International Symposium on Performance Science
ISBN 978-90-9022484-8
© The Author 2007, Published by the AEC
All rights reserved

Excellence in achievement contexts: Psychological science applications and future directions

Liliana S. Araújo, Leandro S. Almeida, and José F. Cruz

Institute of Education and Psychology, University of Minho, Portugal

The study of human excellence has always been present in the development of psychological science, although its theory, research, and practice focus have been mainly on negative and pathological issues. Many authors have attempted to explain and understand youth and adults' exceptional achievements in several achievement domains, such as science, art, or sports. Here, we consider three main different approaches that study excellence. There are those which focus on natural talent, those which propose intensive training and practice as main factors of high and outstanding performances, and those which define excellence in the context of wisdom. Analyzing the current literature, we can distinguish training, deliberate practice, and exceptional performance specificity resulting from a precocious involvement and commitment to a specific domain as main points of convergence. Cognitive, motivational, affective, and personality characteristics, as well as contextual elements such as learning experiences and supportive environments, are emphasized as crucial factors in the developmental process of excellence. This concern and interest in human excellence appears to be shared by professionals from different domains. New challenges for future research in this field are presented.

Keywords: excellence; giftedness; expertise; wisdom; performance

The modern world calls for adaptable, flexible, and expert professionals able to succeed in challenging, changing, and complex work contexts. In this scenario, social and human sciences reinforce the interest in the study of exceptional individuals and their profiles, looking for potential common patterns of human excellence. The history of psychology makes us aware that concern with human potential, strengths, wellbeing, and quality of life have

always been core aims of psychological research and practice, despite typically being focused toward disease, disability, and pathology (Seligman and Csikszentmihaly 2000). Works like Galton's (1869) *Hereditary Genius* and Terman's longitudinal studies of giftedness in the 1920s have become milestones in the study of exceptionality, explaining outstanding performance through hereditary factors or relating it to high cognitive abilities. In the early 1950s, in connection with the humanistic movement, new conceptions of intelligence and a growing interest in creativity contributed to enhancements in the investigation of high abilities, expertise, and talents (see Pereira 2000) while exploring other personal and contextual factors in the conceptualization of excellence. Illustrative and classic studies that influenced the excellence research field include Roe's pioneering work with eminent scientists in the 1950s, Chase and Simon's work with elite chess players and their resulting theory of expertise in the 1970s, and Bloom's study with artists, scientists, and athletes in the 1980s. The emergence of the positive psychology movement in the 1990s placed a new focus on human strengths and challenged the current *status quo* of psychological research, emphasizing personality, cognitive, and affective qualities as indicators of excellence, success, wisdom, and happiness (Seligman and Csikszentmihaly 2000).

Despite the research in this field having started with Galton's work a century ago, it remains incipient. The concept of excellence is far from being clearly defined, in spite of its common and general usage by people (Trost 2000). A continuum of theoretical trends and methodological options has led to the application of a variety of criteria in attempts to identify and define excellent individuals, while different concepts have been used to describe outstanding achievement. In the present work, three main themes guiding research in this field are identified: giftedness, expertise, and wisdom. Using different perspectives and conceptions of competence, talent, or skill, all the approaches focus on the study of the quality of being superior or exceptional. A summary of the major approaches in the study of excellence as well as their main features and contributions is presented here. Finally, potential implications to research in the field of performing arts are discussed.

MAIN CONTRIBUTION

The psychological study of excellence developed from different departing perspectives. The nature-nurture debate is one of the most controversial subjects among social scientists and has nourished many discussions concerning the origins and development of talent (see Howe *et al.* 1998, Ericsson *et al.* 2007), reflecting the different factors emphasized by a variety

of approaches. Different disciplines and fields are now exploring the same main question: "What makes an excellent individual?"

The search for talent predictors and factors through intelligence and aptitude measures, pointed out by giftedness research, was clearly influenced by the psychometric tradition. Even nowadays, the IQ factor remains an important criterion of intellectual and academic giftedness (see Robinson and Clinkenbeard 1998, Almeida *et al.* 2000). The emergence of multi-dimensional intelligence theories brought motivational and creative features to the giftedness definition, recognizing talent in specific domains. Renzulli (2002) defends the Three Rings Conception, suggesting that a gifted behavior has three components: above-average ability (general ability and/or specific ability), high levels of task-commitment, and high levels of creativity. Gagné (2004) conceptualizes talent as the demonstration of a systematically developed ability through learning and practice, which places the individual among the top 10% of peers having similar training. Finally, Sternberg (2001) defines giftedness as developing expertise, suggesting that mastery on one or more performance domains is the result of a continuous process of acquisition and consolidation of specific competences.

This last perspective is close to those arguing for the critical role of deliberate and continued practice in attaining expert performance, as defended by Ericsson and colleagues (see Ericsson and Charness 1994). In another achievement context, sport psychologists have developed a growing work in the field of expertise, inspiring research studies with performing artists such as dancers, musicians, and actors (see Sloboda 2000, Kogan 2002, Ureña 2004). Historically centered mainly on performance excellence, a focus on personal excellence with additional concerns about emotions, quality of life, and wellbeing of elite and top performers became a growing and more recent trend in psychological research (Miller and Kerr 2002).

In addition, a similar concern with personal excellence is clear in more recent research on wisdom, with the leading efforts of Baltes, Sternberg, Ardelt, and their research teams. Generally, wisdom is associated with maturity (not directly to elder people), and requires a unique integration of a multitude of cognitive, affective, and personality characteristics (Ardelt 2004). Wisdom is defined as "expert-level knowledge and judgment in the fundamental pragmatics of life" (Staudinger *et al.* 1998, p. 2), covering broad aspects of excellence in virtue and mind with "common good" and wellbeing as major goals (Sternberg 2004). Another related perspective is suggested by Moon (2003), who defined personal talent as an "exceptional ability to select and attain difficult life goals that fit one's interests, abilities, values, and contexts" (p. 5).

It seems that excellence approaches are spread along a continuum from those which take innate abilities into account to those which defend a more holistic way to cope with life problems. Though, some critical issues are also shared. Many studies have sought to distinguish among intelligence, personality, and learning experiences and contexts the most important factor to predict excellence, but the results are inconsistent (see Robinson and Clinkenbeard 1998, Staundinger *et. al.* 1998, Trost 2000). Taken together, in general, there is some agreement on the important role of motivation and personality characteristics (e.g. persistence, time on task, strong commitment), superior cognitive abilities (e.g. metacognitive abilities, reasoning, planning), and significant experiences and contexts as dominant factors for excellence development, identification, and prediction (see Lubinski and Benbow 2000 and Gould *et al.* 2002). The role of extensive experience and deliberate practice in the acquisition of task mastery and specialized knowledge in one activity or domain is commonly emphasized (Ericsson *et al.* 1993, Staudinger *et. al.* 1998, Lubinski *et al.* 2001, Sternberg 2001, Hays 2002). Precocious contact and practice with activities of a particular domain and subsequent enrichment learning experiences seem to put the individual on the road to excellence (see Ericsson *et al.* 1993, Rossum 2001, Moore *et al.* 2003). Finally, supportive and challenging contexts are highlighted, in particular the role of family, teachers (or coaches), and peers in order to sustain and regulate persistence, discipline, pushing involvement, positive emotions, high expectations, and focus (see Subotnik and Olszewski-Kubilius 1997, Winner 2000, Gould *et. al.* 2002, Ericsson *et. al.* 2007).

IMPLICATIONS

What seems evident is that different approaches share the same questions about human excellence. If certain domains (e.g. sport psychology) have developed a solid research on this theme, others are just in a promising start. Though psychological research on performing arts is not extensive, many research studies have been conducted, particularly in general and specific topics of musical excellence. However, research within performing arts like dance or visual arts are still embryonic (Hays 2002, Kogan 2002, Ureña 2004). On the other hand, contemporary concerns about elite performers' emotional wellbeing and personal excellence have improved research addressing life skills, mental skills, and emotional regulation skills. More research in this field is needed, including some descriptive studies before refined and comprehensive theoretical conceptualizations. Additionally,

multifactorial and longitudinal case studies, as well as cross-domain research in different achievement contexts are welcome for future research advances.

Acknowledgments

The present article was supported by a grant from the Fundação para a Ciência e Tecnologia, Portugal (National Foundation for Science and Technology).

Address for correspondence

Leandro S. Almeida, Institute of Education and Psychology, University of Minho, Campus de Gualtar, Braga 4710-057, Portugal; *Email:* leandro@reitoria.uminho.pt

References

Almeida L., Oliveira E., and Melo A. (2000). *Alunos sobredotados: Contributos para a sua identificação e apoio.* Braga: ANEIS.

Ardelt M. (2004). Wisdom as expert knowledge system: A critical review of a contemporary operationalization of an ancient concept. *Human Development, 47*, pp. 257-285.

Ericsson K. A. and Charness N. (1994). Expert performance: Its structure and acquisition. *American Psychologist, 49*, pp. 725-747.

Ericsson K. A., Krampe R. Th., and Tesch-Römer C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review, 100*, pp. 363-406.

Ericsson K. A., Roring R., and Nandagopal K. (2007). Giftedness and evidence for reproducibly superior performance: An account based on the expert-performance framework. *High Abilities Studies, 18*, pp. 3-56.

Gagné F. (2004). Transforming gifts into talents: The DMGT as a developmental theory. *High Ability Studies, 15,* pp. 119-147.

Gould D., Dieffenbach K., and Moffett A. (2002). Psychological characteristics and their development in Olympic Champions. *Journal of Applied Sport Psychology, 14,* pp. 172-204.

Hays K. F. (2002). The enhancement of performance excellence among performing artists. *Journal of Applied Sport Psychology, 14,* pp. 299-312.

Howe M. J., Davidson J. W., and Sloboda J. (1998). Innate talents: Reality or myth? *Behavioral and Brain Sciences, 21,* pp. 399-442.

Kogan N. (2002). Careers in the performing arts: A psychological perspective. *Creativity Research Journal, 14*, pp. 1-16.

Lubinsk D., Benbow C. Shea, D., *et al.* (2001). Men and women at promise for scientific excellence: Similarity not dissimilarity. *Psychological Science, 12,* pp. 309-317.

Lubinski D. and Benbow C. (2000). States of excellence. *American Psychologist, 55*, pp. 137-150.

Miller P. S. and Kerr G. (2002). Conceptualizing excellence: Past, present and future. *Journal of Applied Sport Psychology, 14,* 140.153.

Moon S. M. (2003). Personal talent. *High Ability Studies, 14*, pp. 5-21.

Moore D. G., Burland K. B., and Davidson J. (2003). The social context of musical success: A developmental account. *British Journal of Psychology, 94*, pp. 529-549.

Pereira M. (2000). Sobredotação: A pluralidade do conceito. *Sobredotação, 1*, pp. 147-178.

Renzulli, J. (2002). Emerging conceptions of giftedness: Building a bridge to the new century. *Exceptionality, 10*, pp. 67-75.

Robinson A. and Clinkenbeard P. (1998). Giftedness: An exceptionality examined. *Annual Review of Psychology. 49,* pp. 117-139.

Rossum J. (2001). Talented in dance: The Bloom stage model revisited in the personal histories of dance students. *High abilities studies, 12*, pp. 181-197.

Seligman M. and Csikszentmihalyi M. (2000). Positive psychology: An Introduction. *American Psychologist, 55*, pp. 5-14.

Sloboda J. (2000). Individual differences in music performance. *Trends in Cognitive Sciences, 4*, pp. 397-403.

Staudinger U. M., Maciel A. G., Smith J., and Baltes P. (1998). What predicts wisdom-related performance? A first look at personality, intelligence, and facilitative experiential contexts. *European Journal of Personality, 12,* pp. 1-17.

Sternberg R. J. (2001). Giftedness as developing expertise: A theory of the interface between high abilities and achieved excellence. *High Ability Studies, 12*, pp. 159-179.

Sternberg R. J. (2004). Words to the wise about wisdom? A commentary on Ardelt's critique of Baltes. *Human Development, 47*, pp. 286-289.

Trost G. (2000). Prediction of excellence in school, higher education and work. In K. Heller, F. Mönks, R. Sternberg, and R. Subotnik (eds.), *International handbook of Giftedness and Talent (*2nd ed., pp.317-330*)*. Oxford: Pergamon.

Ureña C. (2004). *Skill Acquisition in Ballet Dancers: The Relationship between Deliberate Practice and Expertise*. Unpublished doctoral thesis, Florida State University.

Winner E. (2000). The origins and ends of giftedness. *American Psychologist, 55*, pp. 159-169.