Where Does Creativity Come from in Giftedness?

A single word may have many different conceptions, depending on cultural, linguistic, and temporal backgrounds. For example, consider the word *gypsy*. For the last 500 years, it has been used as a term to refer to Romani people. It has acquired other informal meanings that include being a free spirit, a frequent traveler, and an unlicensed worker (O’Conner & Kellerman, 2009). In part, because of these additional meanings, the word has increasingly been considered to be a slur that is offensive to the Romani. Although once commonplace, the usage of *gypsy* is becoming taboo. More and more, people are realizing that saying this word is no longer appropriate. It is similar to how virtually no one would use the words *idiot*, *imbecile*, or *moron* to describe a person with intellectual disability due to the negative connotation of the words.

*Giftedness* also has a historical and linguistic foundation. In Western society, it has a long history notating individual differences (Ziegler, Balestrini, & Stoeger, 2017). Early scholars in the field of giftedness wanted to identify which children were lucky enough to be endowed with certain gifts or static superior traits (Dai, 2017; Terman, 1922). This type of identification process...
was designed to answer the question: “Who is gifted and who is not?” In the process, it has led to some educational problems with inequity and labels.

To address these issues, Borland (2009) suggested the “Anti-gifted model” by arguing that giftedness is a socially constructed concept, which should be distinguished from physical features, such as blue eyes and red hair. S. B. Kaufman (2013) wonders in his book *Ungifted* if his childhood obstacles could have been a result of educators and gatekeepers who had fixed beliefs that giftedness was only found in students with high IQs.

Conceptions of giftedness have also evolved to reflect more cultural awareness and more recent studies of giftedness. Our view of giftedness is future-oriented, so a list of how-to-dos and what-to-dos depends on ongoing research. Therefore, it seems meaningful to review contemporary frameworks of giftedness. We will do so using a 3-D approach, namely, the themes of developmental trajectory, domain specificity, and diverse perspectives.

**Three Ds**

**Developmental Giftedness**

As indicated by the common expression of “gifted and talented” education in the United States, most scholars of giftedness embrace the idea of a developmental trajectory throughout the life-span (e.g., Tannenbaum, 2009). This concept is consistent with traditional Eastern/Asian conceptions of giftedness (Phillipson, 2013) and ecological European perspectives (Ziegler, 2005; Ziegler et al., 2017).

Treffinger (1998) urged the field to move from gifted education to talent development with a Levels of Services (LoS) model, which is similar to the popular special-educational model of Response to Intervention (RTI). Their similarity lies in offering appropriate educational services based on a student’s response (e.g., interest, motivation, and mastery) to those services. This developmental model avoids putting too much effort into identification processes that may not be accurate, efficient, or fair.

Gagné’s (2004) Differentiated Model of Giftedness and Talents explicitly distinguishes the concepts of gifts as high levels of inborn abilities, and talents as acquired skills/mastery. This model integrated high potential (nature) and the developmental and contextual process (nurture) to result in high performance. In other words, an individual with high intelligence should also obtain appropriate training and educational opportunities to fulfill their gifts. This trajectory view is supported by the comprehensive mega model of talent
development (Subotnik, Olszewski-Kubilius, & Worrell, 2011). The mega model integrates the internal and external factors that comprise giftedness on the developmental spectrum (i.e., from potential to achievement to eminence). This model was influenced by Tannenbaum’s (2009) Star model, which includes a chance factor and discusses the developmental dynamics between one’s ability and environmental support.

**Domain-Specific Giftedness**

The above developmental and performance/product-based views on giftedness can flow naturally into domain-specific giftedness since an individual rarely becomes an expert in multiple disciplines. It is quite rare for someone to achieve a high level of prowess in disparate domains (J. C. Kaufman, Beghetto, Baer, & Ivcevic, 2010). Even within the same discipline, expertise may not transfer. A person who is a world-renowned rock drummer is unlikely to also be equally accomplished as a concert pianist (Baer & Kaufman, 2017).

However, certain domains are often emphasized over others. One internationally famous domain-specific project is the longitudinal Study of Mathematically Precocious Youth (Stanley, 1996). This emphasis on mathematical and scientific giftedness is not only present in the United States (Gray, 2014) but also in many Asian countries (such as China and Japan), which see a link between such abilities and national economic gains (Chan, 2017). In South Korea, for example, 90% of gifted students are specifically chosen for their STEM abilities (Cho & Suh, 2016). Although such giftedness is absolutely important, we must also consider how additional areas may be equally emphasized. How many marginalized underachieving gifted learners are still undiscovered due to a systemic failure to recognize them?

**Diverse (Inclusive) Giftedness**

The essence of underachievement in giftedness is the discrepancy between learners’ potential and their performance (Siegle, 2013). These populations often do not fit into the general educational systems due to reasons such as their cultural, linguistic, or neurocognitive individuality (see Davis, Rimm, & Siegle, 2011).

Reis (1998) and Kerr and Gahm (2017) have studied how to guide gifted females to develop their potential. In a longitudinal study about the mathematically gifted, gender differences in preferred academic domains and career-choice indicators were found (Lubinski & Benbow, 2006), although it is
unclear how much of this result came from biological, social influences, or both. However, considering that there are only 53 females out of the 919 total Nobel Laureates (Nobel Media AB, n.d.), underachievement in females still seems real. Reis (this volume) emphasizes that for gifted females to be successful and productive, they should be sure to incorporate their personal interests and pursue meaningful work. Gifted students with a disability, often called *twice-exceptional learners* (Reis, Baum, & Burke, 2014), have been embraced in the gifted field (S. B. Kaufman, 2018). Common challenges include neurodevelopmental issues, such as attention-deficit/hyperactivity disorder (e.g., Gomez, Stavropoulos, Vance, & Griffiths, 2019), specific learning disorders (e.g., Berninger & Abbott, 2013; Ottone-Cross et al., 2017), autism spectrum disorder (e.g., Assouline, Foley-Nicpon, & Dockery, 2012; Neihart, 2004), as well as social-emotional issues (e.g., Daniels & Piechowski, 2009; Vuyk, Krieshok, & Kerr, 2016).

Under the umbrella of diverse giftedness, *creative giftedness* emerged to highlight those who are not necessarily academically gifted but creatively productive and bright (Renzulli, 2005). Indeed, Holland (1967), a pioneer of career-personality codes, noted the low correlation between creative accomplishment and academic achievement during his work at the American College Testing Program.

We will next briefly highlight some models of giftedness that include creativity and then models of creativity that can be applied to giftedness.

### What Is Creativity in Giftedness?

Creativity plays a role in many giftedness models. For example, Renzulli (1978) included creativity as a major component in his Three-ring Conception of Giftedness, alongside above-average ability and task commitment. His model opened up gifted resources to a wider range of students (Delisle, Reis, & Gubbins, 1981) and has been developed into a schoolwide system (Reis & Renzulli, 1997, 2014). The Student Product Assessment Form was developed to evaluate the creative products of gifted students (Reis & Renzulli, 1991).

Sternberg’s (2005, 2009) WICS model posits that gifted individuals synthesize wisdom, intelligence, and creativity. This model builds on his concept of successful intelligence, which is the ability to achieve one’s life goal by adapting to, manipulating, and choosing one’s context, maximizing one’s strengths and compensating for weaknesses (Sternberg, 1996). Even if a person displays high levels of intelligence and creativity, those alone are not
sufficient to be gifted in the WICS model. The wisdom component, therefore, emphasizes ethical values over extreme individualism, which can be easily linked to leadership in society (Sternberg, 2008). Creativity, in this model, is a decision or attitude to implement original ideas in an uncertain environment. The Rainbow Assessment was developed to measure creativity and practical skills in addition to traditionally measured analytical skills. This combination better predicted freshman college grades than did the SAT; it also demonstrated reduced ethnic differences (Sternberg & The Rainbow Project Collaborators, 2006).

Unfortunately, there is a gap between creativity’s importance in theory and its applied role. Although nearly all (99.8%) elementary school gifted program coordinators across the United States reported that their district’s definition of giftedness included intellectual abilities, only 56% had creative/divergent thinking as a component (Callahan, Moon, & Oh, 2013). This gap is troubling, especially given the many ways that creativity models can be applied to giftedness. We will discuss a few below.

**Creativity Theories Applied to Giftedness**

Creativity is traditionally defined by two main elements: (1) originality/newness/novelty and (2) usefulness/appropriateness in the context (J. C. Kaufman & Glăveanu, 2019). Creativity has most commonly been categorized into the Four Ps: the person, process, press (i.e., environment), and product (Rhodes, 1961). The creative person engages in the creative process, ideally in a supportive press, which can result in a creative product. This individual-based approach was refined by Glăveanu (2013) into the Five As: the actor, action, affordances, audience, and artifact. The key difference is that the general term of “press” is broken down into two separate concepts: the audience, which constitutes both the people who will eventually appreciate the work and those who guide the creator; and the affordances, which are the material and social resources that can be utilized. The Five As interact together and emphasize the sociocultural aspects of creativity. A gifted creator needs to be given some level of support by affordances and an audience.

The Four C model (Beghetto & Kaufman, 2007; J. C. Kaufman & Beghetto, 2009) proposes a developmental trajectory across four stages. At the mini-c level, creativity is personally new and meaningful; it includes potential and creative insights that can come as part of the learning process. Little-c is everyday creativity, which is the type of work that can be enjoyed by others (such as someone making YouTube videos as a hobby). Pro-c is expert-level
creativity (such as an accomplished pianist), and Big-C is the level of historically long-lasting creative geniuses (such as Marie Curie or Louis Armstrong). This model helps articulate the pathway that a gifted student can become a creatively accomplished adult. Further, the Four Cs stress that Big-C is not a good comparison point. Aspiring gifted writers should not be using John Steinbeck or Toni Morrison as a metric of what it takes to be creative; they should not particularly compare themselves to the Pro-c level of current, published authors. Teachers ideally should recognize and value mini-c and little-c contributions and see them as part of a pathway toward creative excellence (Beghetto, Kaufman, & Baer, 2014).

There are several theories that examine the confluence of variables that are needed for creativity. Sternberg and Lubart (1991) liken creativity to financial investing, in which a productive creator will buy low and sell high in the marketplace of ideas. Required components for the process include relevant cognitive abilities, knowledge, thinking styles, personality, motivation, and a supportive environment. Sternberg (2018) expanded the idea of defying the crowd to also encompass defying one’s self and the Zeitgeist. Amabile (1983) highlights the importance of creativity-relevant skills (such as being able to tolerate ambiguity), domain-specific skills (such as an architect having high visual-spatial abilities and a knowledge of classical buildings), and intrinsic motivation. Csikszentmihalyi (1988) looked at how the creator interacts with the field (such as the gatekeepers who determine what is published, funded, or produced) and the domain (the standards of a particular area, such as what are considered creative and successful music compositions). Generally, these same ingredients for being creative are equally important for creative giftedness.

The recent CASE model (J. C. Kaufman & Glâveanu, 2020) explicitly highlights unrecognized but worthwhile creative expressions that may fall under the radar. It categorizes such hidden creativity based on what is still needed to be recognized by a general audience: capital, awareness, spark, and exceptionality. Capital includes having the relevant knowledge, power, and status to bring creative work to light. Many creative ideas may not be recognized as such because they are missing relevant jargon or are outside of the current domain. Awareness includes being aware that one is being creative (both at a specific time and as part of one’s ongoing routine). Many people may be creative but simply not realize or recognize that. Spark is being the one who initiates a creative idea. It is easy not to recognize people who continue creative work or build on other’s creations. Finally, exceptionality includes interactive outcomes between unusually elegant creative expressions and audiences’ appreciation. Many creators may regularly produce solid but unspectacular work that may be underappreciated. Just as incorporating creativity into
giftedness helps recognize students who might otherwise be overlooked, the CASE model aims to highlight creative people who might traditionally be missed.

We next build off of past theories and research to suggest some new directions for creativity’s role in giftedness.

New Directions for Creativity and Giftedness

Creativity for All

The notion of “creativity for all” can be potentially troublesome. It is reminiscent of a scene in *The Incredibles*, when Elastigirl tells her son, Dash, that everyone is special. He responds by saying that if everyone is special, then no one is. It is a concept later revisited by the villain, Syndrome. If we are too inclusive about what “counts” as being creative, does that negate actual gifted creative contributions? It is here that the many approaches come in handy. Considering creativity across different domains, levels, and interactions on specific individual difference variables (such as personality) allow us to add an enriched meaning for the idea of “creativity for all.” It may, for example, not involve shifting paradigms or introducing a new framework but rather, integrating them. Indeed, psychology has a long history of Euro-centered perspectives, regardless of many psychologists’ efforts to understand humanity as a whole (Sue & Sue, 2016). Gifted education is also not free from Western bias; despite culturally different conceptions of giftedness, many Asian countries’ efforts to modernize their gifted education is based on traditional Western perspectives (Ziegler et al., 2017). Additionally, a systematic examination of giftedness studies in PsycINFO indicated that 84% were conducted in America, Europe, or Australia, thus lacking cross-culturally diverse representation (Stoeger, Balestrini, & Ziegler, 2017). By recognizing creativity and going beyond the traditional IQ-based ways of defining giftedness, we can possibly increase diversity in gifted education (Luria, O’Brien, & Kaufman, 2016).

Multiculturalism: Tailored Instruction and Assessment with Advanced Technology

That said, respecting diversity or multiculturalism is not free of charge; it has costs. Imagine a classroom filled with students speaking Chinese, English, and Spanish. The teacher would want to differentiate curriculum and instruction
for students with various backgrounds, which would also include such variables as academic readiness or interests (Tomlinson & Strickland, 2005). However, differentiated instruction is incredibly challenging to be implemented, in part due to a lack of resources to support classroom teachers (Carolan & Guinn, 2007; Delisle, 2015). Now visualize this same classroom with 20 elementary students in a reading class. Having each student exploring divergent and creative answers instead of landing by rote on the convergent answer in the answer key becomes a luxury that requires much additional time and energy. Similarly, IQ tests are easy to administer because their items have one correct answer, but creativity assessments rarely have one correct answer. One problem with convergent answer-based tests is a language/cultural bias (Flanagan, Ortiz, & Alfonso, 2013).

However, more advanced technology can help reduce the cost of identifying and fostering diverse creativity (J. C. Kaufman, 2015). For example, latent semantic analysis can automatically measure how original responses are compared to the other responses to a question (Forster, 2008). One study found that linguistic programs that use text analysis can predict human ratings of creative writing (Zedelius, Mills, & Schooler, 2019). Some video games have been designed to subtly measure creativity components (Shute, Wang, Greiff, Zhao, & Moore, 2016) and develop each gamer’s problem-solving (Ke, Shute, Clark, & Erlebacher, 2019) during adaptive gameplay. However, such advances are largely at the research level; ideally, they can be used widely as efficient and diagnostic creativity assessments for the classroom. Implementing more assessments that can measure and nurture mini-c or little-c creativity can help expand notions of creativity beyond Big-C or genius.

Superman (Big-C) and Pokémon (mini-c)

In the world of comics, Superman is a singular hero who saves the world from villains with his superpowers (comparable to Big-C). The Pokémon universe, on the other hand, is filled with hundreds of unique characters who adventure in relatively repetitive episodes (comparable to mini-c). Their stories are not as grand as Superman’s spectacular adventures, nor are their abilities as awe-inspiring, yet they nonetheless work together to defeat the various villains. Each Pokémon has unique strengths and weaknesses. Their success does not lie in one Pokémon’s individual heroic power, but rather collaboration. As they use their unique skills, whether through real-world fights or training, they level up, evolve, and become more resilient. Both the Superman and Pokémon comics are incredibly popular; personal preferences may vary, but
each has enormous audiences. Similarly, just as the creative contributions from a few Big-C creators are essential to sustain a healthy global community, so too are the work of the multitudes of little-c or mini-c creators.

Cesare Lombroso’s (1895) argument that “the appearance of a single great genius is more than equivalent to the birth of a hundred mediocrities” (p. 120) continues to have proponents (Simonton, 1994). However, quantity also matters in world history (Carr, 1964), and great quality can emerge from the presence of high quantity. For example, Anne Frank (2003) was inspired to begin her diary for publication after listening to a radio broadcast that spoke of the need for everyday citizens to document their lives and experiences. Years later, it was her diary that spoke to so many people and gave a face to the victims of the Holocaust. Simon Wiesenthal tracked down the Nazi who arrested Frank in part to prove to a young Holocaust denier that the young diarist actually lived and, thus, the Holocaust actually happened (Wiesenthal & Wechsberg, 1967).

Frank’s talents as a writer are undeniable, but the girl who started writing her diary was a mini-c beginner. She developed into little-c while in hiding; the tragedy of her early death at the hands of the Nazis robbed the world of her Pro-c and Big-C literary works. However, she has become Big-C for her insights and documented composure and optimism in terrible times. A mini-c diarist who did not necessarily have particular literary gifts was Samuel Pepys (2003); his compulsively detailed diaries of his everyday life has become one of the best resources for historians studying the English restoration. Multitudes of mini-c creativity have the potential to be very impactful if given the opportunity to reach an audience.

Creativity and Connection

It has become easier for mini-c creators to reach large audiences in today’s world. People are able to connect with each other more now than ever before. Social media (such as YouTube, Reddit, and TikTok) allows the creative work of those “hundred mediocrities” to potentially reach millions. Lombroso's claims (1895) may be less relevant to the modern world.

As we write this chapter the coronavirus is an active pandemic with the eventual implications unknown. People around the world must cope with a tremendously ambiguous situation, worries about their health, and anxiety about how everything may change when it is resolved. Just as the ease of travel may have contributed to the virus’s spread, so too can the ease of communication enable all types of creativity to help during this time of crisis. A creative
scientist may make a Pro-c or Big-C breakthrough and help treat or cure the virus, and such a contribution is, of course, vitally important. Yet recognizing this high-level achievement does not need to diminish the millions of mini-c or little-c creators whose contributions are also vital. Across the world, groups, organizations and communities are creating systems and procedures to implement safety guidelines in their unique context (including available resources). Some are using their creativity to make humorous memes or videos of themselves singing that can cheer up people who are homebound. Others are being creative in gathering resources for those in need, or simply to entertain and educate children stuck at home. These efforts are not exclusive to one community; many specific examples of lower-level creativity happen across the world. At the beginning of the pandemic in China, internet users foiled censorship to share a doctor’s honest warning in public (Li, 2020). In Italy, residents in an apartment complex played music together in their own balcony to boost morale (Thorpe, 2020). In South Korea, innovative drive-through clinics enabled 15,000 tests in a day, which was adopted by some US communities due to its efficiency (Kuhn, 2020).

The Hoover dam is an example of a Big-C achievement, yet one person cannot claim the creativity. It was a result of a multitude of designers, engineers, and workers collaborating with their mini-c, little-c, and Pro-c creativity (J. C. Kaufman, 2018). Nearly all of the people who demonstrated mini-c and little-c creativity during this project are long forgotten. However, the end product is evidence that their invisible or unmeasurable creative interactions existed and continue to live on.

**Beyond Ideologies and Utilitarianism**

Public education, including gifted programs, have been historically related to sustaining a nation’s wealth and power (Choi, Schoonard, & Kaufman, 2016). Gifted education in the United States was spurred by the USSR’s successful launching of the satellite, Sputnik, during the Cold War (Davis et al., 2011). In order to compete in the space race, the gatekeepers realized we needed to help the best and brightest young minds. Of course, concrete creative achievements and educational efficiency (such as maximizing profits with minimized costs) should be valued, but we should also see the importance of the bigger picture. Consider Kozol’s (2005) questions:

> What if a child should grow ill and die before she’s old enough to make her contribution to the national economy? Will all the money that our government has spent to educate that child have to be regarded as a bad investment? (p. 94)
Our chapter’s title was modified from the French painter Paul Gauguin’s masterpiece, *Where Do We Come From? What Are We? Where Are We Going?* This educated painter could see “uncivilized” energy as fascinating and aesthetically pleasing. Creativity in giftedness does not merely serve to highlight unrecognized talents, potential, and passions. It can also help level the playing field of success, moving us to find creatively gifted children who might otherwise remain unknown and unidentified. Each specific dot painted by Georges Seurat may not stand out, but together, they form such pointillist masterpieces as *A Sunday Afternoon on the Island of La Grande Jatte*.

**Outro**

Temporally, our conceptions of giftedness are future-oriented on the basis of expected technological advancement, application, and domestication. Such developments may let us recognize mini-but-with-the-potential-to-grow-to-Big creative giftedness in a community. So Seurat’s pointillism can be translated into 4K or 8K ultra-high-definition resolution with so many more dynamic pixels. Geographically, we intentionally include more diverse examples that may help capture multicultural creativity and giftedness beyond Euro-centered perspectives. As we discussed the CASE model, too many Western examples (e.g., expressionism) themselves can be a jargon and limit representation in the gifted field, which can be similar to how most of the DC Comics superheroes live in the United States. What if a Vietnamese girl gives up on her dream of becoming Superman since she doesn’t live in the United States?

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