Career Counseling for the Gifted and Talented: A Life Span Development Approach

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Abstract

One milestone of adolescence is determining a career direction. For the nation's most talented students, evidence suggests that conventional approaches to career development may not be adequate. This chapter outlines the unique challenges of providing career counseling to gifted students, and provides an examination of how social cognitive career theory can be used to assist students. Finally, the career needs of various special populations of gifted and talented students are examined.

Why do people work? This question is a deceptively simple place to begin on a book chapter focused on career development for the gifted and talented individual. For some the answer may be quite simple: in order to supply oneself with the basic needs of maintaining life (i.e., having adequate food, shelter, clothing, etc.). While other individuals may see work as a way to fulfill other more complex motivations such as gaining a sense of personal identity, fulfilling a need to give to society, and to have a purpose within society (Lent & Brown, 2013a). In sum, individuals work for a wide variety of reasons. The role work plays in our lives is complex and ranges from "working to live" to "living to work." An individual's world-view of work and what work means in their lives has an impact upon many facets of the career development process. At times within our culture, a "...premium is placed upon approaching work as an opportunity to achieve growth, purpose, meaning and social contribution" (Lent & Brown, 2013b, p. 5). How one sees the role of work, how one's family approaches work, and how we as a society value work all contribute and influence the career development process.

Career development refers to the process of formal and informal experiences that provides information about an individual's talents, interests, values, and knowledge of the world of work. The process begins in childhood and continues throughout one's life: from early knowledge of self, to career decision-making, to working, and finally to retirement. An important part of this process is career choice which is at its heart a decision-making process of selecting, training, and entering a career, while career development encompasses one's total experience with work or career.

The research around career counseling and gifted students has vacillated over time often with the politics of the gifted education movement itself (Kerr & Fisher, 1997). From the post-Sputnik era in the early 1960s to the initiatives

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personality traits, and special populations (e.g., gender, LGBT, race/ethnicity, and adult populations). Although there is not a prototypical gifted individual there are certain considerations that are important to understand when providing career counseling for students who are gifted and talented.

This chapter posits that students who are gifted and talented need career development and counseling earlier and systematically, thus creating a comprehensive career development and academic planning process that cumulates in a career choice (Watters, 2010). The authors of this chapter contend that the process continues even beyond determining a career path but extends into the pursuit of obtaining and performing at the chosen career. Furthermore, career development should not only be developmental and comprehensive, but also be purposeful (Pfeiffer, 2013). Careful and thoughtful planning utilizing a theoretical approach is also advantageous.

Career developmental theories exist in order to explain and make sense of a complicated process of one's work life. Given the complexity and the numerous variables that can impact one's career life, many career theories have been created. However, only a few have been applied to the unique needs and concerns of the gifted and talented student. Gottfredson's (2005) theory of circumscription, compromise, and self-creation; Super's (1963) theory of career development; and the cognitive information processing approach (Peterson, Sampson Jr., Lenz, & Reardon, 2002) have had recent writings applying these theories to the gifted and talented individual (Chen & Wong, 2013; Muratori & Smith, 2015; Sampson & Chason, 2008; Wood, Smith, & Duys, 2017). In addition to the more traditional theories, more recently derived approaches such as an ecological model (Hook & Ashton, 2002) and constructivist (Maxwell, 2007) have shown promise with this population as well. This chapter focuses upon career development being a lifelong process beginning in childhood and continuing throughout one's life. As such using a career development model that emphasizes this approach as well as incorporates the interaction between the individual's thoughts and their interaction within their environment makes Social Cognitive Career Theory an appropriate choice for working with gifted and talented individuals (Watters, 2010).

SCCT Theory

Social cognitive career theory is especially useful in providing a solid approach to career development with individuals who are gifted and talented. SCCT with its focus upon career development as a lifelong process focusing upon an individual's internal and the sociocultural environmental factors, and the cognitive and social dynamics that interact and influence career decision-making. Like Bandura's social cognitive theory, social cognitive career theory examines self-efficacy, outcome expectations and goal setting within a career framework. Self-efficacy beliefs refer to an individual's judgment of their own capabilities to successfully execute a plan (Lent, 2013). Self-efficacy is intricately tied to one's confidence and self-beliefs. Outcome expectations refers to an individual's beliefs about the result of certain behaviors (Lent, 2013). Personal goals is defined as an individual's intentions to pursue a particular outcome (Lent, 2013). SCCT asserts that an individual's choice and performance goals are inextricably linked to how one thinks of themselves and their outcome expectations. This theory highlights human agency, which is the ability of an individual to make their own career decisions and direct their own vocational behavior (Lent, 2005). Social cognitive career theory (SCCT) currently consists of four overlapping tenets or predictive models aimed at understanding career interest development, choice-making, performance and persistence, as well as satisfaction and well-being (Lent & Brown, 2013b). The following sections will highlight each of the four models and provide application suggestions for working with gifted and talented individuals.

and strategies to attract gifted and talented student into science, technology, engineering, and mathematics (STEM) careers has influenced, albeit sometimes indirectly, the career decision-making of gifted and talented students. Overall, within the gifted and talented literature much of the focus has been upon career choice and career selection processes especially barriers and challenges that exist for the gifted and talented student. Often this research has been focused on the decision-making processes of secondary education students and the career development process of college students. However, for the secondary level or college student career choice is often not the start of the process. According to Watters (2010) the career decision-making process begins much earlier and will continue into adulthood. Career development is a lifelong process that schools often initiate but continues far after an individual leaves the educational environment (Kim, 2013).

For the gifted and talented student evidence suggests that career counseling should begin early (Watters, 2010). Many states are now mandating that schools assist in creating academic plans that align with a student's post-secondary educational goals. This process is generally formalized with written plans at 13 or 14 years of age. For the gifted and talented student this process may need to be accelerated; since it is not uncommon for an early emergence of career interests since many gifted and talented students are seriously contemplating their future by age 9 (Willings, 1986). This early emergence of career interests is an important consideration for those working with gifted students. The need for career counseling is often far greater than their same age peers which creates a mismatch between students' needs the career curriculum provided in schools. This may put gifted students into seeking information on their own. Without a solid comprehensive approach to career planning students will look for role models closest to them which may leave them not fully cognizant of all their many options. This is especially true for gifted and talented student who live in rural areas or who are from impoverished backgrounds.

In addition, to the issue of early emergence some additional challenges for the provision of career counseling services within the schools are often present. Currently, there is much more of a focus on college and career readiness in schools from the federal government as well. Former First Lady, Michelle Obama's Reach Higher initiative invigorated the ideas of careful academic planning for students to prepare them for their future career goals. Unfortunately, this initiative did not also include additional funding for schools, which left many schools in the position of providing these academic planning and career counseling interventions with the existing resources. While useful, these interventions target a more general student body, and many school counselors still struggle to find the time for such interventions (Anctil, Smith, Schenck, & Dahir, 2012). While school counselors highly value providing career development to students, they often struggle with balancing the various needs within a school and providing a differentiated career and academic planning interventions (Anctil et al., 2012). Given the high school counselor-to-student ratio, it is not very surprising that one of the most requested services by parents of gifted and talented student is career counseling services (Yoo & Moon, 2006). In addition, many school counselors are not well versed in the unique needs and challenges inherent in working with career development concerns of the gifted and talented student (Wood, 2010). Gifted students and their families may then rely upon their own personal experiences, teachers and others to help develop career plans (Greene Burton, 2016). This avenue is only as good as one's connections and the information available to them and may assist beyond exposure to careers in the immediate sphere in which a student grows and develops.

For the student who is gifted many of these complexities in career decision-making may be impacted by their abilities and personal characteristics, as well as sociocultural or environmental influences. These issues which will be discussed later in the chapter are: Multipotentiality, early career emergence, expectations of self and others,

Education and Occupational Interest Development

As children grow and develop families, schools and communities provide exposure to wide variety of activities. These activities and pursuits are constantly filtered by the individual and the community to provide feedback. As students perform activities or engage in pursuits they receive feedback from other families, peers, teachers and community members, and this feedback is incorporated into their future approaches to those activities. This feedback becomes internalized and the student is more likely to develop self-efficacy and outcome expectations around mathematics. And, if this pattern persists, and the student enjoys mathematics, may point to a future career path.

According to SCCT's interest model, self-efficacy beliefs and outcome expectations regarding particular skills and talents help to mold career interests. This theory examines both internal processes as well as external environmental forces that may influence career interests. From an internal perspective, as an individual grows and learns about their likes and dislikes they begin to engage in goal setting. Early in this process it may be an increasing interest or involvement in an activity. However as time progresses goals may be influenced by various experiences that heighten or modify the desire to continue to pursue preferred activities (Lent, 2013). Continuing upon the example of the student who has shown an interest and aptitude in mathematics, she or he may find that over time and with increased exposure to a greater variety of activities that they would rather use their mathematics skills in order to pursue engineering or computer science than in studying mathematics. This process for students is iterative and evolving. In addition to examination of one's internal processes this theory also examines how self-efficacy and outcome expectations develop within one's sociocultural environment. Outcome expectations are also shaped by the social environment and one's interaction with this environment. Aspects of gender, twice-exceptionality, race/ethnicity, sexuality, and socioeconomic factors all play a role in the career development process and influence one's self efficacy beliefs, outcome expectations and the goals and individual sets for themselves.

SCCT posits that an individual's career decision-making requires exposure to and education about specific occupations and an exploration of personal interests, talents, and values. Ideally having specific interventions aimed at learning about one's interests, the values one holds and specific talents is important in the development of a comprehensive career development plan. Helping professionals working with gifted individuals need to keep in mind that career decision-making should accompany tasks that can facilitate a deeper understanding of who they are as people.

Developmental Exposure to Careers

Exposure to occupations and career paths should begin as early as elementary school. Young gifted students are making sense of who they are as individuals leading to the development of self-concept (Kim, 2012). Sex role indoctrination with regard to career choice also begins at this stage (Kim, 2012). Elementary school students need opportunities to discover their talents and interests as well as limitations and weaknesses. In addition, young children are learning rudimentary social skills, thus activities, including problem-based learning, that encourage cooperation and team work can help students learn skills useful in their future academic and career lives (Kim, 2012). Even at this stage, many gifted students are sensitive to what others think of them and the messages that they receive including how parents and teachers and peers feel about specific careers (e.g., becoming a nurse is "less than" becoming a doctor) (Kim, 2012). Students who appear to be already committed or at least very interested in one specific career or field of study is called early foreclosure. While it is unclear if early foreclosure is problematic, it is helpful to provide opportunities for the student to gain skills that will help them in their field of interest. In addition, identifying potential mentors and role models will assist the student in envisioning the path to their goals as well as determining if there is a good fit (Kim, 2012; Muratori & Smith, 2015).

By middle school, gifted students may need assistance seeing the relevance of academic subject to their possible career futures. School-based helping professionals, such as school counselors, typically are responsible for helping students develop 4-year plans which serve not just as academic blueprints for high school planning but also a venue for discussion about future careers and/or college decisions (American School Counseling Association (ASCA), 2013). Students, hopefully, have identified a few areas of interest or potential fields of study. The goal then becomes developing specific skills necessary to enter these fields or higher education opportunities such as time management, prioritization, study and organizational skills (Silverman, 1993; Wood, 2010). Gifted students also can benefit from developing and honing decision-making skills as well as "soft" skills that can help with interviewing and team work, both useful for a variety of careers. "Curiosity, persistence, flexibility, optimism, and risk-taking are as important to develop as domain-specific knowledge and skills in gifted and talented students" (Greene Burton, 2016, p. 261). At the same time, as students' progress from middle and high school, academic content becomes more specified.

In high school, career decision-making and college readiness become much more critical. Students at this stage need more specific information about colleges so that they can evaluate whether they will be a "good fit." Geography, scholarships and financial aid opportunities, campus life, student diversity, and technology are all considerations to evaluate in terms of advantages and disadvantages (Kim, 2012). College is simply a transition between high school and the world of work. Discussions should occur around how college prepares students for their next steps including what additional costs or training might be needed after college for their chosen occupation (Colangelo, 2003; Kim, 2012). Gifted students need time to consider career paths and narrow them accordingly. However, parents, educators, and helping professionals should keep in mind that some of the careers gifted students may have in the future are not even present in today's work force.

Greene Burton (2016) suggests that career exploration for gifted students should take into consideration "global megatrends" (p. 264). Technology, globalization, and urbanization are all arenas that will expand in the next 10 years. Green-collared jobs, software programming and coding jobs are those that did not exist 20 years ago. Each generation of gifted students has different ideas about employment. Generation Z who are considered Digital Natives (e.g., individuals who grew up with and are facile with computers, cell phones, and social media) are used to constant communication and the sense of being connected as well as being more fluent in moving from task to task (Greene Burton, 2016; Prensky, 2001). On the other hand, constant use of social media may impinge on the development of social skills and delay of gratification which are still necessary to many career fields (Gallo, Rausch, Smith, & Wood, 2016). Greene Burton (2016) recommends that students consider how they can combine multiple interests to create careers that do not yet exist. Regardless of where students are in their development, educators and helping professionals have many different ways to expose students to occupations (Kim, 2013).

The Role of Assessments in the Exposure to Careers

The use of career interest inventories, value inventories, and other types of tests comes with both advantages and disadvantages when applied to gifted students. The use of career inventories can assist with broadening awareness of various careers as well as assist in providing information about oneself. However, some cautions are important when working with gifted students in examination of ability testing. First, not every test that is normed on the same chronological population is utilitarian in finding nuanced values and interests. Thus, educators and helping professionals should consider using to use above level or adult scale, in order to avoid the high-flat phenomenon on ability and interest tests. This ceiling effect detracts from meaningful useable results for gifted students. Second, tests are not able capture all the important information necessary (e.g., extracurricular activities or activities students choose to engage in during free time) in order for students, parents, and educators need to

consider in order to make wise career choices. At best assessments only capture a portion of the puzzle at that point in time. Third, not every gifted student will enjoy specific tasks that might be required of the test or require them to have a specific skill set or resource to take it (e.g., familiarity with computers). The above information is not meant to dissuade the use of assessments. Greene (2003) suggests that gifted students may benefit more from assessments that incorporate forced choice, self-reflection, and experiential components. However, the type of test chosen and the interpretation of its results should be meaningful to the specific student (Muratori & Smith, 2015). These authors write:

> Interest inventories can be advantageous in the career development of gifted students; however, the results must be processed in small groups or individually with the student, allowing for ample reflection and discussion. (p. 179)

Hands-On Activities

Career Fairs. Gifted students can gain exposure to different types of career paths through current school programming. Career fairs are one venue of exposure that can occur at elementary, middle, and high school levels. While the format and structure may vary, in the traditional format, community members from a wide variety of local businesses and colleges are present to discuss pathways and answer student and parent questions. Students can "browse" or rotate through various stations this activity provides a lot of exposure to a wide variety of careers. While career fairs are common occurrences, there is scant research to support their efficacy (Kolodinsky et al., 2006). However, the career fair should not be the sole career exploration activity for students, but a small part of a comprehensive plan with may include such activities as: interest inventories, career knowledge development (e.g., determine the degree of higher education required and the potential future salary for various careers) resume writing, and mock interviewing.

Career Genealogies. Exposure to different types of careers happens naturally in the family context. Family activities emphasize the specific values and interests that family members have which also can shape vocational and avocational pursuits (e.g., concerts and art shows, sports games, technology fairs) (Hall & Kelly, 2014). Career genealogies require students to extend their thinking from their immediate family to how each of their extended family member's careers influenced and continue to influence the current family. This activity can require students to go as far back as needed when researching careers, higher education, and/or technical training of parents, grandparents, aunts, uncles, and cousins. However, it is recommended that the student is allowed to determine who is included in the definition of family which may include nonbiological members or extended friends and community members. If there are few resources or accessible family members, then genealogies could be replaced by in-depth interviews with the individuals who comprise the family. Educators and helping professionals can help students brainstorm questions to ask beforehand and then provide a space for reflecting on what they found from either activity. Silverman (1993) also suggested that schools create services for parents of gifted students with regard to career exploration including discussions on expectations, nurturing talents, finding mentors and expert instructors, using biographies, early and late career decision-makers, and college planning including financial aid.

Academic Inquiry. Separating academic skills and content from career exploration and exposure does not help gifted youth with their career development. Exploration of careers can be accomplished via academic coursework including the use of biographies, problem-based learning, and even developing and answering specific research questions. Hébert (2009) provides several examples of the use of biographies of eminent people can help students' explore not only careers but also specific values and skills used in pursuing their careers (or changing them). The study of biographies can help gifted students explore how "careers are made and are related serviceably to civilization, and to all the various

kinds of intellectual work required by the world in their day" (Hollingworth, 1926, pp. 319–320). While Reis and Gaesser (2014) provide suggestions of areas for researchers to explore with regard to gender, socialization, and careers, we suggest that these areas can become areas of student research and problem solving as well. For example, students could research why men and women leave certain rigorous courses in both high school and college, and focus on STEM areas as needed.

Online Resources. School-based college and career exploration can involve students accessing several different online resources such as O*NET's Work Importance Profilers. Some states and school districts actually have prescribed curriculum that involve online career and college exploration and even e-portfolios that follow the student and which include 4-year high school planning blueprints and the results of career inventories. Having students gain access to these resources prior to high school may be a great way for students to engage in this process at an earlier grade level. Educators of the gifted may wish to consult and collaborate with the school counselors in their districts and buildings to determine what is being used and if it can be integrated into gifted education programming.

Regardless of the mechanism of career exposure, gifted students need time and space to reflect and process on what they have learned such as challenges and successes, outcomes from career assessments, and feedback from mentors and employers (Sampson & Chason, 2008). This space allows students to develop self-awareness about their values, interests, and skills and how these fit with potential career paths and personal goals.

Choice Making

A major developmental milestone for adolescents is determining a career path. Consistent with many developmental career theories, choosing a career is not a single choice point. Instead it is a part of a dynamic process that unfolds over time. SCCT stresses that career choice is preceded by the development of self-efficacy, goal formation and outcome expectations (Lent, 2013). Over time, as a student learns about their personal interests and abilities, certain career paths become more attractive while other choices become less viable (Gati & Levin, 2015). This includes not only the expression of an initial choice, but includes taking actions to implements one's career path and subsequent success or challenges in pursuing that career goal. Events and circumstances may influence this process and impact one's pursuit of a career. Such events as poor job prospects, career barriers, barriers to educational opportunities and affordability of education may also play a role in discouraging goal formation.

Multipotentiality. One aspect of career choice that has received a lot of attention within the gifted literature is a focus upon the gifted student who is interested and able to pursue a wide variety of careers to the point in which no direction is being chosen. This situation has had various labels such as multipotentiality (Achter & Lubinski, 2005), overchoice syndrome (Rysiew, Shore, & Leeb, 1999), or career indecision (Greene, 2003). While estimates vary approximately 5–23% of gifted students may experience challenges on selecting a career path or area for future study (Achter & Lubinski, 2005; Milgram & Hong, 1999). From an outside perspective, this all seems like a good problem to have. Who would not want to be able to "do anything?" However, having many choices can be confusing and anxiety producing for the gifted student and their families (Rysiew et al., 1999). What to do with one's life is not a simple decision for most individuals and for the gifted student they often have the additional pressure of families, educators and others expectations. Rysiew et al. (1999) points out that delays in deciding a career path may be related to poor decision-making skills. The consequences of delaying career decision-making may result in students not being able to reach their full potential (Jung, 2012). What is clear regardless of definition is that some students do need extra support and assistance in determining an interest area and later career plans. Career counseling that focuses on sorting

through the various options is important. This process may need to be individualized for the student in order to fully explore the options under consideration.

Academic Challenge and Self-efficacy. One of the biggest areas of concern with gifted and talented students is the provision of academic challenge. However, with challenge comes the risk of failure and the need to gain perseverance and coping strategies, areas that also correspond to the performance and persistence component of SCCT. Yet working with academic challenge is integral to building positive self-efficacy; in order to build self-efficacy, trial and error must occur. Underachievement in gifted students has been linked with poor self-efficacy (Richotte, Matthews, & Flowers, 2014). The ideal academic situation is a "good match between the child's developmental needs and the learning environment" (Neihart, Pfieffer, & Cross, 2016, p. 287). That balance is difficult to find. On the one hand, lack of challenging academic coursework has the student assume that learning "should be" easy. Then when confronted with challenging academic work, students may believe that they are not as bright as they have been told (Muratori & Smith, 2015; Siegle & Langley, 2016). On the other hand, having "over challenge" or an academic environment which goals and expectations are too high can mean anxiety and unhealthy coping skills. Either pathway can lead to students questioning their abilities, talents, and mindsets and ultimately lead to underachievement, task avoidance, and withdrawal. Building positive self-efficacy in academic areas can come down to student-environment fit. But gifted students are varied, and many do not fit with one particular profile. Thus academic planning for gifted students needs to be flexible enough to account for a variety of contextual factors not just the student's areas of strengths. "Although some schools may resist adopting this view, especially when they have a large student body to serve, curricular flexibility and openness to acceleration are necessary in order to accommodate gifted students' strengths and challenges" (Muratori & Smith, 2018).

Hands-On Activities

Academic Blueprints. Flexibility in academic planning is not a new concept. As early as 1993, VanTassel-Baska recommended formulating academic blueprints which matched academic coursework with student talent as a best practice (VanTassel-Baska, 1993). In 2010, Wood surveyed gifted high school students and found that a little less than half (47.7%) reported that making an academic plan or blueprint tailored to their needs and interest as valuable. Corwith and Olszewski-Kubilius (2012) note that academic planning for gifted learners must acknowledge and incorporate specific educational opportunities, such as advanced content through acceleration, enrichment, out-of-school options, and/or early entrance. During this process of academic planning it is essential to consider idiosyncratic conditions of the student such as learning styles, pace of learning, prior content knowledge, strengthes and passion areas,. For example, a gifted student in 8th grade who may be ready for Advanced Placement Biology may not be as strong in language arts. This student will need additional avenues for academic learning in sciences earlier, so their high school curriculum may require college coursework or, depending on the readiness of the student, early entrance to college. Environmental factors such as access to educators of excellence, competitions and work with mentors and adults in the field of interest need to be considered (Corwith & Olszewski-Kubilius, 2012). In this case, this student may benefit from science competitions, or working with local community college university faculty in biology. Lastly, academic planning should help students and educators find gaps in both knowledge and skills. As academic rigor increases, so does the need for students to be able to set goals and priorities, as well as being able to organize their time and materials. Preparing this eighth grader for his or her future may mean considering what they will need for early entrance to college including the degree of organization and time management it takes to be successful in this environment.

Experiential Programming. Gaining self-efficacy beliefs and outcome expectations are an important part of career development. Providing opportunities to assist gifted students in gaining a deeper understanding of their skills and values through actual experience with the world of work is important. Gifted students can gain career exposure through opportunities such as shadowing, internship, volunteering and part time work (Silverman, 1993). Career shadowing entails students shadow a professional in their area of interest for a day or a week. Journaling, reflective discussions, and additional information seeking follow (e.g., salary potential, required education, and related careers). Internships are based on an apprentice model in which students work in a professional setting for a period of time without pay but gaining school credit. Students who have completed coursework might benefit from part time employment as a "safe" way of trying out an occupation or potential career. Mentorships provide gifted students with the opportunity to work with adults who are already succeeding in the student's chosen field of interest. Mentors know their fields intimately and thus are excellent sources of knowledge about how to gain entrance into that field both in terms of training and education but also through networking and the field-specific soft skills (Callahan & Dickson, 2008; Watters, 2010). Research has supported that these are the type of opportunities that gifted students would like to see included more in their high schools (Wood, 2010). In fact, in her study, when gifted students were asked which potential career services would be valuable, the students choose working as an apprentice, mentorship opportunities and shadowing as their top 3 picks (Wood, 2010).

Through work-related experiences gifted students are given concrete opportunities to try out skills and knowledge in their area of strength while also learning new skills that may be outside their comfort zone. Some students may find that not every skill comes easily to them (e.g., working with customers), while others may find that the skills required for a career they thought they wanted they actually abhor (e.g., counting pills, and software programming). Work experience also require students to revisit skills they thought they may have already mastered but are now being stretched or challenged such as organizational skills, time management, and goal setting. Last, gifted students can build new skill sets that K-12 educational systems do not always emphasize such as leadership, team work, self-regulation, initiative, and self-discipline (Greene, 2006).

Performance and Persistence

The SCCT model of performance centers on the idea of attainment of one's educational goals and/or work tasks and their persistence within these tasks. According to this model, SCCT posits that educational and vocational performance is an interaction among one's ability, self-efficacy, outcome expectations, and performance goals (Lent, 2013). Basically, individuals base their self-efficacy and outcome expectations upon the skills and abilities they possess as well as on how well they performed, the outcomes they have received and influence the continued goals they set for themselves. The stronger the self-efficacy and positive outcome expectations the more ambitious goals one sets for themselves which assists to sustain those efforts.

Choice-Making: Ambiguity, Challenge, and Perfectionism. Part of career maturity is the ability to understand that one person cannot know the future, cannot predict the outcome of every choice, and accept that there will be situations beyond their control. Gifted students need to view challenges, failures, and mistakes as a normal part of life not as a critique of their person or their gifts. In addition, gifted students need to be able to open to the emotional experiences that that are connected to challenge and setback such as grief, embarrassment, discouragement, and questioning of purpose and cope with them in a healthy manner (Wood, Smith, & Duys, 2017). Life is messy, so educators of the gifted and helping professionals should normalize the general "messiness" and ambiguity inherent in the career development process. Reflecting on what they have learned from biographies or career genealogies can help gifted students learn how role models and family members have coped with setbacks or times in their lives when job prospects seemed

bleak (Wood et al., 2017). Gifted students can benefit from being able to identify times when their idols or eminent persons in their chosen career domain had to adapt, struggle, and gain resiliencies in order to overcome professional obstacles.

Gifted students who do struggle with tolerating ambiguity or uncertainty may also be wrestling with perfectionism. Wood (2009) found that 96% of the gifted high school students she surveyed indicated that they experienced career-related concerns with the most cited concern being choosing "right" college or career path (47%). In addition, while experiences varied, almost all participants (90%) reported having experienced concerns tied to perfectionism, and 67% specifically cited fear of failing at what they did (Wood, 2009). Unrealistic self-expectations to fulfill perceived potential and unhealthy perfectionism can create obstacles to desired career paths (Jung, 2012; Sampson & Chason, 2008).

Gifted students may delay decision-making regarding colleges or careers for fear of making the incorrect choice (Greene, 2006; Sampson & Chason, 2008). According to Chen and Wong (2013, p. 123) gifted students with unhealthy perfectionistic tendencies, may adopt a "Cinderella-like" fallacy about careers in that they believe "exists only one perfect career for them." Or, in the opposite direction, unhealthy perfectionism can generate a state of hypervigilance in students (Sampson & Chason, 2008). Hypervigilance and a "frenetic and infective exploration" of career information is one way of coping with the anxiety, stress and sense of pressure to choose correctly (Sampson & Chason, 2008, p. 337). Parents who see their gifted students struggle may be tempted to intervene and make the choice for them (Sampson & Chason, 2008) even though coping with struggle is an important life skill. Unhealthy perfectionism that paralyzes can mean that some students lose both time and opportunity to make choices. "By delaying a decision long enough, only one option remains which eliminates the need to choose." (Sampson & Chason, 2008, p. 337)

Hands-On Activities. Educators of gifted students can provide support when students are experiencing anxiety or paralysis in several ways. First, they can provide time for students to explore careers possibilities through websites and other sources. Secondly, it is vital that students are provided time to reflect and discuss with others about potential career pathways. Information about the potential salary, the education necessary, and the work environment are important considerations. During the reflection educators should be attuned to of periods of anxiety, confusion, and unrealistic expectations. They can gently probe for better understanding of what students are thinking and feeling during those times. Educators and parents should stress that both mistake-making and change are normal and are times that require additional reflection about what is important and valuable to individuals (Sampson & Chason, 2008). Gifted students also need to see the difference between making choices and making commitments (Sampson & Chason, 2008) as part of the "messiness" of career development.

Satisfaction and Well-Being

The most recent model of SCCT focuses upon satisfaction and well-being. This model examines the influence of an individual's satisfaction in educational and work pursuits. Satisfaction is seen as the "the degree to which one likes or is happy with one's school or work environment" (Lent, 2013, p. 128). Basically, this model posits that one is more likely to be satisfied with their educational or work pursuits to the extent they are involved with activities they value, making adequate progress toward goals, and have access to the necessary resources to pursue goals. In addition, external factors also play a role in work satisfaction. Such factors that influence work conditions, such as, favorable work environment and perceived organizational support.

Personal Calling and a Quest for Meaning. According to Duffy and Dik (2013, p. 428), while "centuries of wisdom" have seen work as the "finding and living out" of one's personal calling, very little empirical research has investigated this phenomenon prior to 2007. Since that time more research has been generated on the topic which,

in the future, might benefit gifted students. According to these authors, the concept of "calling" includes the following: (a) the calling may come from an "external summons," such as an individual's sense of societal or national need, a family legacy, or a higher power; (b) work as a source of purpose in life; (c) the calling is used to help others, or the "greater good," either directly or indirectly (Duffy & Dik, 2013, p. 429; Duffy & Sedlacek, 2007). They suggested that calling is "an ongoing process rather than something to be discovered once and for all, and proposed that callings often change over time" (Duffy & Dik, 2013, p. 429). In their review of recent literature these authors found that calling was related to confidence in career decision-making, hope regarding the future, academic satisfaction, life satisfaction, and life meaning.

Educators and helping professionals should consider the concepts of personal calling and seeking life meaning when working with gifted students on career decision-making. "A calling to a passion is an important aspect of identity education for gifted youth who seek deep meaning their work because positive work, career and general life outcomes accrue for people who experience their work as a calling" (Hall & Kelly, 2014, p. 41). Because many students demonstrate a heightened sense of moral concern, empathy, and sensitivity toward others they may see choosing a career as fulfilling a personal calling that could possibly work to solve or change "the basic problems of human experience" (Webb, Meckstroth, & Tolan, 1982, p. 183) or to rectify society's wrongs (Greene, 2006; Hall & Kelly, 2014; Muratori & Smith, 2015). Thus, those who see a need for specific job or career may be those individuals who combine their interests and talents in such a way to create or design new careers (Silverman, 1993). In many ways, gifted students are the ones to create new jobs and expand or combine existing fields. For these students opportunities which require them to "spend time observing their environment for things that could be improved and imagine themselves in careers in which they have an opportunity to improve some facet of life," can lead to exploration both talents and interests but also identification of current jobs that need improvement or nuancing (Silverman, 1993, p. 228).

In the end, finding meaning and a personal sense of calling rests on the individual student's values. Jung (2012) suggests that gifted students may encounter the pressure to pursue lucrative or socially prestigious jobs. Conversely, gifted students may prioritize interest and enjoyment over financial gain (Jung, 2013). Kerr (2015) suggests that gifted students may be less concerned about salary and more concerned about life values that may be fulfilled through work; thus she recommends that determining and narrowing values is one of the best ways of helping gifted students select careers that are fulfilling. The Life Values Inventory (LVI, Brown & Crace, 2002), the Values in Action inventory (VIA, Peterson & Seligman, 2006) and the Prefect Future Day scripts an all help students identify and evaluate the specific values that can drive career decision-making (Kerr, 2015). In some cases, a personal calling career (missionary, social work, etc.) can mean high work stress or a less secure financial outlook even if the career requires an advanced degree. Qualities such as grit, perseverance, and a "thick skin" in the face of lack of support or understanding can enable students to choose a more challenging career path in order to fulfill their calling. Students who read biographies of eminent individuals in their profession of calling may find these qualities are learned through difficult circumstances and are hallmarks of eminence (Subotnik, Olszewski-Kubilius, & Worrell, 2011).

Specialized Populations

The idea that one is free to pursue and become anything is an ideal and part of the American dream. With just a desire, drive, and determination the road to a fulfilling and satisfactory career life is just a matter of will. The pathos of the American dream is not always as straightforward or as easy as one would like to believe. Certainly, within certain populations of the USA the gifted and talented individual may face various uncontrollable factors that may impede progress toward goals and at

times even dampen career aspirations and self-efficacy (Greene, 2006). Gifted students who are socioeconomically disadvantaged, who have learning difficulties, who may be a member of a sexual minority, and/or from a minority culture may find various barriers to their career development. These individuals may not always receive the necessary support or challenge that fully prepares them for the career decision-making process (Greene, 2006). This section will explore the nuances of working with gifted and talented students from various special populations.

Gifted and Talented Women and STEM

Literature reviews in gifted education that have focused on gifted women have examined changes in areas such as higher education enrollment, earning of advanced degrees, self-efficacy, attribution style, and STEM engagement (Freeman & Garces-Bascal, 2016; Kerr, 2012; Reis & Gaesser, 2014). Often, researchers point out trends in data from the National Science Foundation (NSF), National Assessment of Educational Progress (NAEP), National Center for Education Statistics (NCES), the Programme for International Student Assessment (PISA), and the Presidential Scholars program. Overall, there has been an upward trend in higher education enrollment, with more women earning degrees in both undergraduate and graduate programs (Reis & Gaesser, 2014). Women are taking more standardized tests and scoring at rates comparable to their male counterparts (Reis & Gaesser, 2014) and are entering the sciences in a variety of sub disciplines (Kerr, 2015). Although trends seem to point to positive increases in many areas, these changes also bring to light new questions.

Interestingly, much recent research has focused upon women in STEM fields. The research on women's engagement in STEM studies is mixed. In 2013, women comprised 29% of the work force in science and engineering (S&E) fields, and 39% of those had an advanced degree (National Science Board (NSB), 2016). Women were employed in higher proportions in social sciences (62%) and life sciences (48%) and relatively low numbers in the following careers: physical sciences (31%), computer and mathematical sciences, and engineering (15%), (25%) (NSB, 2016). Thus, while women are entering STEM areas, they are not entering specific STEM areas in comparable numbers to men. Reasons behind this are nuanced and can include the requirement for advanced degrees, interest in the area, the role of standardized tests, self-efficacy, and decision-making.

Many occupations in STEM areas require advanced degrees beyond the baccalaureate. According to the National Science Foundation (NSF) in 2008, by 2006 half of the doctoral degrees conferred in the biological and agricultural sciences by women as compared to one eighth in 1966. In 1966, 6% of the earned doctorates in chemistry and math, and 3% of doctorates in earth/atmosphere/ocean sciences and physics, engineering and computer science were earned by women. In 2006, 30% of the doctorates in earth/atmosphere/ocean sciences, math and chemistry, and one-fifth in computer science, engineering and physics were earned by women (NSF, 2008). The percent of women earning doctorates in science and engineering fields changed from 38.8% in 2004 to 41.6% in 2014, while the percentage of men dropped slightly from 61.2% to 58.4% (National Center for Science and Engineering Statistics (NCSES), 2017). The Science and Engineering Indicators report, the National Science Board (2016), indicated that in 2013 women earned fewer than one-third of the doctorates that were awarded in computer science, engineering, mathematics or physical science. However, they earned more than half o the doctorates social and behavioral sciences (except for economics, biological, medical, and other health sciences). In fact, the proportions of doctoral degrees earned by women in engineering, computer sciences and physical sciences are higher than in 2000, with the number of science and engineering doctorates earned by women are growing faster than those earned by men (NSB). Trends and patterns are retrospective in nature; they focus on change over time of past generations of gifted women. As Kerr (2012, p. 316)

notes, "little is known about the strengths and the challenges of the current generation of gifted girls." Perhaps one area that should be more carefully explored is interest in and perceptions of STEM majors and fields of study for collegiate women.

The Higher Education Research Institute's study of norms of freshmen in 2016 reported that 94% of freshmen women indicated that they had a GPA of a B or higher (Eagan et al., 2016). Almost 35% took calculus in high school, 22.7 took AP Probability/Statistics, 34% AP Calculus, and 2.9% AP Computer Science, 24.6% indicated a pre-med major pathway (Eagan et al., 2016). However, only 9.5% of freshmen women surveyed indicated biology as a major area of interest, 1.4% computer science, 1.5% math/statistics, and 1.3% chemistry (Eagan et al., 2016). Young women's lack of interest could be tied to their attribution of talent even if their perception does not match the reality based on performance or ability (Freeman & Garces-Bascal, 2016). Self-doubt is part of the human experience; however, men and women may cope with this differently. In one study, while both men and women experienced self-doubt, women in engineering were more likely to look to teachers, professors and advisors for affirmation and increased confidence in their choices (Seron, Silbey, Cech, & Rubineau, 2016). Young women may also see standardized tests as a barrier. While research suggests that the performance gap on standardized tests between men and women has dramatically decreased, young men still score slightly higher than women in many STEM-related tests (Reis & Gaesser, 2014). Young men may also be choosing to take STEM-focused standardized tests more frequently than women, especially in engineering and computer science (American Association for University Women, 2010).

If these women do choose to go on to pursue majors in STEM areas, they may find they are challenged in areas other than course work. First, they will find that because of the lack of women earning doctorates in these areas, their future faculty mentors and instructors will be male, especially in engineering and computer science, and thus lack important same gender mentoring opportunities (AAUW, 2010, 2015). Second, they may find class projects less fulfilling when they are relegated to managerial or secretarial roles (Seron et al., 2016). Third, they may be hired less frequently and paid less than their male counterparts even with the same degrees in the same field (AAUW, 2010, 2015). Last women may also find a mismatch between how they wish to use their talent and interest in STEM and the culture of their preparation programs and work place. In a study of women in engineering, while both men and women performed in math and science in high school and wanted engaging, well-paid future careers, women wanted "to use engineering as a career path to make a difference in people's lives" (Seron et al., 2016, p. 206). Talented women may wish to utilize their abilities toward the greater good or in a way that is more personally satisfying (Freeman & Garces-Bascal, 2016).

SCCT could be utilized in different ways with talented females contemplating the STEM fields. Persistence toward personal goals should play a major role in planning. Women will face obstacles in their path especially if they choose to pursue advanced degrees or careers in specific STEM fields. Planning for an advanced degree requires financial and personal planning. In addition, educators and helping professionals should explore values and meaning early so that gifted women can begin to visualize exactly what they want in a STEM career. If, indeed they wish to work toward solving societal problems, then they will need guidance on how each of the STEM areas in which they are interested and talented can be fitted into more of a humanitarian calling.

Race and Ethnicity

Race and ethnicity often plays a powerful role in our society. For racial and ethnic minority students from underrepresented populations, specifically the underrepresentation of African Americans and Hispanic/Latina(o) students are often faced with additional barriers to academic success (Henfield, Woo, & Bang, 2017). Often, students who are from ethnic minority communities are more likely to experience lower career

aspirations, fewer professional role models, and are less likely to experience educational rigor and challenge (Parris, Owens, Johnson, Grbevski, & Holbert-Quince, 2010). Perceived and actual barriers to career opportunities may dampen and restrict gifted ethnic minority students from reaching their full potential (Henfield et al., 2017; Muratori & Smith, 2015).

Career and academic planning should work together seamlessly for the gifted and talented ethnic minority student. Attention to the academic environment, achievement, and course selection are important considerations throughout a gifted student's academic curriculum. According to Henfield et al. (2017) academic interventions focused at the high school level have been shown to be effective. And while this chapter does not have the space to discuss the achievement gap that exists between ethnic minority children and their white counterparts or lower socioeconomic status children and their middle class peers, the achievement gap may have a powerful effect upon career aspirations and career self-efficacy beliefs (Mitcham, Greenidge, Bradham-Cousar, Figgliozzi, & Thompson, 2010; Parris et al., 2010). For example, Lowered academic performance and achievement in early grades is likely to influence career aspirations and ability to take more challenging course work in high school. In addition, students need to be provided with challenging and intellectually engaging materials to encourage an environment of learning (Henfield et al., 2017) and to clearly understand the relationship between academic achievement and future career opportunities (Parris et al., 2010).

Gifted and talented ethnic and racial underrepresented minority students need to be provided with solid professional career role models in order to assist with goal setting and career aspirations. This may be accomplished through interventions that allow students to explore various careers in which they may not be familiar, immerse students in professional roles, and mentoring programs (Mitcham et al., 2010). Deliberate and contentious efforts should be made to reach out to families. Opportunities to include families in the career development process is important for many cultures. Kenny, Blustein, Chaves, Grossman, and Gallagher (2003) found that when families were included in academic and career planning efforts career aspirations and career expectations increased. This may present a challenge for educators, since parents may perceive the educational system with skepticism and at times hostility (Chung, Baskin, & Case, 1999). Creating relationships with students and their families is essential in order to assist them in reaching their potential.

Counselors working with ethnic and racial minority gifted students need to think holistically in their approach to career and academic planning (Muratori & Smith, 2015). In order to effectively work with this population one needs to have a clear understanding of the community, educational system, and cultural/ethnic identity of the student. As Parris et al. (2010) points out gifted and talented need career services that stress decision-making and examination of contextual factors as well as the individual in a holistic fashion.

Lesbian, Gay, Bisexual, Queer, Questioning, Intersex, and Ally (LBGQQIA) Individuals

In 2011, the National Association for Gifted Children (NAGC) created the LGBTQ Special Interest Group to "encourage research, staff development, advocacy, communication, and collaborative efforts on behalf of our gifted GLBTQ youth, other high-potential students, and the youth whom our students will encounter" (NAGC, n.d.). Both NAGC and the American School Counselor Association (ASCA) have underscored that LGBTQ students frequently confront unsafe school climates, including overt bullying, harassment, and hate speech as well as more subtle messages of discrimination through school "norms" and policies (Kosciw, Greytak, Palmer, & Boesen, 2014). These school climate factors stem from negative school cultures and threaten students' academic, career, and personal-social development. While there has been little research focusing on the experiences of gifted students who also identify as GLBTQ, literature

addressing the academic, personal social, and career needs of GLBTQ students is growing in the field of counseling and psychology. Beck, Rausch, Lane, and Wood (2016) suggest that students who identify as GLBTQ may experience unique barriers in their career and college decision-making which can include (a) prior experiences of discrimination and oppression in their K-12 education; (b) the degree of affirming or nonaffirming educational settings including post-secondary; and (c) safety related issues concerning the coming out experience at work.

For gifted students who also identify as GLBTQ, physical and psychological safety is a paramount issue when considering post-secondary plans. Unlike their non-GLBTQ peers, these students must weigh the relative safety of coming out on their college campuses when considering a good fit between themselves and their chosen university. Recent national surveys have found that high school students who identified as GLBTQ and who experienced high levels of bullying and victimization were twice as likely as to not share their college and career plans than their peers who did not identify as GLBTQ (Kosciw et al., 2014). Not surprisingly, for undergraduate students who identify as GLBTQ, vocational indecision has been correlated with decreased level of social support (Schmidt & Nilsson, 2006). Schmidt, Miles and Welsh (2011) found that for undergraduate college students who identified as LGBT, perceived discrimination and social support were related to vocational indecision and college adjustment. In their study of career and academic choices of college students who identified as GLBTQ, Schneider and Dimito (2010) found that 46% of participants preferred a college environment that was GLBTQ friendly. In the same study 62% of participants reported feeling anxious when applying for a job (Schneider & Dimito, 2010). Educators and helping professionals must be cognizant of services colleges and universities can provide to GLBTQ gifted students beyond just safety. Websites such as campusprideindex.com can help students, parents, and counselors find the optimal fit. Today's gifted GLBTQ students "know now what their predecessors know only in retrospect – that choosing a college that honors both giftedness and sexual-minority status can make a lifelong difference" (Freidrichs, 2012, p. 168).

GLBTQ gifted students also need affirming educational professionals in their lives as well as affirming curricula that is challenging. Both are important to their career development. First "the burden on curricula to help develop self-esteem and knowledge may be even higher with gifted GLBT and other sexual-minority students than with some other groups" (Freidrichs, 2012, p. 167). The 2013 GLSEN national study found that GLBTQ high school seniors were more likely to be interested in STEM areas if courses in high school incorporated positive representations of GLBTQ content (Kosciw et al., 2014). Using visual arts, poetry, or songs, students can imagine and describe what they perceive as their most meaningful or satisfying aspects of potential careers (Beck et al., 2016). Teachers can incorporate GLBTQ role models and persons of eminence in nontraditional occupations in their curriculum (Kosciw et al., 2014). These activities can be supplemented by career programing that incorporates individuals who have nontraditional careers in the local community and through LGBQ invasive career and college readiness fairs, identification of GLBTQ career mentors or potential job shadowing opportunities (ALGBTIC LGBQQIA Competencies Taskforce, 2013; Datti, 2009). The ALGBTIC Competencies for Counseling Lesbian, Gay, Bisexual, Queer Questioning, Intersex, and Ally Individuals (ALGBTICLGBQQIA Competencies Taskforce (2013) suggest that competent counselors - in this case school counselors— can support their GLBTQ students by; a) incorporating identity acceptance and job satisfaction into the student's career decision-making; b) utilitzing career inventories that have been normed for LGBT (and, in this case, adult versions for gifted students); c) and, facilitate students' identification of future barriers to career and lifestyle success and ways to overcome these barriers; d) identify individuals who identify as LGBT that could become mentors in viable career paths; e) help students identify workplaces which are known for safety and inclusivity; and f) discuss the pros and cons to the "coming-out" process to future colleagues and work supervisors.

Conclusion

Career development for the gifted and talented student is a process of discovery of oneself, the world of work and how one wishes to navigate through society. Career development is a complex process that requires both awareness of self (e.g., interests, abilities, and values) as well as examination of external factors (e.g., barriers and opportunities). This process is different for everyone in order to meet the varied needs of students. Approaching career counseling with a one-size-fits-all model does not really work for career counseling for most students and most particularly gifted and talented students. The cornerstone of solid career counseling is time to discuss and reflect, to ponder and dream. To do less than our very best is to limit the potential of our most able in our society.

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