JoE

Journal of Expertise
2025. Vol. 8(4)

ISSN 2573-2773

Identifying Factors that Promote the Transition of Abilities into Transformational Creativity: A Proposed Complement to Friedlander's *The Psychology of Creative Performance and Expertise*

Rena F. Subotnik[1], Frank C. Worrell[1], and Paula Olszewski-Kubilius[2]

[1] Berkeley School of Education, University of California, Berkeley
[2] Center for Talent Development, Northwestern University

Correspondence: Rena Subotnik, subotnik0@berkeley.edu

Katherine Friedlander's *The Psychology of Creative Performance and Expertise* (2024) provides readers with a comprehensive picture of expertise at different levels of development, elaborating on factors associated with high performance in a number of fields. This commentary provides an opportunity to highlight complementary work on the talent development megamodel (Subotnik, et al., 2011, 2019, 2023) that, in comparison to Friedlander's psychology of creative performance and expertise (PCPE), (a) focuses on the transitions between stages that drive developmental movement toward (b) transformational creativity beyond expertise in performance, and (c) allows for exploration in additional directions, such as the role of gatekeepers, insider knowledge, mentoring, and specialization of education and training.

The talent development megamodel (TDMM), first published in *Psychological Science in the Public Interest* (Subotnik et al., 2011), was generated from a wide-ranging review of the psychological literature on creativity, giftedness, talent development, high performance, eminence, and expertise. The model builds on explicating transitions that propel potential abilities into competencies, competencies into expertise, and, under the right conditions, expertise into eminence or transformational creativity. Transformational creativity can be defined as an idea or performance that leads others both inside and sometimes outside the field to rethink or reconsider their own ideas and procedures.

In comparing the elements of the TDMM with PCPE, there are some overlaps and some inconsistencies. Both models address domain-specific talent and the associated abilities that warrant investment in the talent development process. Far more work needs to be conducted in the field to identify abilities that must be in place in order to proceed along the talent development trajectory in most domains. Some examples of existing abilities identified in specific domains include musicality in music performance (Jarvin & Subotnik, 2010), and number sense (Libertus et al. 2011) and mathematical cast of mind (Krutetskii, 1976) in mathematics. Further, the TDMM postulates that eminence or transformational performances or ideas is the desired end state of the process, whereas Master is the final stage according to PCPE.

The TDMM, in contrast to PCPE, was designed with an eye to applications in schools as well as training in domains. With that in mind, our current TDMM research tackles the debate on the relevance and timing of general exposure vs. narrow specialization as

contributors to creative productivity. Rather than one or the other, and varying by domain, we argue that there are optimal transition stages where specializing is more productive than wider exposure and vice versa. Further, newer domains or fields provide more openings for creative breakthroughs over time than well-established domains.

The TDMM also highlights the complication generated by *talent development trajectories beginning at different ages depending on the field and domain, with potentially significant effects on programming and the kinds of opportunities that can be offered*. Given the literature and evidence for early identification of mathematical talent, for example, an early adolescent might, for the first time, become completely engaged in exploring human behavior, while their same-age peer might be mastering advanced mathematical concepts and even generating creative ideas in number theory. Although TDMM draws attention to the contributions that can be made by schools to the talent development process, Friedlander's work supports a contention in the TDMM that individuals often seek out experiences beyond the classroom for enrichment and community. For most domains, intensive talent development activities take place in non-school settings.

The TDMM highlights the fact that *opportunities must be taken by potentially talented individuals*. However, even when high quality opportunities are offered at the optimal time in the talent development trajectory, several factors will inhibit participation. Friedlander provides an excellent discussion of performance anxiety and academic comparison theories that inhibit participation. We would add that various social and cultural factors will also take their toll, including the limited number of professions that are acceptable to talented first- or second-generation immigrants from the perspective of parents with aspirations for the family to achieve middle class status.

Although Friedlander covers the literature on mental skills that have shown to be essential to high performance and expertise, a key to advancing in a field is having a patron, mentor, or sponsor. Mastery of social skills make one a more attractive candidate (e.g., knowing how to promote yourself tastefully). Other examples include knowing when it is judicious to be totally responsive to instruction and when it is appropriate to challenge your instructor on given content and skills, or how to deal with negative feedback in response to challenging the status quo. Although some individuals exhibit these kinds of skills from an early age, most young people need to have social skills modeled or taught explicitly. Finally, social skills are the building blocks of effective teamwork, where current creative work is most often conducted.

Finally, an arena that we have explored recently in two studies (Subotnik et al., 2023; Worrell et al., 2025), that is, access to insider knowledge, facilitates the development of talent and can be provided by formal and informal mentors in the family and community. Insider knowledge avoids time-wasting efforts and distractions but is not made widely available. A finding that 60% of enrollees in selective STEM high school in the US had a parent in a STEM field points to disparities in pathways that are available to young people depending on the make-up of family and community members.

Additional TDMM work has focused on expertise and creativity in outlier talents, those developed aptitudes that are either (a) practiced in more restricted geographical or cultural environs such as rodeo, (b) designed to be behind the scenes as in the work of a gifted editor, or (c) fall in the realm of anomalous talents, as described by Tannenbaum (1986). An example of an anomalous talent is graffiti which is largely associated with vandalism but has also been recognized as an art form worthy of gallery showings. Many new Olympic sports fall into this realm as well. We cannot ignore these developments which point to the future, but we should see if their trajectories align with current talent development models or cause us to rethink the principles we have worked with. We have faced this challenge by exploring the world of Indian Classical music. The end point of this regional, highly traditional, and ancient art is for the artist to achieve transcendence. This goal leaves us considering the relationship between transcendence for the *individual* and

transformational creativity designed to promote an outcome that "enhances humanity's moral, physical, emotional, social, intellectual, or aesthetic life (Tannenbaum, 1986, p. 33).

The elegant compendium of research generated by Friedlander in *The Psychology of Creative Performance and Expertise,* along with the work of fellow travelers participating in this special issue, provides a rich structure for scholars, artists, and practitioners to illuminate pathways for future generations to fulfill and express their expertise and transformational creativity.

ORCID iDs

Paula Olszewski-Kubilius
https://orcid.org/0000-0003-4149-9605

Rena F. Subotnik
https://orcid.org/0000-0001-6750-0286

Frank C. Worrell
https://orcid.org/0000-0002-7122-527X

References

Friedlander, K. J. (2024). *The psychology of creative performance and expertise.* Routledge.

Jarvin, L., & Subotnik, R. F. (2010) Wisdom from conservatory faculty: Insights on success in classical music performance. *Roeper Review, 32*(2), 78–87. https://doi.org/10.1080/02783191003587868

Krutetskii, V. A. (1976). *The psychology of mathematical abilities in school children*. University of Chicago Press.

Libertus, M. E., Feigenson, L., & Halberda, J. (2011). Preschool acuity of the approximate number system correlates with school math ability. *Developmental Science, 14*, 1292–1300. https://doi.org/10.1111/j.1467-7687.2011.01080.x

Subotnik, R. F., Olszewski-Kubilius, P., Corwith, S., Calvert, E., Worrell, F. C. (2023). Transforming gifted education in schools: Practical applications of a comprehensive framework for developing academic talent. *Education Sciences, 13,* Article *707*. https://doi.org/10.3390/educsci13070707

Subotnik, R. F., Olszewski-Kubilius, P., & Worrell, F. C. (2011). Rethinking giftedness and gifted education: A proposed direction forward based on psychological science. *Psychological Science in the Public Interest 12*(1) 3–54. https://doi.org/10.1177/1529100611418056

Subotnik, R.F., Olszewski-Kubilius, P., & Worrell, F.C. (Eds.) (2019). *The psychology of high performance: Developing human potential into domain-specific talent.* American Psychological Association.

Subotnik, R. F., Olszewski-Kubilius, P., & Worrell, F. C. (2023). The role of insider knowledge in the trajectories of highly accomplished scientists. Annals of the New York Academy of Sciences, 1–13. https://doi.org/10.1111/nyas.15034

Tannenbaum, A. J. (1986). Giftedness: A psychosocial approach. In R. J. Sternberg & J. E. Davidson (Eds.), *Conceptions of giftedness* (pp. 21–52). Cambridge University Press.

Worrell, F. C., Bayazitli, I., Subotnik, R. F., Olszewski-Kubilius, P. (2025). Investigating the insider knowledge of STEM-talented adolescents. *Journal for the Education of the Gifted, 48*(4), 364–381. https://doi.org/10.1177/01623532251371739

Received: 27 September 2025
Revision received: 5 November 2025
Accepted: 6 November 2025