live in the residence hall (Residential), at home (NECP), or were you an International student? Please select only one:

- Residential (1)
- NECP (Commuter) (2)
- International (3)

Q77 Indicate your biological sex as it appears on your birth certificate. Select only one:

- Male (1)
- Female (2)

Q78 How would you classify your hometown? Select only one:

- Urban (dense population) (1)
- Suburban (moderate population) (2)
- Rural (sparse population) (3)

Q79 Indicate your year of high school graduation (class of). Select only one:

▼ 1992 (1) ... 2018 (27)
Q168 What was your cumulative high school GPA on a 4.0 scale?

▼ 4.0 or Higher (1) ... 1.0 or Less (7)

Q169 What was your cumulative college GPA on a 4.0 scale?

▼ 4.0 or Higher (1) ... 1.0 or Less (7)

Q170 What was your best SAT score? Since the SAT has changed formats several times, please indicate the maximum score as well. Example: 560 out of 1600 OR out of 1920 out of 2400

_______________________________________________________________

Q173 Are you currently in college? If yes, where?

○ Yes (1) ________________________________________________

○ No (2)

Q171 If you have completed college, where did you attend?

________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

Q172 What degrees have you earned?

________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________
Q174 What is your current job field?

- Computer / IT (1)
- Software (2)
- Publishing (3)
- Telecommunications (4)
- Real Estate (5)
- Education: K-12 (6)
- Education: Collegiate (7)
- Education: Other (8)
- Health Care (9)
- Art / Entertainment / Recreation (10)
- Food Services (11)
- Legal Services (12)
- Government / Public Administration (13)
- Scientific or Technical Services (14)
- Religious Services / Pastor (15)
- Military (16)
- Other; Please specify (17) ________________________________
Q80 Indicate your race. Select all that apply.

- White, non-Hispanic (1)
- Black or African American (2)
- Asian (3)
- Native Hawaiian or Other Pacific Islander (4)
- Hispanic or Latino (5)
- American Indian or Alaska Native (6)
- Other; Please specify (7) ________________________________________________

Q81 Which of the following best describes your gender identity.
- Cisgender: a person whose gender identity corresponds with their birth sex.
- Transgender: a person whose gender identity does not correspond with their birth sex.
- Agender: a person who does not identify as a specific gender.
- Bigender: a person who identifies as both genders.

- Cisgender (1)
- Transgender (2)
- Agender (3)
- Bigender (4)
- Another gender identity; please specify: (5)
- I prefer not to respond (6)
Q82 Please rate each of the following reasons for leaving your home high school.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Somewhat Agree (1)</th>
<th>Agree (2)</th>
<th>Strongly Agree (3)</th>
<th>Not Applicable (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academics (offerings, challenge, flexibility, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to participate in clubs/extra-curricular activities/sports</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No or almost no like-minded peer group</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall home school climate</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Ability to be who you really are/discover who you really are</td>
<td></td>
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<tr>
<td>To leave bullying/harassment behind</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parents decided for you to attend</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of connection to a teacher or administrator</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>You should consider this reason:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q83 Please rate how connected you felt to each of the following.

<table>
<thead>
<tr>
<th></th>
<th>No Connection (1)</th>
<th>Somewhat Connected (2)</th>
<th>Strongly Connected (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your home high school</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>(1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Indiana Academy</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>(2)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q84 This section is for participants that identify as LGBTQ+ or gender non-conforming/alternative gender. Please acknowledge that you have read this statement.

☐ Yes, I have read the statement. (1)

Q85 When did you come out to yourself?

☐ At what age did you come out to yourself? (1)

________________________________________________

Q86 Have you come out to your family?

☐ If yes, were you at the Academy when you came out? Yes or no. (1)

________________________________________________

☐ At what age did you come out? (2)

________________________________________________

☐ No; why? (3) ___________________________________________
Q87 Have you come out to your friends?

☐ If yes, were you at the Academy when you came out? Yes or no. (1)

☐ At what age did you come out? (2)

☐ No; why? (3) 

Q88 Did you come out to your home high school?

☐ If yes, at what age did you come out? (1)

☐ If no, why? (2) 

Q89 Did you come out to the Indiana Academy?

☐ If yes, at what age? (1)

☐ If yes, were you a junior or senior? (2)

☐ If no, why? (3) 

Q175 Did you come out post high school?

☐ If yes, at what age? (1)

☐ If yes, were in college? (2)

☐ If no, why? (3)
Q90 Rank the order in which you came out. Drag and drop. If you have not yet come out, please put "Not Applicable" as #1 otherwise leave as the last option.

____ Self (1)
____ Family (2)
____ Friends (3)
____ School (4)
____ Not Applicable (5)

Q91 Please rate each of the following as it related/relates to your coming out.

<table>
<thead>
<tr>
<th>Reason</th>
<th>No Connection (1)</th>
<th>Slight Connection (2)</th>
<th>Moderate Connection (3)</th>
<th>Extreme Connection (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fear of losing or disappointing family and/or friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fear of bullying/harassment at school</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fear of not being treated as myself; not being who everyone thought I was</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of support services in my school (such as GSA, Safe Zones, etc.); school climate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>You should also consider this reason:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix D

Class Participant Distribution
Appendix E

Indiana Academy Race and Ethnic Distribution by Class

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>African-American</td>
<td>4.43%</td>
<td>5.73%</td>
<td>7.74%</td>
<td>3.23%</td>
<td>7.38%</td>
<td>5.46%</td>
<td>9.32%</td>
<td>9.84%</td>
<td>7.19%</td>
<td>7.73%</td>
<td>6.00%</td>
<td>7.10%</td>
</tr>
<tr>
<td>Asian-American</td>
<td>4.43%</td>
<td>3.82%</td>
<td>5.16%</td>
<td>3.87%</td>
<td>6.71%</td>
<td>7.81%</td>
<td>8.07%</td>
<td>8.20%</td>
<td>6.59%</td>
<td>6.63%</td>
<td>12.67%</td>
<td>7.09%</td>
</tr>
<tr>
<td>Caucasian</td>
<td>83.54%</td>
<td>77.07%</td>
<td>79.35%</td>
<td>80.00%</td>
<td>75.16%</td>
<td>70.31%</td>
<td>63.98%</td>
<td>62.30%</td>
<td>68.85%</td>
<td>68.51%</td>
<td>69.34%</td>
<td>72.78%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1.90%</td>
<td>4.46%</td>
<td>6.00%</td>
<td>1.94%</td>
<td>1.34%</td>
<td>0.78%</td>
<td>3.11%</td>
<td>2.46%</td>
<td>2.40%</td>
<td>1.06%</td>
<td>0.00%</td>
<td>1.18%</td>
</tr>
<tr>
<td>Native-American</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.65%</td>
<td>0.00%</td>
<td>0.78%</td>
<td>0.62%</td>
<td>0.00%</td>
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School Connectedness

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Spearman’s rho: Normative

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Appendix H

Estimates

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a. Covariates appearing in the model are evaluated at the following values: Normative/NonNormative = 1.9344.

Multivariate Tests

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Each F tests the multivariate effect of Autonomy. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

Tests of Within-Subject Effects

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Appendix I

Estimates

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a. Covariates appearing in the model are evaluated at the following values: Normative / NonNormative = 1.9344.

Multivariate Tests

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Each F tests the multivariate effect of Competence. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Exact statistic

Test of Within-Subject Effects

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Appendix J

Estimates

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a. Covariates appearing in the model are evaluated at the following values: Normative_NonNormative = 1.9344.

Multivariate Tests

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Tests of Within-Subject Effects

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a. Exact statistic
Appendix K

Normative: Estimates

Estimates

Measure: MEASURE_1

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Normative: Multivariate Tests

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Each F tests the multivariate effect of Normative_Autonomy. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Exact statistic

Normative: Tests of Within-Subjects Effects

Measure: MEASURE_1

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Appendix L

Normative_Competence: Estimates

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Normative_Competence: Multivariate Tests

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Each F tests the multivariate effect of Normative_Autonomy. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Exact statistic

Normative_Competence: Test of Within-Subject Effects

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Appendix M

Normative_Relatedness: Estimates

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Normative_Relatedness: Multivariate Tests

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Each F tests the multivariate effect of Normative_Autonomy. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

<sup>a</sup>Exact statistic

Normative_Relatedness: Tests of Within-Subjects Effects

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Appendix N

NonNormative_Autonomy: Estimates

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NonNormative_Autonomy: Multivariate Tests

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Each F tests the multivariate effect of NonNormative_Autonomy. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Exact statistic

NonNormative_Autonomy: Tests of Within-Subjects Effects

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Appendix O

NonNormative_Competence: Estimates

Measure: MEASURE_1

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NonNormative_Competence: Multivariate Tests

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Each F tests the multivariate effect of NonNormative_Competence. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Exact statistic

NonNormative_Competence: Tests of Within-Subject Effects

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Appendix P

NonNormative_Relatedness: Estimates

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<th>NonNormative_Relatedness</th>
<th>Mean</th>
<th>Std. Error</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home HS</td>
<td>34.019</td>
<td>1.053</td>
<td>31.93</td>
<td>36.107</td>
</tr>
<tr>
<td>Academy</td>
<td>47.528</td>
<td>0.780</td>
<td>45.982</td>
<td>49.074</td>
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<tr>
<td>Post HS</td>
<td>41.796</td>
<td>0.869</td>
<td>40.074</td>
<td>43.519</td>
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</tbody>
</table>

NonNormative_Relatedness: Multivariate Tests

<table>
<thead>
<tr>
<th>Value</th>
<th>F</th>
<th>Hypothesis df</th>
<th>Error df</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
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<tbody>
<tr>
<td>Pillai's trace</td>
<td>0.532</td>
<td>60.270a</td>
<td>2.000</td>
<td>106.000</td>
<td>0.000</td>
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<tr>
<td>Wilks lambda</td>
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<td>60.270a</td>
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<td>106.000</td>
<td>0.000</td>
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<tr>
<td>Hotelling's trace</td>
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<td>106.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Roy's largest root</td>
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<td>60.270a</td>
<td>2.000</td>
<td>106.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Each F tests the multivariate effect of NonNormative_Relatedness. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.
a.Exact statistic