

Sternberg, R. J., Renzulli, J. S., & Ambrose, D. (2024). The field of giftedness—Past, present, and prospects: Insights from Joseph S. Renzulli and Robert J. Sternberg, *Roeper Review*, 46(3), 233–245.

## **The Field of Giftedness—Past, Present, and Prospects: Insights From Joseph S. Renzulli and Robert J. Sternberg**

Robert J. Sternberg<sup>1</sup>, Joseph S. Renzulli<sup>2</sup>, and Don Ambrose<sup>3</sup>

<sup>1</sup>Cornell University

<sup>2</sup>University of Connecticut

<sup>3</sup>Rider University

### **Abstract**

Academic disciplines and professional fields need to engage in ongoing evaluation of their purposes and conceptual frameworks. The complex field of gifted education can benefit from such evaluations, and the refinements that can emerge from them. This article is a discussion between two of the most prominent scholars in the field. The discussion is based on a set of questions that cover much of the field's conceptual and practical territory. While answering the questions, the scholars also respond to each other. They address a wide range of phenomena in the field, including concerns pertaining to identification of the gifted, program development, instructional goals and processes, underrepresentation, and other social justice issues, and the need for expansion of ethical awareness, among other topics. The discussion also is framed with some interdisciplinary concepts.

### **Don Ambrose**

In my interdisciplinary explorations I occasionally come across highly influential, creative, ethical rebels who push back against the somewhat harmful orthodoxy in their field to generate new insights about important phenomena. For example, Thomas Piketty and Joseph Stiglitz are prominent, rebellious economists who help their colleagues understand the considerable flaws in the rational actor theory that dominates mainstream economics (see Piketty, 2014; Stiglitz, 2016). This theory portrays humans as highly rational, selfish individuals who make economic decisions on the basis of near complete information sets. This dominant theoretical perspective justifies self-centered economic actions because the decisions of millions of rational actors supposedly blend together to create an economy that benefits all. Piketty and Stiglitz show how the theory is flawed because the vast majority of people are not completely rational, not extremely selfish, and don't have access to the complete information sets that are needed to make important economic choices.

The field of mainstream economics is unified, insular, and firmly policed by gatekeepers so it is highly resistant to change (Ambrose, 2012). But if two prominent rebels, along with some other influential, dissenting theorists, can make their field adjust

its conceptual framework to some extent, can the same be done in the field of gifted studies or other “creative intelligence” fields (e.g., creativity studies)? Fortunately, our field has a few prominent rebels. Among them are Joe Renzulli and Robert Sternberg, who expand conceptions of giftedness to include creativity, practicality, context sensitivity, wisdom, and ethical awareness, among other important skills. Moreover, they are excellent examples of this expanded giftedness themselves. They don’t just talk about this important, expanded form of giftedness; they represent it and showcase it in their own research and teaching. Their work as conceptual rebels has been so influential that we might call them the Piketty and Stiglitz of gifted education. Or maybe it’s more appropriate to call Piketty and Stiglitz the Renzulli and Sternberg of economics.

In order to refine and strengthen the field even more, Renzulli and Sternberg raised some important questions and then used them as prompts for this written “discussion.” They responded to the questions while also reacting to each other. I took on the task of framing the discussion through an interdisciplinary lens. Topics addressed in the discussion included the evolution of conceptions of giftedness; the implications of this evolution for identification and instruction; modifications of the long-range goals that guide gifted education; how to make gifted education more equitable and ethical; and how to protect gifted education from disintegration due to misconceptions held by external agents such as policymakers. Enjoy reading the thoughts of two of the field’s most important innovators.

- 1. Ideas about what it means to be gifted have changed over the years and differ from one place to another. Given the needs of the current decade and beyond, what do you believe it even means for someone to be gifted?***

### **Joseph S. Renzulli**

I prefer to use the word, “gifted,” as an adjective rather than a noun (*He or she is gifted.*) I prefer to talk about gifted behaviors that we should be developing in young people that facilitate the development of a product, performance, or some type of action that has an impact on one or more desired audiences. I define gifted behaviors as expressions of superior performance when compared to peer groups. Superior performance means that qualified persons in a particular area of study have offered professional level criteria opinions of the work, or the work has earned high respect on the part of one or more intended audiences (e.g., writing accepted for publication, recognition at a science fair, a warm and enthusiastic ovation for a performance, art work displayed in a gallery).

These gifted behaviors are generally reflected by advanced understanding of the knowledge base and analytic skills related to a topic, intense and even passionate interest in pursuing deeper understandings and preparing a product in the topic area, and the use of creative thinking and executive function skills to pursue the topic in the *modus operandi* of a practicing professional, even if at a more junior level than adult scientists, writers, etc. These behaviors can be developed in certain people, not all people, at certain times, not all the time, and within specific domains or areas of study. Expressions of these behaviors (not their test scores or grade point averages) are

exactly the ways in which history has designated persons who have contributed important products, performances, and actions that have advanced human civilization. Gifted (adj.) programs should avoid labeling a child as gifted or not gifted; and instead focus on providing the opportunities, resources, and encouragement that promote the development of the behaviors mentioned above.

### **Robert J. Sternberg**

Many of our current ideas about giftedness can be traced back to the work of Lewis Terman (1916, 1925). When Terman did his work on IQ, he (and others) viewed it as an important contribution to show that the gifted were different, sure, but not necessarily weird or sickly or misfits or malcontents, as so many expected. Terman further recognized how subjective ratings of people's gifts could be influenced by social class and other variables that were in fact irrelevant to giftedness. These are notable contributions.

The ideas of how to assess giftedness of a century ago, however, may represent early 20th-century thinking better than they represent mid 21st-century thinking (Sternberg & Ambrose, 2021). The most important question we need to ask now is: "Gifted for what?" I believe there have been three major recognitions in the 21st century—at least, by some—that perhaps were not evident a century ago.

First, gifted educators need to recognize a much broader band of abilities than are recognized by identification and instructional models that focus primarily or even exclusively on IQ and IQ-related scholastic skills (Sternberg & Ambrose, 2021; Sternberg et al., 2022). As Halberstam (1993) and many others have recognized, the "best and the brightest" often prove to be duds when they need to transfer their knowledge and skills to real-world problems. Sometimes the best and the brightest are particularly susceptible to groupthink because they cannot imagine any group being better problem solvers than they are (Janis, 1972). And not infrequently, the smartest guys in the room turn out to be dubious ethically (McLean & Elkind, 2013). The problem is that high IQ does not necessarily translate into creative, practical, or wise problem solving in the real world (Sternberg, 2005). Nor does high IQ identify other important characteristics—intense motivation to make a difference, resilience in the face of obstacles, self-efficacy, willingness and courage to defy societal conventions and pressure, readiness to take prudent risks, intellectual humility, and a mindset of constant self-improvement rather than of self-satisfaction.

Second, gifted educators recognize better that we cannot afford to waste the gifts and talents of the multitudinous and diverse gifted and talented individuals whose potential contributions to the world may not be revealed by IQ tests and their proxies (Sternberg, Desmet, et al., 2021). IQ tests originally were created by and for a rather non-diverse population. Those identified as gifted by Terman (1925) were, by today's standards, quite homogeneous. But gifts are distributed widely, not just to those of high socioeconomic status (SES) or of high IQ (Gentry et al., 2021).

Third, and perhaps most importantly, giftedness needs to be seen as about not merely possession of gifts and talents, but also about how those gifts and talents are deployed (Sternberg, 2021a, 2021b, 2021c). If humanity and, indeed, the world is to have a positive future and perhaps any future at all, we need gifted individuals directing their gifts toward making the world a better place (Sternberg & Karami, 2021). As I write, global climate change is literally killing off people and other species and making parts of the world uninhabitable; air and water pollution are having deadly effects and making many more people sick; senseless wars and violence are cutting short lives of promise; and a pandemic has been finishing off people whose lives, in some case, had hardly gotten started.

I believe that the field of giftedness has sometimes gone wrong in that it has taken an approach that is far too prototypically Westernized—individualistic, oriented toward culturally-sanctioned indices of personal and professional success, and often indifferent to the positivity of the contributions made (Sternberg & Karami, 2021). At times, I worry that we actually develop and reward those who are narcissistically gifted—who look out for themselves without regard to, and often, at the expense of others (Desmet & Sternberg, 2024). We need to pay more attention to identification and development of giftedness that will make the world a better place on the view that “a rising tide raises all ships” (Sternberg, 2022a). If educators want society to invest in the gifted, the gifted need to show society that they are willing to invest in it.

**2. *What single change do you see as most important to take place for the future of gifted education with respect to (a) identification and (b) instruction?***

**Joseph S. Renzulli**

Identification should include formative assessment information, what I call *Assessment For Learning* information (Renzulli, 2021) as well as traditional assessment of learning data (i.e., test scores and teacher ratings). This information, obtained from student completed questionnaires and rating scales, includes self-ratings about interests, preferred modes of learning and ways of expressing themselves, executive functions, engagement, and what I call *action information*—a teacher observation or student expression related to a topic or interest about something they would like to study in greater depth and complexity.

Instruction should focus on teaching students how to pursue opportunities for creative productivity that *applies* knowledge and thinking skills to real problems (Renzulli, 1982), the production of a product, presentation, or some form of actionable change. Advanced and honors courses or designated time in special programs of any kind should extend beyond lesson learning through vehicles such as capstone projects, submissions for publication, academic competitions, (science fairs, Invention Convention), and community action projects. The most important goal of gifted education should be to increase the world’s reservoir of creative/productive people.

## Robert J. Sternberg

The single most important change that I believe is needed is to move away from static views of gifts and talents toward dynamic and societally useful views regarding how those gifts and talents will be deployed. My colleagues and I have distinguished among nine types of giftedness, realizing that many valid taxonomies are possible (see, e.g., essays in Pfeiffer, 2017). Here is our taxonomy (Sternberg, Chowkase, et al., 2021), with, we believe, Type 6 full transformational giftedness as the primary ultimate goal:

- **Type 1. Unidentified.** Gifted individuals who are never identified as such. Most gifted children likely are in this category, either because of their sociocultural background, or because their parents or their school fail to recognize their differences as gifts or talents.
- **Type 2. Inert Giftedness.** Gifted individuals who never effectively deploy their gifts and talents. They are identified as showing promise, but the promise is never fulfilled. They may do well on tests or even in school, but then they flicker out. They may join a high-IQ society or even get a prestigious job, but their performance does not reflect their gifts.
- **Type 3. Fully Transactional Giftedness.** They perform on a tit-for-tat exchange basis. In exchange for being identified as gifted or talented, they accomplish societally sanctioned things. They then are rewarded for these accomplishments, leading to more accomplishments. Their behavior is always motivated by the transactional rewards they receive. “Giftedness” as a social enterprise is largely conducted on this basis.
- **Type 4. Self-Transformational Giftedness.** The individual transforms themselves but not others. The individual becomes self-actualized but does not seek to convey to others the benefits their giftedness has brought them. They find their meaning in life through themselves. Others play at best a subsidiary role.
- **Type 5. Other-Transformational Giftedness.** The individual transforms the lives of others, making the others’ lives, while quite possibly themselves leading a life of great challenges and perhaps hardship. Viktor Frankl, for example (Frankl, 1946/2006) wrote about the search for meaning and produced a work that is an all-time best-seller (On Amazon, it is the #1 bestseller in popularization of psychoanalysis.). But it was based on his horrendous experience in a Nazi concentration camp. Frankl performed a transformational service for others but, himself, led a very hard and challenging life. Many of the most gifted people of all time, such as Vincent Van Gogh or Sylvia Plath, led extremely troubled lives while making the lives of others better and more enriched through their work.
- **Type 6. Fully Transformational Giftedness.** These people transform both their own and others’ lives. Often, their transformation of their own life is through their transformation of the lives of others. These are individuals who make a positive, meaningful, and potentially enduring difference to the world—they make the world a better place. Fully transformationally gifted individuals have included, among many others, Nelson Mandela, Mohandas

Gandhi, Malala Yousufzai, Greta Thunberg, Rosa Parks, and Marie Curie. Religious leaders such as Jesus or Mohammed might also be included in this list.

- **Types 7 to 9. Pseudo-Transformational Giftedness.** This is the appearance of transformational giftedness by people who actually are interested only in benefiting themselves. They may be populist politicians, autocrats, or CEOs who pretend to be interested in helping people but only want to help themselves. As leaders, their appeals are depressingly similar: “Only I can help restore you to the power and glory you deserve.” Often, they are narcissistic, Machiavellian, and at least borderline psychopathic. Pseudo-transformationally gifted individuals may be self-destructive (Type 7), other-destructive (Type 8), or both self- and other-destructive (Type 9).

The world needs gifted programs to develop Type 6 (fully transformationally) gifted individuals—ones who seek to make the world better. The mistake we may make is that we are as quick to develop inertly gifted or self- pseudo-transformationally gifted individuals as to develop fully transformational ones. In terms of the future of the world, we need to focus less on this or that gift, or this or that talent, and more on teaching children to deploy the talents to make the world better for others, not just for themselves and people who are like-minded.

3. ***The questions that dominate gifted education sometimes seem to have changed little over the years—enrichment compared with acceleration; pull-out programs compared with in-class differentiation, on the one hand, or special schools, on the other; use of standardized tests compared with more seemingly subjective but broader assessments. What single question that has not been asked much do you see as most important in contemporary times and moving forward?***

### **Joseph S. Renzulli**

The most important question for all stakeholders (teachers, administrators, policy makers, students, parents), regardless of how the program is organized (pull-out, special schools, etc.) is: Do you understand the qualitative difference between lesson-learning giftedness and creative-productive giftedness, as well as the school and home conditions necessary to develop both types of giftedness? For far too many years, gifted education has focused on learning more information faster rather than focusing on depth and complexity and using information in creative and investigative ways.

### **Robert J. Sternberg**

The single question we most need to ask is whether giftedness even is about some set of inborn or largely fixed abilities, or rather, in large part about something else. I would like to suggest a something else—*attitude toward life*. I have suggested, for example, that creativity—so important to those who give gifts to the world—is much more dependent on attitude toward life than on fixed cognitive abilities (Sternberg, 2018). I

realized this when I started graduate school. My graduate advisor asked each of his five students what they wanted to study in graduate school. The first one said, “semantic memory,” knowing that was what the advisor wanted to hear. The second said the same, and the third. I was the fourth. I knew that to say “semantic memory” would be a total sell-out: I wanted to study intelligence, not semantic memory. So, when the advisor called on me, I said: “semantic memory.” I sold out.

I determined that night that I never, in my career, would do that again. I would never again sell out. And I haven’t, to my knowledge. But more importantly, I learned that creativity is not primarily some kind of inborn ability, but rather, largely, an attitude toward life (Sternberg, 2018). I could have stood up for what I wanted to do; I didn’t. Creative people are, above all, people who are willing to defy the crowd. They don’t think or say or do things because others do but rather because they want to be true to themselves and what they stand for.

Creative people not only defy crowds; they also defy themselves. They do not get stuck in ways of thinking but rather continually question their beliefs and the assumptions underlying them. They do not have a set of ideas when they are young, and then stay with them. If you ever hear a scholar who is 60 trumpeting the ideas they had when they are 30, be suspicious—very suspicious. They have left creativity behind and have become self-satisfied and perhaps smug, afraid to move beyond where they have been.

Finally, creative people question the presuppositions of their field, their society, their world. They question whether beliefs that people are not even aware that they have are valid. Are things the way they are because they have to be, or because people are afraid to ask questions? But it is not just creativity that is largely attitudinal. Wisdom is also largely an attitude toward life (Sternberg, 1998; Sternberg & Glück, 2022). Wise people are ones who put the common good above their individual selfish interest, and above the interest of people who look like them, think like them, or believe what they believe. They balance their own interests with those of others and with larger interests. They think for the long as well as the short term. And they seek to be ethical in their solving of problems. Sure, abilities are involved, but there are an awful lot of smart people who are not particularly wise, or even wise at all (Sternberg, 2019). Indeed, some of the most foolish people are people of very high intelligence (Sternberg, 2004).

One might believe that intelligence, at least, is an ability and not an attitude. Of course, to some extent it is an ability. But intelligence—as manifested in the world—is also largely an attitude toward life. Consider, for example, people who believe that the 2020 U.S. presidential election was stolen, that vaccines against COVID-19 actually cause COVID-19, that there are black helicopters emanating from a secret world government, or that Jews actually control most of the world (no mean feat for a group representing roughly 0.2% of the world’s population). Some of these believers in falsehoods are highly educated and have gone to some of the best universities on offer. They have high IQs. They can think abstractly. The problem is that they don’t in practice. As soon as their ideology or worldview comes into conflict with the facts, they

go with the ideology or worldview. Their problem is not an ability-based one. It is that they have an unintelligent attitude toward life. They have the skills. But put into real-life contexts, they do not deploy them.

**4. *Gifted programs are notorious for underrepresentation of some socially defined racial and ethnic groups as well as of persons in certain geographic locations. What can best be done to remediate this underrepresentation and achieve more equitable diversity?***

**Joseph S. Renzulli**

Again, the use of formative assessment for learning information mentioned above is a good starting point for creating a strength-based profile for all students. This information doesn't make a student gifted or nongifted; however, it is useful for capitalizing on student assets and seeing how far we can advance them in their area(s) of strength and interest. This type of assessment focuses on the individual rather than group data and comparisons between and among students. Both types of assessment are important but formative assessment with appropriate feedback is the most powerful moderator in the enhancement of achievement (Hattie et al., 2007). We should never be using single scores on any assessment to identify high-potential students.

We also recommend providing general enrichment for all students and use the ways in which students *respond* to a given enrichment experience to determine the nature and level of follow-up. In our schoolwide enrichment model (Renzulli & Reis, 2014), we recommend two types of general enrichment for all students. Type I Enrichment, General Exploratory Experiences, and Type II Enrichment, Thinking Skills, should be infused into all regular curriculum coverage and in any kind of special program. Type I's such as a field trip to the science museum, a visiting poetry speaker, or a NASA video on space flights should be viewed by all students as invitations for possible follow-up on the parts of individuals or small groups. Similarly, a Type II experience such as how to use brainstorming for getting ideas in a creative writing class or how to use a metronome for composing songs in a music class should be available for all students. Types I and II Enrichment should always be followed by follow-up questions to determine which students want to explore a topic or investigative strategies at more advanced levels. These two types of enrichment should be regarded as triggers for advancing students to Type III Enrichment, Individual and Small Group Investigations of Real Problems (Renzulli, 1982).

**Robert J. Sternberg**

I believe that the solution to underrepresentation is the recognition that giftedness is not merely about test scores, grades, or often meaningless lists of extracurricular activities. According to the pentagonal theory of giftedness (Sternberg, 1993; Sternberg & Zhang, 1995), an individual is gifted to the extent they (a) possess excellence in some gift or talent, (b) the particular excellence is relatively rare, (c) the excellence is demonstrable—it manifests itself in some kind of product, tangible or intangible, (d) the excellence leads to productivity of some kind, and (e) the excellence is valued in some

way by a sociocultural milieu in which they are embedded. Test scores can be a way of demonstrating a gift, but they are a beginning, not an end.

Excellences can be of all sorts. The gifts that are most important are those that somehow lead to adaptation to the environment (Sternberg, 2022b)—the gifted individual's environment, not the tester's. In work on practical intelligence in rural Kenya with African children, we found that an important life-preserving excellence was in understanding the use of natural herbal medicines to prevent and treat parasitic illnesses, sometimes leading to death, that were rampant among children (Sternberg et al., 2001). In rural Alaska, working with Native American populations, we found that an important life-preserving excellence was ice fishing—finding fish way beneath thick layers of ice on the surface of a body of water (Grigorenko et al. 2004). Among Latino-Americans in San Jose, California, social skills were valued much more than cognitive ones, whereas among White-American and Asian-American populations, the reverse was true (Okagaki & Sternberg, 1993). In general, the point is that what constitutes an excellence depends on where and when one lives, and what is adaptive in handling tasks in that sociocultural context.

In work at Yale University and Tufts University (Sternberg, 2010) and later at Oklahoma State University, we found that students could excel at the highest levels in college, even when their analytically based standardized test scores were not particularly elevated, if they excelled in creative, practical, or wisdom-based skills and attitudes. Moreover, the racial/ethnic gap among racial/ethnic groups was greatly reduced by including a broader range of skills and attitudes.

We under-identify the gifted because we impose a narrow, post-industrial, individualistic if not narcissistic, view of giftedness on children. In any society, those who are in power manipulate the socioeconomic and cultural system to favor people like them. At various times, societies have engineered things to laud the groups in power. When I was president of the American Psychological Association, there was a gallery of portraits of past-presidents. In the early years, almost all were White men. And then, when people realized that other groups could be successful, pictures of women and minority-group members started appearing. But in those early years, it just never occurred to, of all people, psychologists, that women and minority-group members could do the job. Standardized test scores correlate highly with socioeconomic status, so that the tests essentially “launder” SES background. We should reward people for their adaptive gifts and talents, whether or not those gifts and talents happen to mirror those of the powerful in society at a given time and place.

I once tried to admit a student into our graduate psychology program at Yale whose record was superb but whose GREs were marginal. The graduate admissions committee held a vote and the vote against her was 5 to 1. I was the only one who voted for her. I asked a full professor why he voted against her. He said that all the students who succeeded in the program had GRE's over 650 (163 on the current scale) and this applicant didn't. I told him he was right and that it was because we never admitted students with scores under 650. We simply never gave them a chance and then committed the fallacy of confirmation bias: We saw only confirming information

because we made it so. And that is why certain groups are underrepresented. We don't give them a chance and then we bemoan that they are underrepresented. We could try a novel approach: Give them a chance.

***5. In some locales, gifted education seems to be on the decline because of its failure to convince legislators and school boards of the need for gifted children to receive special services. What argument or arguments could best be made to convince legislators and policymakers at all levels that gifted programs are not only reasonable, but even essential?***

**Joseph S. Renzulli**

I believe that these arguments fall into two categories. At the local and state levels, we should provide research on the outcomes of particular program models (e.g., Reis & Peters, 2020) and what I sometimes call “face validity,” which includes diverse examples of work completed when opportunities are provided through both general education enrichment and special program services (e.g., Enrichment Clusters in the schoolwide enrichment model, Renzulli & Reis, 2014). Science fair and literary contest winners, displays of student art at the local library or airport, newspaper and television coverage of outstanding examples of students’ work are some of the ways to gain support. We all know and should learn from the support that results locally from the publicity on outstanding athletes and sports teams.

Also included as face validity at the local level are expressions of academic enjoyment and satisfaction that students share with parents, some of whom may be Board of Education members or active in school affairs. We need to be our own best public relations advocates and bring creative productivity to the attention of the public even more frequently than the school or district’s once-a-year report on standardized achievement test scores. Creative/productive output is ongoing throughout the year and results in more interesting stories to tell about students’ accomplishments and productivity than simply reporting scores.

The second argument is probably more appropriate for legislators and policy makers. In addition to collections of various types information mentioned above, concerns for property values, the number of students matriculating at the most select colleges and universities, and even national and state economies are functions of the quality of the education system. A fascinating research study by three Dutch economists (Booji et al., 2016) documented the impact of a special Renzulli-type program on students’ accomplishments and pointed out how it relates to human capital, estimating the effects of a GT program implemented at a prestigious academic secondary school in the Netherlands. About 25% of students were identified as high potential and the study showed that longitudinally, students who participated obtained higher grades, enrolled in more challenging classes, pursued a more intensive science curriculum (especially for girls) and had stronger beliefs in their academic abilities. They also found positive outcomes at the university level, where they chose more challenging fields of study and in later years earned higher salaries. Economics is powerful motivation for policymakers.

## **Robert J. Sternberg**

Policymakers are interested in many things, but one of the primary ones, even in the nonprofit world, is return on investment (ROI). If a school district, for example, is asked to invest extra money in a special-education program, what can they reasonably expect to get back in return?

In the case of programs for learners with learning or attentional disabilities, the ROI is pretty clear. First, these are students who, with proper accommodations, can learn just like everyone else. Second, districts are legally mandated to provide appropriate services. Third, districts often are evaluated for their standardized test scores, and these are students who, properly taught and tested, need not bring down mean scores for the school district; low test scores may lead to sanctions. But none of these arguments apply to gifted children. First, they already are learning better than others. Second, there usually are no legal mandates for instruction, even if there are for identification. Third, the students generally already are raising test scores, so there are no sanctions waiting if the students do not perform up to their level of measured ability.

I believe that the key to obtaining support is not to market gifted programs in terms of what they will do for the gifted learners—many policymakers think those learners already have more than enough advantages—but rather in terms of the ROI that investment in these learners will bring to the districts and to society.

First, if one views giftedness as not just a set of skills, but also as, in large part, an attitude toward life, then potentially, many more people are gifted than are now recognized to be gifted; moreover, they have the ability to “gift themselves”—to adopt attitudes that will facilitate their performing at gifted levels. Then, gifted education becomes, in large part, encouraging every student to bring out the best in themselves.

Second, if giftedness is not just about using the system to do well for oneself (transactional giftedness), but also about making a positive, meaningful, and potentially enduring difference to the world (transformational giftedness), then providing benefits for gifted students will bring, by definition, an automatic return on investment. Gifted students will be those not just who have the most to take for themselves, but rather those who have the most to give back to society.

Third, if giftedness is not just about general intelligence—the ability to think abstractly in situations that may have little to do with everyday life—but rather primarily about intelligence as adaptation, then policymakers will know that they are not merely benefiting grade-getters—students who know how to excel in school (Renzulli, 1978, 2002; Renzulli & Reis, 2014)—but also students who know how to get by in the world—who can adapt to, shape, and select environments as they occur in everyday life.

Fourth, if giftedness is defined more broadly in terms of not just analytical skills, but also creative, practical, and wisdom-based attitudes as well as skills, one will be developing those individuals who have the ingredients needed for successful leadership at all levels of society (Sternberg, 2005).

I taught for some time at a university that, from some points of view, was among the most elite in the nation. I think the university often had trouble reconciling its elitism with its role of developing societal leaders. If the overwhelming majority of students come from very wealthy families, as they did at that university, and are used to privileges being bestowed upon them almost as a seeming birthright, will they necessarily be the people who can understand the strivings of those to whom society has not been as generous?

There are obvious advantages to coming from highly educated and economically privileged families: The resources available for success are often tremendous. But there are also advantages to coming from uneducated families that are not well off (such as my own family of origin, in which neither parent had graduated from high school): You learn that if you want to succeed, you will have to make it on your own. You are gifted not as you are born, but as you make yourself through your own efforts. Perhaps that is a lesson for us all.

**6. *What is the most important research that needs to be done to bring to public attention the need for supporting gifted education?***

**Joseph S. Renzulli**

One of the problems with most high-quality research studies is that they are carried out under highly controlled conditions with random assignment of students to experimental and control groups and statistical analyses that are unfathomable to all but very sophisticated researchers. And most research studies seldom provide practitioner friendly information that enables teachers to benefit from conclusions drawn by the researchers.

Evaluations, on the other hand, more nearly approximate what is happening in typical school situations and usually deal with practices that are replicable in normal classroom situations. For these reasons, more research needs to be conducted about the specific interventions utilized in effective gifted program evaluations (Renzulli, 1975) and the connection between a particular service (e.g., Content Acceleration, Curriculum Compacting) and *both* cognitive and non-cognitive outcomes. In a follow-up evaluation of a schoolwide enrichment model program in an urban Connecticut city (Reis & Renzulli, 1991), students almost always mentioned their participation in individual or small group Type III Enrichment projects as a major influence on their creative and investigative skills and their potential career interests.

What is also needed are more long-term follow-up studies that look at outcomes other than simply test scores, and academic records. As Terman pointed out in his 40-year follow up in the final book in the five volume series entitled *Genetic Studies of Genius* (Terman, & Oden, 1959), noncognitive abilities played an important role in the adult lives of the high ability students. Unfortunately, this study did not provide information about which experiences led to the development of certain skills mentioned in the following summary of this work. The four traits that were found to separate the 150 most and least successful of these high IQ men were persistence in the

accomplishment of ends, integration toward goals, self-confidence, and freedom from inferiority feelings. In summary, the greatest contrast between the two groups were in their emotional and social adjustment, and their drive to achieve. These factors should always be included in follow-up studies.

These skills relate well to the development of creative/productive giftedness, and therefore we need more important research on follow-up studies such as those conducted by Booji et al., (2016) and Reis and Renzulli (1991). These studies must focus on both cognitive outcomes and the noncognitive skills that, as previous research has found, are more related to investigative and creative outcomes that will increase the reservoir of highly creative productive people in our world.

### **Robert J. Sternberg**

I believe that most studies of the advantages of gifts and gifted education have been deeply flawed. It is no wonder they have had little impact. Why? On the one hand, we want longitudinal research that shows that gifted programs “work.” This was what motivated Terman’s (1925) longitudinal study of the gifted. On the other hand, I am very skeptical of longitudinal studies.

First, they apply to a given cohort, and each cohort has such different life experiences that it can be difficult to compare them. For example, Terman lived in a time when those who went to college were in many cases—even more than today—from wealthy and socially elite households and were overwhelmingly male and White. Similarly, the COVID-19 experience of today’s youngsters is unique.

Second, the mere fact of identification of individuals as being “gifted,” however they are identified, gives those who are identified enormous advantages by virtue of their identification, creating self-fulfilling prophecies that tend to support the investigators’ original hypotheses of the superior outcomes achieved by gifted students (see Sternberg, in press). For example, going to Harvard or Yale, even in the 1950s when the average SAT scores were in the 500s, provided enormous advantages to those students, largely due to the socioeconomic, racial, and ethnic gifts of their family of origin. They succeeded in large part because society set them up to succeed. Even the least talented children of country presidents or CEOs of major companies, for example, will have tremendous advantages for socioeconomic success merely as a function of their birth.

Third, when evaluations are done by those who design programs, they simply are likely to favor the programs through unconscious bias.

Fourth, often there are inadequate or no control or comparison groups. We know how well the “Termites” of the Terman studies succeeded by societal standards. But what if other students were given comparable opportunities in life, despite not having sky-high IQs. Might they have done as well, nearly as well, or perhaps even better?

Finally, the criteria for success are strongly oriented toward individual accomplishments that enhance the lives of those who have succeeded, and less toward what they have given back to society. They may have won awards, but for what, exactly?

So, what kinds of research do we need? I believe the research we most need today is that showing the return on investment of gifted education, but not just for those identified as gifted by traditional means. How well do gifted programs benefit the traditionally gifted, sure, but also, how well do they benefit other groups of young people who are highly motivated to make a difference and to give back (i.e., who are transformationally gifted), regardless of their scores on traditional tests? And in what kinds of criteria do they succeed beyond those that benefit them individually? What have they actually given back to the society that gave to them—what is their return on investment?

We need to get away from the generations of research that claim to prove that those who have been given benefits by society actually have excelled. Of course, on average, they have. Society has given them every advantage, and if they have not succeeded, it is because they have failed to take advantage of the exceptional opportunities they have been given. Any group of people that has been given advantaged access routes to success—high-IQ people, but also White people, males, tall people, or whoever—could be shown by research to have excelled, on average. Of course, they did: The societies made it so, and the research merely confirmed that almost without regard to how those in power came to power, they and their progeny would succeed in an environment that favored them. What we need now is research that shows how the advantages the benefited received might help those who were not already favored at birth, or soon thereafter.

## **Final Statements**

### **Joseph S. Renzulli**

Bob Sternberg is unarguably the leading cognitive psychologist in the world and his work on intelligence, creativity, and a host of related topics has had a remarkable influence on both the field of gifted education and the larger field of psychology. I believe Sternberg's work is notable in two critical ways as it has caused educators and psychologists to re-examine the ways in which we look at the most important questions in our field.

First, his works, including the responses that addressed the questions raised in this article, are carefully documented with research studies that have been published in the rigorously reviewed journals in psychology and education. Second, and perhaps more important as far as talking about the future is concerned, is his predisposition to always look at the "big picture," as opposed to simply examining what people have been studying for years on end. Bob, perhaps more than anyone else, has developed new ideas in areas such the study of wisdom, socially useful applications of giftedness,

transformational giftedness, and recent work on “dark giftedness”—about those who use their giftedness for bad and even toxic ends.

Bob’s work has significantly influenced my own thinking, and perhaps the best way to illustrate this influence is to tell a short story. When I wrote my first article on reexamining the meaning of giftedness, it was turned down by every major research journal in our field but was subsequently published by *Phi Delta Kappan* (Renzulli, 1978), which is a general education non-research journal. At that time I didn’t know Bob nor was I familiar with his work. My article challenged traditional IQ conceptions of giftedness, and I received a good deal of criticism from traditionalists in the field. In subsequent years Bob Sternberg, from Yale University and Howard Gardner from Harvard University, universities with strong source credibility, began to publish seminal works that supported my position about broadening the conception of giftedness. Indeed, I so admired their theories, research, and publications, that in all of my subsequent presentations I referred to them as my “Academic Body Guards.” When I wrote my initial piece for the *Kappan* in 1978 I was an unknown professor from a state public university, which at the time, had far less source credibility than the two Ivy League institutions mentioned above. I’m proud to say that in recent years, my university has consistently ranked among the top 25 Research 1 universities in America.

I greatly admire Bob’s responses to the questions raised by the editor of the *Roeper Review*. The differences between our contributions may exist in the audiences we address. Bob’s work influences the scholarly community in the very best ways possible. Due to my obsession with practicality (stemming from my many years as a classroom teacher and trainer of teachers) I tend to write about ways that I can influence teachers’ practices in the classroom. I focus on practical issues and solutions related to identification and the development of instruments that measure assessment *for* learning as opposed to assessment of learning for a broader and more diverse group of students (e.g., Renzulli, 2021; Renzulli & Brandon, 2018; Renzulli et al., 1977, 2009). My other primary work has been on developing practical pedagogical strategies that develop gifted behaviors and talents in a broader and more equitable way for a diverse group of young people (e.g., Reis & Renzulli, 2022; Renzulli & Reis, 2014; Renzulli et al., 2011). And again, these publications focus on providing practical and innovative implementation strategies for teacher and administrator audiences.

My fondest wish and recommendation is that a combination of Bob’s and my work will collectively result in a positive impact on the field in the years ahead, that this combined effort will influence education in general, and that we will remain both collaborators and friends as we work together to achieve positive educational change.

### **Robert J. Sternberg**

Joe Renzulli and I agreed to write up to 500 words each in response to each other’s brief essays. But when I read the essays, I found nothing in particular with which I disagreed, so I have decided to use my response as an opportunity to honor an 86-year-old grand pioneer in the field of giftedness. I have worked with Joe for many years, some of them as Associate Director of The National Center for Research on the Gifted

and Talented, which Joe directed, so I believe I know Joe well. Joe has made so many contributions, but I only have space to highlight three. Many of these were in collaboration with his research and life partner, Sally Reis.

**1. Renzulli has had the creativity and the courage to redirect the field of giftedness away from the Termanesque IQ-based model.** Although we in the gifted field speak of creativity, there are actually a number of different types of creativity (Sternberg, 1999, 2020). The overwhelming number of contributions to the field are small forward incrementations: They make small, sometimes solid contributions to knowledge within established paradigms. Joe has repeatedly redirected the field away from well-worn and sometimes outdated approaches. His three-ring model (Renzulli, 1978) redefined giftedness, not just in terms of traditional IQ-based skills, but also in terms of creativity and task commitment, essential ingredients of giftedness. His revolving-door model made the point that, in the end, giftedness is often domain-specific, and who is gifted and needs special services depends heavily on what is being taught. His schoolwide-enrichment model (Renzulli & Reis, 2014) showed how his ideas could be applied across the board in schools. His houndstooth model (Renzulli et al., 2006) demonstrated the importance of what I would call wisdom-based elements in giftedness. Throughout his career, Renzulli has been willing to creatively “defy the crowd” (see Sternberg, 2018) rather than just accept the pats on the head one gets for doing, in schools, what one is told to do, and in academia, what the rest of the field is doing.

**2. Renzulli (with Reis) has trained more teachers of the gifted in modern ways of thinking than perhaps any innovator in the field ever has.** Since 1978, Joe and Sally Reis have offered a summer program, Confratute, which has educated teachers of the gifted as well as scholars in the most recent ideas and findings in the field. Some in the field would have used such an opportunity to indoctrinate the attendees in their particular approach. Certainly, Confratute reflected the Renzulli-Reis worldview on giftedness. But it always has had a wide variety of guest speakers representing diverse points of view and approaches. Joe has been almost as much an educational entrepreneur as scholar, and also has made available to teachers and schools, worldwide, materials they can use to serve gifted children.

**3. Renzulli (with Reis) has had probably unique success in getting his program into schools and keeping it in those schools.** Although there are many approaches to identifying and educating the gifted, the two main ones have been a conventional approach based on Terman’s work and Renzulli’s approach. Anyone who works in schools knows how very difficult it is to get ideas into those schools and how much more difficult it is to keep the ideas there. Renzulli and Reis have succeeded in a way that is unique in the field.

On top of all this, Joe has never succumbed to the hubris and conceit that so often marks scholarly superstars. He has remained, to the tens of thousands in the field, just “Joe.” He has shown that one can be a superstar and consummately human, both at the same time. What a great lesson about giftedness coupled with humanity from a guiding light in the field of giftedness.

## Conclusion

### Don Ambrose

In their responses to the questions in this article, Renzulli and Sternberg highlighted some important phenomena that can help others work to improve the field of gifted education. They did some dismantling of the dogmatism that confines thinking in the field. Dogmatism is any blend of narrowminded, shortsighted, superficial, rigid thinking (Ambrose & Sternberg, 2012, Ambrose et al., 2012). Both of them warned the field about the dogmatism embedded in simplistic, quantitative measures of giftedness. Their arguments align with analyses carried out by prominent scholars in other fields. For example, Muller (2018), a historian, showed how “the tyranny of metrics” causes damage in various domains and institutions, including the medical system, the military, policing, and education. Similarly, Byers (2014), a mathematician, showed how “sterile certainty” infects the field of mathematics, because some important phenomena are very resistant to quantitative precision.

Another important aspect of the discussion is the way they magnified the ethical and social-justice dimensions of the field. According to Hoffman (2000), empathy contributes to moral development by strengthening altruism and compassion. Renzulli and Sternberg achieve some of this strengthening by exploring issues such as the plague of underrepresentation and the need for educational processes that will support the long-term development of wisdom. Their emphasis on ethics shows up in a number of ways, including Sternberg’s (Sternberg, et. al., 2022) concept of transformational giftedness and Renzulli’s houndstooth model, which is designed to strengthen creative productivity, personal responsibility, and wisdom (Renzulli et. al., 2006).

These were just a few of the important issues they addressed. The field will improve if researchers, theorists, and practitioners use the discussion between these two eminent investigators as a launching pad for flights into the intellectual stratosphere where they can perceive and modify big-picture patterns in their own work.

## References

- Ambrose, D. (2012). The not-so-invisible hand of economics and its impact on conceptions and manifestations of high ability. In D. Ambrose, R. J. Sternberg, & B. Sriraman (Eds.), *Confronting dogmatism in gifted education* (pp. 97–114). Routledge.
- Ambrose, D., & Sternberg, R. J. (Eds.). (2012). *How dogmatic beliefs harm creativity and higher-level thinking*. Routledge.
- Ambrose, D., Sternberg, R. J., & Sriraman, B. (Eds.). (2012). *Confronting dogmatism in gifted education*. Routledge.
- Booji, A., Haan, F., & Plug, E. (2016). *Enriching students pays off: Evidence from an individualized gifted and talented program in secondary education* (Discussion Paper No. 9757). University of Amsterdam
- Byers, W. (2014). *Deep thinking: What mathematics can teach us about the mind*. World Scientific.
- Deresiewicz, W. (2015). *Excellent sheep: The miseducation of the American elite and the way to a meaningful life*. Free Press.
- Desmet, O. A., & Sternberg, R. J. (2024). Those who gift only themselves: An analysis of gifted narcissists as ultimate self-transactionalists. *Roeper Review*, 46(1), 39–47. <https://doi.org/10.1080/02783193.2023.2285042>
- Frankl, V. E. (1946/2006). *Man's search for meaning*. Beacon.
- Gentry, M., Desmet, O. A., Karami, S., Lee, H., Green, C., Cress, A., Chowkase, A., & Gray, A. (2021). Gifted education's legacy of high stakes ability testing: Using measures for identification that perpetuate inequity. *Roeper Review*, 43(4), 242–55. <https://doi.org/10.1080/02783193.2021.1967545>
- Grigorenko, E. L., Meier, E., Lipka, J., Mohatt, G., Yanez, E., & Sternberg, R. J. (2004). Academic and practical intelligence: A case study of the Yup'ik in Alaska. *Learning and Individual Differences*, 14(4), 183–207. <https://doi.org/10.1016/j.lindif.2004.02.002>
- Halberstam, D. (1993). *The best and the brightest*. Ballantine.
- Hattie, J., Hattie, H., & Timperley, W. (2007). The power of feedback. *Review of Educational Research*, 77(1), 78–87. <https://doi.org/10.3102/003465430298487>
- Hoffman, M. L. (2000). *Empathy and moral development: Implications for caring and justice*. Cambridge University Press.
- Janis, I. L. (1972). *Victims of groupthink: A psychological study of foreign-policy decisions and fiascos*. Houghton-Mifflin.
- McLean, B., & Elkind, P. (2013). *The smartest guys in the room: The amazing rise and scandalous fall of Enron*. Portfolio.
- Muller, J. Z. (2018). *The tyranny of metrics*. Princeton University Press.
- Pfeiffer, S. (Ed.). (2017). *APA handbook of giftedness and talent*. American Psychological Association.
- Piketty, T. (2014). *Capital in the twenty-first century*. Harvard University Press.
- Reis, S. M., & Peters, P. (2020). Research on the schoolwide enrichment model: Four decades of insights, innovation, and evolution. *Gifted Education International*, 37(2), 109–141. <https://doi.org/10.1177/0261429420963987>

- Reis S. M., & Renzulli J. S. (1991). The assessment of creative products in programs for gifted and talented students. *Gifted Child Quarterly*, 35(3), 128–134. <https://doi.org/10.1177/001698629103500304>
- Reis, S. M., & Renzulli, J. S. (2022). Transformational giftedness: Using SEM pedagogy to create future leaders and change agents dedicated to service, social responsibility and using their talents to improve the planet. In R. J. Sternberg, D. Ambrose, & S. Karami (Eds.), *The Palgrave handbook of transformational giftedness* (pp. 313–333). Palgrave-Macmillan.
- Renzulli, J. S. (1975), *A guidebook for evaluating programs for the gifted and talented*. National/States Leadership Training Institute on the Gifted and Talented.
- Renzulli, J. S. (1978). What makes giftedness? Reexamining a definition. *Phi Delta Kappan*, 60(3), 180–184, 261. <https://www.jstor.org/stable/20299281>
- Renzulli, J. S. (1982). What makes a problem real: Stalking the elusive meaning of qualitative differences in gifted education. *Gifted Child Quarterly*, 26(4), 147–156. <https://doi.org/10.1177/001698628202600401>
- Renzulli, J. S. (2002). Emerging conceptions of giftedness: Building a bridge to the new century. *Exceptionality*, 10(2), 67-75. [https://doi.org/10.1207/S15327035EX1002\\_2](https://doi.org/10.1207/S15327035EX1002_2)
- Renzulli, J. S. (2021). Assessment for learning: The missing element for identifying high potential in low income and minority groups. *Gifted Education International*, 37(2), 199–208. <https://doi.org/10.1177/0261429421998304>
- Renzulli, J. S., & Brandon, L. E. (2017). Common sense about the under-representation issue: A schoolwide approach to increase participation of diverse students in programs that develop talents and gifted behaviours in young people. *International Journal for Talent Development and Creativity*, 5(2), 71–94. <https://files.eric.ed.gov/fulltext/EJ1301574.pdf>
- Renzulli, J. S., Koehler, J., & Fogarty, E. (2006). Operation Houndstooth intervention theory: Social capital in today's schools. *Gifted Child Today*, 29(1), 14–24. <https://doi.org/10.4219/gct-2006-189>
- Renzulli, J. S., & Reis, S. M. (2011). A virtual learning application of the schoolwide enrichment model and high-end learning theory. *Gifted Education International*, 28(1), 19–40. <https://doi.org/10.1177/0261429411424382>
- Renzulli, J. S., & Reis, S. M. (2014). *The Schoolwide Enrichment Model: A how-to guide for talent development* (3rd ed.). Prufrock Press.
- Renzulli, J. S., Siegle, D., Reis, S. M., Gavin, M. K., & Sytsma Reed, R. E. (2009). An investigation of the reliability and factor structure of four new Scales for Rating the Behavioral Characteristics of Superior Students. *Journal of Advanced Academics*, 21(1), 84–108. <https://doi.org/10.1177/1932202X0902100105>
- Renzulli, J. S., Smith, L. H., White, A. J., Callahan, C. M., & Hartman, R. K. (1977). *Scales for Rating the Behavioral Characteristics of Superior Students*. Creative Learning Press.
- Sternberg, R. J. (1993). The concept of “giftedness”: A pentagonal implicit theory. *The origins and development of high ability* (pp. 5–21). CIBA Foundation.
- Sternberg, R. J. (1998) *A balance theory of wisdom*. *Review of General Psychology*, 2(4), 347–365. <https://doi.org/10.1037/1089-2680.2.4.347>

- Sternberg, R. J. (1999). A propulsion model of types of creative contributions. *Review of General Psychology*, 3(2), 83–100. <https://doi.org/10.1037/1089-2680.3.2.83>
- Sternberg, R. J. (2004). Why smart people can be so foolish. *European Psychologist*, 9(3), 145–150. <https://doi.org/10.1027/1016-9040.9.3.145>
- Sternberg, R. J. (2005). WICS: A model of giftedness in leadership. *Roeper Review*, 28(1), 37–44. <https://doi.org/10.1080/02783190509554335>
- Sternberg, R. J. (2010). *College admissions for the 21st century*. Harvard University Press.
- Sternberg, R. J. (2018) Creative giftedness is not just what creativity tests test: Implications of a triangular theory of creativity for understanding creative giftedness. *Roeper Review*, 40(3), 158–165. <https://doi.org/10.1080/02783193.2018.1467248>
- Sternberg, R. J. (2019). Why people often prefer wise guys to guys who are wise: An augmented balance theory of the production and reception of wisdom. In R. J. Sternberg & J. Glück (Eds.), *Cambridge handbook of wisdom* (pp. 162–181). Cambridge University Press.
- Sternberg, R. J. (2020, November 19). Was your idea too creative? *Inside Higher Ed*. <https://www.insidehighered.com/advice/2020/11/19/how-avoid-having-your-ideas-rejected-being-too-creative-opinion>
- Sternberg, R. J. (2021a). Adaptive intelligence: Intelligence is not a personal trait but rather a person x task x situation interaction. *Journal of Intelligence*, 9(4), 58. <https://doi.org/10.3390/jintelligence9040058>
- Sternberg, R. J. (2021b). Identification for utilization, not merely possession, of gifts: What matters is not gifts but rather deployment of gifts. *Gifted Education International*, 38(3), 354–361. <https://doi.org/10.1177/02614294211013345>
- Sternberg, R. J. (2021c). A new model of giftedness emphasizing active concerned citizenship and ethical leadership that can make a positive, meaningful, and potentially enduring difference to the world. In R. J. Sternberg & D. Ambrose (Eds.), *Conceptions of giftedness and talent* (pp. 407–424). Palgrave-Macmillan.
- Sternberg, R. J. (2022a). Identify transformational, not just transactional giftedness! *Gifted Child Quarterly*, 66(2), 159–160. <https://doi.org/10.1177/001698622110379>
- Sternberg, R. J. (2022b). Personal talent curation in the lifetime realization of gifted potential: The role of adaptive intelligence. *Gifted Education International*, 38(2), 161–173. <https://doi.org/10.1177/02614294221086505c>
- Sternberg, R. J. (2022c). The emperor has no clothes: The naked truth about the construct validity of traditional methods of gifted identification. *Roeper Review*, 44(4), 231–248. <https://doi.org/10.1080/02783193.2022.2115179>
- Sternberg, R. J., & Ambrose, D. (Eds.) (2021). *Conceptions of giftedness and talent*. Palgrave-Macmillan.
- Sternberg, R. J., Ambrose, D., & Karami, S. (Eds.). (2022). *Palgrave handbook of transformational giftedness for education*. Palgrave-Macmillan.
- Sternberg, R. J., Chowkase, A., Desmet, O., Karami, S., Landy, J., & Lu, J. (2021). Beyond transformational giftedness. *Education Sciences*, 11(5), 192. <https://doi.org/10.3390/educsci11050192>

- Sternberg, R. J., Desmet, O. A., Ford, D., Gentry, M. L., Grantham, T., & Karami, S. (2021). The legacy: Coming to terms with the origins and development of the gifted-child movement. *Roeper Review*, 43(4), 227-241. <https://doi.org/10.1080/02783193.2021.1967544>
- Sternberg, R. J., & Glück, J. (2022). *Wisdom: The psychology of wise thoughts, words, and deeds*. Cambridge University Press.
- Sternberg, R. J., & Karami, S. (2021). Gifted for whom? Individualism, dyadism, and collectivism in the definition of giftedness. *Gifted Education International*, 38(3), 391–396. <https://doi.org/10.1177/02614294211052393>
- Sternberg, R. J., Nokes, K., Geissler, P. W., Prince, R., Okatcha, F., Bundy, D. A., & Grigorenko, E. L. (2001). The relationship between academic and practical intelligence: A case study in Kenya. *Intelligence*, 29(5), 401–418. [https://doi.org/10.1016/S0160-2896\(01\)00065-4](https://doi.org/10.1016/S0160-2896(01)00065-4)
- Sternberg, R. J., & Zhang, L. F. (1995). What do we mean by “giftedness”? A pentagonal implicit theory. *Gifted Child Quarterly*, 39(2), 88–94. <https://psycnet.apa.org/doi/10.1177/001698629503900205>
- Stiglitz, J. E. (2016). *Rewriting the rules of the American economy: An agenda for growth and shared prosperity*. W. W. Norton.
- Terman, L. M. (1916). *The measurement of intelligence: An explanation of and a complete guide for the use of the Stanford revision and extension of the Binet-Simon intelligence scale*. Houghton Mifflin. <https://doi.org/10.1037/10014-000>
- Terman, L. M. (1925). *Genetic Studies of Genius. Volume 1. Mental and physical traits of a thousand gifted children*. Stanford University Press.
- Terman, L. M., & Oden, M. H. (1959). *Genetic studies of genius. Volume 5. The gifted group at mid-life*. Stanford University Press.

## Author Bios

**Joseph Renzulli** is a Distinguished Professor at the University of Connecticut. His research and practical applications of his major theories have focused on total school improvement by using student strengths and interests to promote increased achievement and high levels of enjoyment and engagement in learning. His books and articles have been translated into several languages and his work is widely used around the world. In 2022 he was voted #3 among World’s Top 30 Education Professionals. Email: [joseph.renzulli@unconn.edu](mailto:joseph.renzulli@unconn.edu)

**Robert J. Sternberg** is Professor of Psychology at Cornell University and Honorary Professor of Psychology at the University of Heidelberg, Germany. His PhD is from Stanford and he holds 13 honorary doctorates. He is a past winner of the Grawemeyer Award in Psychology and has won the William James and James McKeen Cattell Awards from the Association for Psychological Science. His latest books are *Adaptive Intelligence* (Cambridge University Press, 2021), and (with Judith Glück) *Wisdom: The Psychology of Wise Thoughts, Words, and Deeds* (Cambridge University Press, 2022). His textbook with Judith Glück, *The Psychology of Wisdom: An Introduction*, is in press with Cambridge. Email: [rjs487@cornell.edu](mailto:rjs487@cornell.edu)

**Don Ambrose**, PhD, is a creative intelligence scholar and editor of the *Roeper Review*. He leads numerous interdisciplinary projects involving eminent researchers studying giftedness, creativity, and talent development. Don has won international, national, and institutional awards from the American Creativity Association, the International Center for Innovation in Education, Mensa (lifetime achievement award), and the National Association for Gifted Children (distinguished scholar award), among others. He has done invited keynote presentations throughout the world. Email: [ambrose@rider.edu](mailto:ambrose@rider.edu)