Gifted Child Quarterly
1–16

DOI: 10.1177/0016986214559602
gcq.sagepub.com
SAGE

Childhood Giftedness, Adolescent Agency: A Systemic Multiple-Case Study

Jiri Mudrak[1] and Katerina Zabrodska[2]

Abstract

Although considerable research has addressed development from childhood giftedness to adult excellence, subjective perceptions of this development by gifted individuals themselves have remained largely unexplored. This multiple case study examined the ways in which young adults, who in the past had been identified as gifted, made sense of their giftedness based on cues obtained from their social environment and the impact of this sensemaking on their development. Some participants made sense of their giftedness in a way that prevented them from developing a sense of agency in their education: Their sensemaking was based on social control or, conversely, on effortless learning and easy victories they experienced in childhood. The participants who showed the highest level of achievement and motivation in early adulthood perceived themselves as "agents of their learning" and made sense of their extraordinary outcomes as resulting from effortful, proper, and self-directed practice. Our findings indicate that a sense of agency is critical to maintaining gifted-level achievement through adolescence. We have identified some of the social environment factors that can diminish or enhance that sense of agency in high-achieving children.

Keywords

gifted, talented, child, development, motivation, adolescence, sensemaking, qualitative, parent, teacher

Children who show unusual promise in their learning are sometimes recognized as "gifted"[1] (e.g., Gagné, 2004; Mönks & Mason, 1993; Renzulli, 2005). Through this recognition, the interactions of these children with other people and their educational experiences are shaped in a specific way. It is generally argued that high-achieving children tend to develop well both socially and emotionally (Reis & Renzulli, 2004). Nevertheless, it seems that, in some children, being recognized as gifted may be related to learning situations that become an impediment in long-term development (Sosniak, 2003). Bloom (1985), in his now classic study *Developing Talent in Young People*, found that only a relatively small percentage of successful professionals in various domains had been considered gifted as children. These professionals were usually outperformed by some "more gifted" peers during childhood and only later, typically during adolescence, began to strive for high levels of adult performance. In this context, Sosniak (2003, p. 251) asked, "What happened to the sprinters in the course of a marathon?" What happened to these "more gifted" children who were originally high achievers but dropped out somewhere along the way?

The present study addresses this question by drawing on interviews with such "sprinters" and exploring how they perceived their educational development and the factors that directed them toward or away from adult excellence. Specifically, we examined the ways in which young adults, who in the past had been identified as gifted, experienced and made sense of their giftedness and how this sensemaking affected their sense of agency and subsequent development. In providing a detailed analysis of participants' subjective perceptions, the study extends the current knowledge of giftedness by accentuating the role of subjective experience and sensemaking in the development of giftedness, which have so far been relatively neglected in giftedness research. We show that the relationship between the way the young adults made sense of their learning experiences and the cues they obtained from their social environment played a vital role in supporting or, on the contrary, hindering their sense of agency and, as a result, the successful development in the field of their "giftedness" in their later lives. Based on our analysis, we argue that the development of a sense of agency in high-achieving children is critical to overcoming the challenges stemming from their relative exceptionality and to maintaining gifted-level achievement through, and beyond, adolescence.

[1]Charles University in Prague, Prague, Czech Republic
[2]Academy of Sciences of the Czech Republic, Prague, Czech Republic

Corresponding Author:
Jiri Mudrak, Department of Psychology, Faculty of Education, Charles University in Prague, Myslikova 7, 110 00 Prague 1, Czech Republic.
Email: jiri.mudrak@pedf.cuni.cz

Systems of Development

Our study is framed in a systemic perspective on giftedness that accentuates the interrelationship and mutual influence of various characteristics of developing individuals and their social environment. The systemic perspective has been proposed by number of authors who conceptualized the development of potential as, for instance, a multiplier effect (Papierno, Ceci, Makel, & Williams, 2005), deliberate practice (Ericsson, Roring, & Nandagopal, 2007), or developing expertise (Sternberg, 2001). Applying the systemic perspective to the discrepancies between childhood promise and adult excellence, Ziegler and his colleagues (Ziegler, 2005; Ziegler & Phillipson, 2012) argued that such discrepancies may be best understood as a result of the interplay between the "acting individual and the environment with which he/she interacts in his/her actions" (Ziegler & Phillipson, 2012, p. 17). Specifically, these authors accentuated the systemic interplay between the capabilities of a person and his or her motivation and social environment pointing out that it is the interaction of these components that enable successful learning development (Ziegler & Phillipson, 2012).

The extant research stemming from the systemic perspective on giftedness indicates that at least four main factors need to be considered when examining the development from childhood promise to adult excellence: developmental, motivational, social, and contextual. First, it is crucial to take into account that the configuration of the systemic interactions changes in the course of development. In this context, adolescence is usually considered a critical developmental period. It is often during this time that the educational expectations and decisions of significant others, and of adolescents themselves, impact on whether promising adolescents will continue striving for excellence in the field of their giftedness, follow a less prominent educational path, or drop out of the field altogether (Bloom, 1985; Frazer-Thomas, Cote, & Deakin, 2008; Matthews, 2009; Sosniak, 2003; Subotnik & Steiner, 1994). According to Subotnik (2009, p. 159), adolescence represents "the time during which individuals begin to identify personal interests and decide whether to pursue those interests or engage in other activities to meet parental or societal expectations." Other authors (Horowitz, 2009; Matthews, 2009) described the adolescence of high-achieving children as "a nodal point" in which the relative importance of various developmental variables changes significantly; some become less important whereas the impact of others increases. Subotnik (2009) showed that while many competent adolescents have sufficient abilities and have gone through the necessary preparation, they may lack the motivation, courage, or social skills needed for ongoing successful educational and professional development. The underlying reasons include the changing criteria of success at various developmental stages and in various contexts (e.g., at school/out of school; Sternberg, 2001; Sternberg & Grigorenko, 2002; Subotnik & Jarvin, 2005) or diminishing opportunities to engage in full time high-quality preparation or "deliberate practice" because of increased competition (Ericsson et al., 2007).

Second, the changes that promising children undergo during adolescence are, above all, related to their achievement motivation. The lasting decisions young people make about their future educational and professional paths are often determined by motivational beliefs rather than by the student's objective capabilities (Bandura, 2006; Junge & Dretzke, 1995; Pajares, 1996; Schunk & Pajares, 2005). These motivational beliefs include self-efficacy (Bandura, 2006; Schunk & Meece, 2006; Schunk & Pajares, 2005), subjective task value (Eccles, 2005), and mindsets (Dweck, 2006). The configuration of these variables may determine whether adolescents and young adults are able to develop a sense of agency, that is, "the sense that I am the one who is causing or generating an action" (David, Newen, & Vogeley, 2008, p. 524) in their learning. This allows them to assume control over their further development and successfully continue in educational and professional careers. In earlier phases of life, learning opportunities come mostly from others, such as parents and teachers. In contrast, adolescents gradually become "agents of their own learning, not just recipients of information" (Bandura, 2006, p. 10) and the importance of their own activity grows. To develop a sense of agency, students have to learn to plan, set goals, self-regulate, anticipate likely outcomes of their actions, and positively reflect on their personal efficacy (Bandura, 2006). They also have to value the activity (Eccles, 2005), perceive failure in an adaptive way, and believe in the possibility of overcoming any obstacles they encounter (Dweck, 2006). A sense of agency, in turn, predicts self-directed learning and the implementation of self-regulated learning strategies, motivational characteristics such as goals and aspirations, persistence, coping with failure, and also the choices students make in important periods of their lives (Schunk & Meece, 2006).

Third, the development of a sense of agency in promising children and adolescents is determined to a large degree by their social environment. Supportive and encouraging parental involvement seems to be an important condition for the optimal motivation of these students (Bloom, 1985; Garn, Matthews, & Jolly, 2012; Morawska & Sanders, 2009; Mudrak, 2011). On the other hand, some practices of the parents of children considered as gifted, such as assigning the child adult status or giving them excessive attention, may lead to coping problems and underachievement in school (Rimm, 2003; Rimm & Lowe, 1988). Similarly, parental perfectionism, excessive expectations, or authoritarian parenting styles may later in adolescence manifest as disadvantageous motivational beliefs in these children, such as avoidant goal orientation, fear of failure, or self-worth tied to achievement (Speirs Neumeister, 2004; Speirs Neumeister & Finch, 2006). Furthermore, the role of the teacher is vital; ideally, the teacher should provide individualized instruction that develops motivation as well as appropriate

knowledge and skills, taking into account the developmental phase of the child (Bloom, 1985; Chi, 2006). When children are subjected to inappropriate control, such as imposed goals, excessive monitoring and evaluation, or inappropriate competition, their intrinsic motivation may suffer (Deci & Ryan, 2002). Also, if the achievements of promising children are not valued, their motivation and educational decisions may be negatively affected and these children may start preferring other activities (Patrick et al., 1999; Reis & McCoach, 2000). In general, educational environments in which the expectations are either too high or too low prevent children from getting appropriate encouragement and feedback, hindering their engagement with learning (Rimm, 2003).

Fourth, the interactions between promising children and their environment are significantly influenced by the context of the discipline and the broader culture (Subotnik, Olszewski-Kubilius, & Worrell, 2011). Our study involved Czech students who were recognized as gifted in academic disciplines (science and humanities), sports (gymnastics and taekwondo), and classical music (piano), that is, in well-researched domains in the field of talent development (Bloom, 1985; Subotnik et al., 2011). These domains represent relatively distinct educational contexts with different developmental trajectories, different criteria for success, and a variety of methods for the identification and development of promising children. While athletes and musicians represent "the performers," children developing in academic disciplines are "the producers" (Subotnik et al., 2011). The "performers" start specializing early (athletes also peak early), have relatively clearly defined practice goals and methods, are identified as gifted on the basis of actual performance and results in competition, and get fewer opportunities to continue toward adult excellence as they get older. "The producers" start specializing later. Their learning goals, excellence criteria and preparation methods are more diffuse, and they get more opportunities as they get older (Subotnik et al., 2011).

Focus of the Study: Making Sense of Giftedness

The above-mentioned studies present a highly complex picture of various influences on development of giftedness and their possible interrelations. However, this complexity also makes it difficult to fully comprehend all the influences and apply the systemic framework to understand the development of individual children. In the present study, we propose that it is useful to reduce this complexity and focus specifically on the ways in which gifted individuals *experience and make sense* of the systems of their development. This subjective perspective certainly captures only a fraction of the objective developmental influences. However, as we show below, the subjective perspective seems to be vital to understanding the development of the sense of agency in high-achieving children and the educational decisions they make in adolescence. The relevance of the subjective perspective is also apparent when we consider that children themselves are, paradoxically, often absent from the current models and theories of giftedness. They are usually present only implicitly as the products of various developmental factors, while the subjective worlds in which they experience these factors have rarely been considered. By exploring the role of subjective experiences in the development of giftedness, our study gives voice to developing individuals, conceptualizing them as agents who actively create their own development.

To examine these subjective experiences, the study draws on the concept of sensemaking (Weick, 1995; Weick, Sutcliffe, & Obstfeld, 2005). Sensemaking is concerned with how social actors make sense of ambiguous situations and through this process "generate what they interpret" (Weick, 1995, p. 13). As Weick et al. (2005) pointed out, people continuously interpret their environment and, through that process, enact and shape it. Social reality is not something people react to, but "an ongoing accomplishment that takes form when people make retrospective sense of the situation in which they find themselves and their creations" (Weick, 1995, p. 15). Sensemaking is inherently social, as it is influenced by other people, their "imagined presence," as well as by more global social discourses (Weick, 1995, p. 40). The concept of sensemaking has been widely used in organizational studies (e.g., Weick et al., 2005) but it is also relevant in educational research. Just as members of organizations try to make sense of their organizational experiences, high-achieving children, when confronted with their relative exceptionality, try to make sense of their educational experiences, act on the results of their sensemaking, and in this way cocreate their own development.

In this study, we focused on the experiences of individual participants to understand how they were "making sense of their personal and social world" (Smith & Osborn, 2008, p. 53) as well as the relationship of this sensemaking to educational decisions and further development. To explore the participants' sensemaking about their giftedness, about the social resources available to support them, and about impacts on the participants' development, we used the following research questions to guide the study:

Research Question 1: How did the participants make sense of their extraordinary results in childhood?
Research Question 2: How did the participants make sense of the parenting and educational practices aimed at the development of their giftedness?
Research Question 3: How did the experience of "being gifted" in childhood influence the participants' sense of agency and educational decisions in adolescence?

Method

Design of the Study

To examine the ways in which young people perceived their past educational achievements and acted on their perceptions,

we implemented a qualitative multiple-case study research design (Stake, 2006). The main unit of analysis was formed by "a case" that may be defined as a functional unity or a bounded system (Stake, 2006). This unity was made up of a gifted individual and the reciprocal interactions between the individual and his or her social context. Within each case, and using the previously discussed systemic approaches to development of giftedness (Ericsson et al., 2007; Papierno et al., 2005; Sternberg, 2001; Ziegler & Phillipson, 2012), we paid attention to the interplay between participants' outcomes, motivation, learning, and social context, with particular emphasis on the ways in which the nurturing and educational practices of other people affected the participants' sense of agency and educational decisions. As Stake (2006) pointed out, results of case studies have a broader applicability than the cases under study. Therefore, we expect that in similar cases the developmental dynamics and outcomes would also be similar and that the developmental processes described here are representative of more general phenomena.

It is important to note that the study was carried out in the Czech educational context, which has some specific characteristics that may affect the systems under which Czech gifted children develop. Czech education is traditionally egalitarian (Simonova, 2003), and intellectual giftedness has been a new but increasingly popular concept over the past 20 years (e.g., Hribkova, 2009; Mudrak & Portesova, 2008; Mudrak & Zabrodska, 2013; Portesova, 2009). The fields of sport and classical music, from which some of our participants are drawn, are disciplines in which the development of talented individuals has had a long tradition in Czech education, with many performers representing the Czech Republic on the world stage and with specialized institutions focused on the early identification and development of high-level athletic and musical talent (Holas, 1994; Peric & Suchy, 2011).

Participants in the Study

Nine young people, five female and four male, aged between 17 and 23, participated in the study. We chose to include nine participants because in this way the results of the analysis could be triangulated and, at the same time, the individual stories of all participants could be presented in sufficient detail. We were interested in factors that supported as well as hindered the development of learning potential, so we purposely contacted both young people who were continuing toward a professional career in their field and those who had not lived up to their early promise. At the time of the interview three participants were still considered to be very promising and were following educational paths to professional status, three were no longer considered to be exceptionally promising although they still participated in their disciplines, and three had dropped out of their disciplines altogether.

We located the participants on the basis of publicly available information, specifically through Internet searches and by word-of-mouth. They came from different regions of the Czech Republic and their places of residence ranged in size from a small town to the capital city. The main criterion for the selection of the participants was that they had to have been considered as a gifted child in a discipline that had established educational paths and institutional structures, and that allowed for a professional career. Participants had achieved, in childhood, an extraordinary level in sport, specifically gymnastics and taekwondo (three participants); music, specifically piano (two participants); or academic disciplines, specifically science and humanities (four participants); and all had been considered as extraordinarily promising within their social and educational contexts.

The fact that the participants came from different disciplines, each with varying developmental trajectories toward excellence and varying criteria for success, ensured that we could examine a broad variety of developmental systems and their impacts on the development of promising children. During their educational careers the participants had studied at institutions for high-achieving children, such as conservatories of music, sport schools, or schools for academically gifted children. They also successfully participated in national and international competitions in their respective disciplines, obtaining, for example, top results in European championships, awards in national and international music competitions, or awards in national and international high school academic competitions. They all met the criteria of giftedness as suggested by various models of giftedness (i.e., Gagné, 2004; Mönks & Mason, 1993; Renzulli, 2005) and, based on their results, all could be regarded as highly or exceptionally gifted according to Gagné's metric-based system of levels within the gifted/talented population (Gagné, 2004).

All participants provided consent for the interviews to be used in the research. They were randomly assigned pseudonyms, and some personal data unrelated to the research were altered in order to prevent identification.

Data Collection

The participants were contacted by phone or email and asked for an interview. The interviews took place in an office at the first author's institution and were, on average, 2 hours in length. This allowed enough time to explore all the topics of interest in sufficient depth. Semistructured interview (Kvale, 1996) was used as the main method of data collection. In the interview, we explored how the participants perceived their development and education in the area in which they were considered to be gifted and how they approached their future professional career. The question that opened the main part of the interview was, "Describe your development in [your discipline] from the very beginning till the present." In other questions, the participants were asked about their outcomes and other signs of giftedness, their preparation and its structure, significant others and events, and the subjective meanings of these factors, all in the context of various developmental

Table 1. Main Themes and Subthemes Emerging From the Analysis.

	Main theme		
Subtheme	Giftedness and pressures to achieve	Giftedness and all-too-easy learning	Giftedness as motivation
Themes related to childhood giftedness	Early pressures	Outperforming peers in childhood	Passion for learning
Themes related to the educational practices	Development controlled by other people	Development out of own control	Development under own control
Themes related to adolescence and future direction	Breaking under pressure	Emerging limits	Agents of own future

Table 2. Description of Participants Corresponding to Theme 1.

Name	Outcomes	Family	Education	Triangulation
Ales, 21 years, male	Elite athlete (gymnastics), member of the junior national team, multiple national junior champion, top results in international competitions and European championships	Raised by ex-Olympic-level athlete single mother, two sisters, ex-Olympic-level athlete father not present, supportive nurture	Involvement in high level training from age 6, sport at elementary and high school, personal coaches since age 6, quit sport after high school, studied history	Newspaper articles, web pages of the sports organization, university pages, informal interview with a coach
Barbora, 23 years, female	Elite athlete in two sports (gymnastics, climbing), member of the junior national team, multiple national junior champion, top results in international competitions in both sports	An only child, both parents ex-athletes, high expectations and pressures concerning her performance in and outside sport	Involvement in high-level training and with personal coaches since age 5, sport at elementary school, quit sport at high school, studied law	Web pages of the sport organization, Internet articles, informal interview with a school friend
Cenek, 19 years, male	Science, successful participation in numerous science competitions (including international), awarded grants for further education	Parents entrepreneurs, high expectations, high involvement in his education, younger sister	In the final year in a high school for gifted, unsure about further studies	Web pages of the science competitions and the grant agency, interview with a teacher

stages. The interview was partially structured by the participants themselves as they were encouraged to explore topics they deemed most important in shaping their careers. They were also asked to further explain the mentioned events (through the questions "How was it for you . . . ?" or "Why do you think that . . . ?") and encouraged to describe these events in as much detail as possible.

Data Analysis

The interviews were recorded on a digital voice recorder and transcribed verbatim. Transcribed interviews were subsequently processed by thematic analysis (Braun & Clarke, 2006) along the guidelines of authors coming from the interpretative-constructivist paradigm (Smith & Osborn, 2008; Stake, 2006). On the basis of the main research questions, the analysis focused on understanding how the participants perceived and interpreted their early extraordinary outcomes and the educational practices they had been subjected to, and how this "sensemaking" was connected to their sense of agency and the educational decisions they made during adolescence. With this in mind, we processed all interviews with open coding, categorization, and thematic analysis. For each interview, we generated a list of codes from which we subsequently abstracted more general categories that formed main themes within each case and consequently main themes between cases.

For example, the statement of one of the athletes "The worst thing was the regime, because we got . . . , everybody got a diary, signed, and the first thing there was a date and a weight" was coded as "Stressful weight control by coaches." This, along with other similar statements formed a category, "Early pressures to achieve." This category in turn became part of the main theme of this interview, called "Giftedness, pressures to achieve and obedience." Across all cases, main individual themes were organized into three main cross-case themes in which the themes from individual narratives clustered. We labeled the main cross-case themes "Giftedness and pressures to achieve," "Giftedness and all-too-easy learning," and "Giftedness as motivation" (see Table 1). The main themes consisted of subthemes related to the participants' perceptions of their educational outcomes in childhood, factors influencing their past development, and the current situation and future directions. For each main cross-case theme we provide a brief description of the corresponding participants (see Tables 2, 3 and 4). Finally, we interpreted the results of our analysis in the context of a systemic approach to development of giftedness.

Table 3. Description of the Participants Corresponding to Theme 2.

Name	Outcomes	Family	Education	Triangulation
Hynek, 22 years, male	Science (physics, math), successful participation in and organization of various high school science competitions	An only child, high school educated parents divorced, administrative jobs	Regular grammar school, started studying science, dropped out after the first year, studied science teaching	Web pages of the science competitions, interview with a friend and a teacher
Iva, 20 years, female	Music (piano), winner of national competitions, numerous solo, quartet and orchestra performances	Both parents university educated, jobs in business administration, younger sister	Regular grammar school, music school and private music teacher, was considering a music career, decided for business school	Web pages of the musical competitions, article in a local newspapers, interview with a friend
Jan, 19 years, male	Elite athlete (taekwondo), multiple winner of national championships and international competitions, member of the junior Czech national team	Both parents amateur athletes, administrative jobs, younger sister	Grammar school, sport as an extracurricular activity, personal coach, quit competitive sport at high school, studies physical education	Internet articles, web pages of the sport organizations, interviews with friends and a coach

Table 4. Description of the Participants Corresponding to Theme 3.

Name	Outcomes	Family	Education	Triangulation
Katerina, 20 years, female	Musician (piano), winner of national and international competitions and recipient of international music awards, performer and music teacher	Both parents professional musicians, older sister also a professional musician	Conservatory of music, accepted to college of music, awarded international scholarship	Web pages of the music competitions, newspaper and Internet articles, university pages, interview with a friend
Lucie, 18 years, female	Science, winner of numerous national and international high school competitions in various subjects (history, languages, chemistry, biology, math, geography, etc.), recipient of a prestigious award for promising high school students	Both parents university education, jobs in business administration, younger brother	Eight years grammar school, wanted to study history, in the last year decided for medicine, was accepted to a medical college as one of the top applicants	Web pages of the academic competitions, web pages of the award organization, published work in history, university web pages
Magda, 22 years, Female	Science (math, physics), successful participation in and organization of numerous science competitions	Parents entrepreneurs, two older brothers, none of them involved in science	Grammar school, accepted to faculty of science, one of the top students	Web pages of the scientific competitions, university web pages, interview with friends

To triangulate participants' statements and the results of our analysis, we also searched for additional sources of information, such as newspaper and Internet articles. When possible, we contacted people acquainted with the participants, such as friends, teachers, and coaches, and asked them to corroborate the biographical information provided by the participants. The sources of the triangulated information are described in Tables 2 to 4.

Findings

In this section, we explore the main themes and subthemes as they emerged from the analysis. The subthemes for each main theme are arranged chronologically and presented as a consistent narrative of each individual participant. An overview of the main themes and subthemes is presented in Table 1. It should be emphasized that the results are not "objective"; they do not necessarily tell what really happened but reflect the participants' subjective perspectives. However, as noted above, we triangulated their key statements with other sources of information and they appear to be trustworthy.

Theme 1: Giftedness and Pressures to Achieve

The first group of participants (see Table 2) talked in the interviews about the constant pressure to achieve that they experienced from others, such as parents and teachers, during their childhood. They described situations in which their excellent early results led to increasing expectations and pressure to successfully compete with other children. Such situations were especially prominent in the interviews with the two athletes who had been highly successful competitive gymnasts as children. They had been winners of national and international competitions, members of Czech national teams, and students of sport schools for elite athletes. Despite these successes they both decided during adolescence to quit

their athletic careers and, by the age of 20, had withdrawn from competitive sport. A somewhat less distinct but similar theme also emerged from the interview with Cenek, a student of science, who talked about the high expectations of his parents and subsequent feelings of insecurity stemming from his inability to live up to his parents' standards.

Subtheme 1: Early Pressures. Ales and Barbora reported that they had been able to learn sport skills and, physically, had developed much faster than their peers from a very early age; they both gave the age of 4 as the beginning of their involvement in sports. Subsequently, they were considered by their parents and coaches as exceptionally gifted. On the basis of this perception they were placed into child sport programs focused on the preparation of future elite athletes. Ales, for example, mentioned that he was the sole participant selected, out of around 100 children who attended preparatory sport classes. Both participants continued excelling in these programs, with Ales, for example, mastering the content of a 2-year program in a few months and subsequently training with children 4 years older. They were both increasingly engaged in the institutional structure of elite sport and the level of competition that they encountered gradually rose. They were assigned to professional coaches who emphasized their results at competitions and expected them to dedicate all their time and effort to sport practice. As the following examples illustrate, in both cases, and from their early childhood, the coaches used extreme coaching practices to push them to the best possible results at competitions. These practices included weight control, verbal abuse, threats, and corporal punishment. Although both athletes asserted that they enjoyed learning the sport at the time, they strongly resented the pressures to achieve success in competition.

> Since the very beginning I've had the practice five times a week, ok? . . . Two times a day. Since I was a kid, that's how it was done over there. And there were no excuses. When you didn't come so it was always like "where have you been," ok? So it's been like this since my early childhood, it wasn't free at all. I mean (.) there was hard discipline over there. (Ales, Individual interview, March 4, 2011)

> The worst thing was the regime, because we got . . . , everybody got a diary, signed, and the first thing there was a date and a weight. And it was always like that, the weight in red letters, they weighed us every week. Every Thursday . . . , it was all day strength training on Thursday. We just ran, worked out, went to the sauna, and after that they weighed us, gave us some pills, some vitamins . . . and after a half of the year or a year I weighed. . . . I don't know, I weighed twenty three kilos in the second grade and after that I dropped to twenty. (Barbora, Individual interview, March 8, 2011)

Cenek also experienced, during early childhood, strong pressures to achieve in school from his parents who expected him to become an outstanding academic. For example, he described himself as being pushed beyond the limits of his potential to get accepted to an elementary school for gifted children.

> They really pushed me hard to prepare for the entry exam so I worked my ass off the whole year and I completely outdid the potential I have by at least 50%. They switched me over completely. (Cenek, Individual interview, April 27, 2011)

Subtheme 2: Development Controlled by Others. These participants repeatedly pointed out that they were able to exercise only very limited personal influence over their learning and its direction. Ales and Barbora perceived the training activities in which they were involved as resulting from the decisions of their parents and coaches, or from the established system of preparation in which intensive practice was an inherent part of their compulsory education. They described themselves as "cogs in wheels" of educational institutions that took almost complete control of their development, control they perceived as impossible to resist. For example, they mentioned that failure to attend training sessions could result in being expelled from the school.

> I don't remember the school, only the training. At lunches they took away dumplings from our plates, I remember that we did not eat, we just practiced. I don't remember anything about the school, just the colleagues of mine, the friends from sport. (Barbora, Individual interview, March 8, 2011)

Ales and Barbora could choose neither the coaches they wanted to train with nor the methods of preparation, and they were required to follow a strict training program of more than 20 hours of intensive practice per week. They were allowed to reduce training time only for a major injury. Training with minor injuries was common. Barbora was forced to practice with broken fingers; Ales reported that seriousness of his injuries was evaluated according to the importance of upcoming tournaments. Both athletes perceived themselves as being reduced to objects with the sole purpose of producing results at competitions and bringing economic profit to their clubs. As a consequence of this, they both experienced a significant decrease in their originally very high motivation.

> I always enjoyed the sport, ok? Actually, I enjoy it still. I just like it. But I always hated the system where I had to get the results at any cost and never could do it just because I liked it. It wasn't possible. That was the main demotivating thing that you couldn't do it just because you enjoyed it. You just couldn't. . . . And also they didn't care about the athletes at all, right? That was something that I had a problem with from the very beginning; that they were like "train hard, get the results, and fuck off." (Ales, Individual interview, March 4, 2011)

Cenek perceived his parents negatively, as being overly involved in his studies. His parents had directed him firmly

toward an academic career that, for example, affected his relationships with peers to the point that he became a target of bullying.

> I blame my father for the problems at school [bullying] because he always helped me with the presentations and they were kind of inappropriate. . . . Imagine presenting about Sigmund Freud when you are 13 and he even put in . . . such graphic pictures, a plug for example. I mean I learned a lot from him but I guess he also caused this. (Cenek, Individual interview, April 27, 2011)

Subtheme 3: Breaking Under Pressure. Both Ales and Barbora described gradually losing a sense of agency in their future development. They saw, in the educational settings they were in at that time, that it was not possible for them to exercise control or make decisions that would lead to a professional athletic career or even a satisfying amateur career. They strongly resented their coaches' authority to decide their direction and they believed that decisions were made, not in the interest of athletes, but in the interest of coaches and sport clubs. They also observed other factors preventing successful development, such as poor training conditions in comparison with competitors from other countries or uncertainties about a professional athletic career. They experienced feelings of psychological and physical burnout, mounting conflict with coaches, and frequent injuries. Finally, they decided to exercise the only agency that remained to them and they quit competitive sport altogether.

> When I finished with the sport, I wanted to go to the physical education faculty and study nutrition, fitness, and stuff like that but in the end I said to myself, "What? You want to go through it again? No way, man." So I went to the Faculty of Arts to study history. . . . [It was] an incredible relief, really cool. . . . It was really great and I am not sorry at all that I quit. I am really happy about it and I recommend it to everybody (laugh). I say, "Do you still do it? You must be stupid." (Ales, Individual interview, March 4, 2011)

However, although Ales and Barbora both reflected positively on their decision to quit competitive sport, they still constructed their identity according to their previous athletic achievements. Additionally, because of their intensive engagement in sport practice, they had had only limited experience with "ordinary" life outside competitive sport. After withdrawing from competitive sport they experienced only a very limited sense of agency in relation to other possible professional careers and had difficulties in finding a new direction in life. At the time of the interview, they talked about feelings of being lost.

> When I quit so all of a sudden I didn't have . . . , all of a sudden, such emptiness . . . I guess I will have to find something again, learn something, put myself into something. I want to be able to show something to other people, tell them something about it. Because I know everything and nothing. I need to be an expert in something. . . . So I am looking for something to talk about, to pursue. . . . So I guess I don't have a background. (Barbora, Individual interview, March 8, 2011)

Cenek also experienced a similar development to that of Ales and Barbora, although in a less escalated way. During adolescence he refused his father's demands to become a scientist and decided, to his father's dismay, for a less ambitious career in a helping profession.

Theme 2: Giftedness and All-Too-Easy Learning

The second group of participants (see Table 3) described similar beginnings in their respective disciplines; they had achieved significantly better results than their peers and had been able to outperform other children from a very early age. Their further development, however, unfolded in a very different manner. The main themes of their narratives elaborated on the fact that they achieved excellent results very easily, without intensive effort and practice, sometimes even without interest. At the same time, they experienced their successes as inexplicable and uncontrollable. Then, during adolescence they had, for the first time, encountered learning difficulties that they interpreted as having reached the limits of their potential. They felt unable to overcome these difficulties and gradually ceased striving for further development. At the time of the interview, although they still participated in their disciplines, these participants were not pursuing higher learning goals in those disciplines.

Subtheme 1: Outperforming Peers in Childhood. This group of young people emphasized that in early childhood they had easily outperformed other children. They often mastered, in only a few months, content for which others needed several years. They also won competitions from an early age. They achieved these outcomes by exerting only the minimal effort required for ongoing involvement. They were interested in practice only when they perceived it as enjoyable and expressed only limited interest in improving their performance.

> It was entertainment for me, more than anything else, I went there just to fool around and I did not think I would want to continue. I achieved something, I learned some jumps and stuff that I was interested in but I did not need to know the rest. (Jan, Individual interview, March 31, 2011)

In contrast to the first group, this group perceived the role of others in their beginnings differently. Their parents and teachers, although reacting positively to their early successes, had not been particularly interested in the development of their potential. No one scheduled regular practice or study time for them and no one expected excellent results or pushed them to exert more effort. Consequently they spent a limited time on practice. Nevertheless, they were still able,

for a time, to achieve significantly better results than other children.

> I don't know much about other people and how it works in general but I've had it [successes in music] always somehow completely without problems, it was kind of spontaneous, I've never practiced much and I've never done much and I've been surprised myself how easy it was to succeed somewhere. (Iva, Individual interview, April 17, 2011)

Subtheme 2: Development Out of Own Control. These participants did not appear to perceive the activity in which they were considered to be gifted as an especially important part of their lives and therefore invested relatively little time and effort in it. Even so, they regarded their discipline as interesting and entertaining enough to continue. However, it seems that in the long run their limited engagement in practice negatively affected their motivation. At the same time, they were either not able to explain the causes of any success or failure or they perceived their outcomes as being outside their control, attributing them to external causes, such as luck or being favored by others.

In relation to this inability to explain, Iva described attacks of uncontrollable anxiety that unpredictably occurred before her performances and that she felt unable to influence.

> I am kind of . . . , nobody including me knew whether I would perform well or not. Nobody knew what to expect from me when I walked to the podium, whether I would play well or not. (Iva, Individual interview, April 17, 2011)

Jan, in his final year before he quit competing, claimed to have not practiced at all although he still won most competitions he attended. At the time he was also invited to join the adult Czech national team although he was officially still in the junior category. He refused the offer, allegedly because he would not enjoy the practice, commenting that at the time he just wanted to experiment with whether he would be able to keep winning competitions without practicing. In this context, he also expressed doubts about the role of practice in athletic development.

> I don't know if you can learn it, actually, I have been doing it for 4 or 5 years completely the same way, I've never practiced, and I've always kept winning. . . . Even when I, really, didn't attend a training session for 3, 4 months, I went to the competition, I kind of felt that I didn't have enough fuel in the tank, but I still got lucky and I won. (Jan, Individual interview, March 31, 2011)

Similarly, Hynek mentioned that the physics at elementary and high school level was very easy for him, that it "came to him by itself." Later when he wanted to start preparing more seriously he did not know how and lacked the necessary self-regulation skills.

> I am kind of lazy to study by myself, that's what I have a bit of a problem with. The school didn't teach me how to study effectively. Because at the high school I didn't have a problem, I just looked at it for a while just before the test and apart from that I couldn't care less. (Hynek, Individual interview, June 10, 2011)

Subtheme 3: Emerging Limits. When these participants talked about adolescence and especially about the period during which they were making decisions about their future professional careers, they asserted that they had reached the limits of their potential and, in fact, they spoke about themselves as average. They apparently did not believe that they could keep improving, overcome emerging obstacles, or make a successful career in the field in which they had been considered gifted as children. They subsequently ceased regular preparation and lost interest in competing with peers or striving for improvement of their performance.

> So I've been telling you the whole time, I don't believe, or I don't think that I am extraordinary in anything. If people haven't been saying it, so I don't know about it or . . . , really, I have no need to show it off somewhere and I don't think about myself as extraordinary or good, ok? It turns out well, sometimes, and I guess it is useful from time to time, but I wouldn't say it is like, great. (Iva, Individual interview, April 17, 2011)

Interestingly, these participants had all nevertheless contemplated the career of teaching in the area of their childhood giftedness. As reasons for this choice, they stated that they had not known what else to do, that they had felt obliged to continue in the area or that they had perceived teaching as the path of least resistance in which they would be able to use their abilities in a way that was enjoyable and did not demand strenuous preparation. Iva in the end turned down the possibility of becoming a music teacher and decided on a mainstream career in accounting. Hynek began studying science but dropped out and went on to become a science teacher instead. Jan quit taekwondo and decided to study general physical education. None of them, however, considered themselves as gifted or promising in the context of higher education. It seems that their early experience of being gifted without actual learning prevented them from developing the sense of agency and the self-regulation strategies necessary for overcoming challenges at more advanced stages of education.

Theme 3: Giftedness as Motivation

With respect to their educational progress, we regard the third group of participants (see Table 4) as showing the highest level of achievement and motivation. At the time of the interview they were all still considered to be very promising high achievers and were continuing their education in the direction of possible future excellence in their field. The main theme by which they constructed their giftedness and its development was motivation. In the context of childhood,

they described themselves as differing from their peers in their passion for learning and willingness to invest time and effort in preparation. In the context of later stages of development, they perceived themselves as active agents who were able to control their educational path, and were willing to strive for a high level of achievement in a future professional career.

Subtheme 1: Passion for Learning. The most important theme during childhood was their early passion for the discipline, accompanied by an orientation to high achievement, an ability to self-regulate and a willingness to work toward learning goals. These participants allegedly chose their discipline themselves because they perceived it as interesting and enjoyable, although they had been introduced to it by parents or school teachers. They achieved relatively excellent early results in comparison with their peers but, interestingly, rejected the idea that these early outcomes stemmed from a higher level of ability or giftedness and explained them instead by the time and effort they had put into practice and preparation. They stressed the important role of parents who provided them with support and direction but, at the same time, encouraged their independence and personal responsibility. They also mentioned a teacher or teachers who had regarded them in their early childhood as promising and had supported them in developing their interests.

> So when I was thinking about it, I guess that . . . genes had to somehow come together because since the first grade I've been kind of . . . , when a teacher didn't call me out when I wanted to answer I got really angry, so such desire, desire to win and. . . . I like to be the best so I work hard. . . . I guess there is a talent or predispositions but it is not the most important thing. If anybody from our class knuckled down to it and put into it as much time as I did and some of them even less, they would be just as good. You just have to put in the time. (Lucie, Individual interview, August 7, 2011)

> I was literally growing up in a musical school and when I could decide what I wanted to do, the obvious choice was the piano because I had it at home and of course I heard it all the time and I really liked it. . . . So since my childhood I have been listening to music all the time, so I've got the feeling for it, nobody has to hammer a rhythm or a musical idea in me, I can come up with it myself. But of course it is also my ambition and the willingness to work hard because I sacrificed a lot of time to it and many things, so that's what's behind it. (Katerina, Individual interview, August 10, 2011)

Subtheme 2: Development Under Own Control. In the context of their further development, these young people emphasized their ability to independently control and regulate their learning. They carefully organized their learning activities and searched for the most effective and efficient ways of preparing in order to allow for steady improvement. This included trying to get the best available teachers. These young people gradually increased the intensity of their preparation to the point where studying took almost all their free time.

> They tell me all the time that I am gifted but I guess it is also because I am diligent and I can sit down to it and do what needs to be done. I don't think that I am supersmart or excellent but I know how to organize it. (Magda, Individual interview, April 27, 2011)

Intrinsic motivation was the reason given for their approach. They talked about an interest in the activity itself as well as an interest in outperforming their peers but in both instances they emphasized that they were able to independently choose and follow these goals. They avoided activities that they disagreed with or considered unproductive. This included rejecting what they considered unreasonable expectations of other people, especially their teachers.

> Some of our classes were very interesting because I don't take shit from anyone, I guess I'm gonna always be like that (laugh), so sometimes it was like, [the teacher] walked away from the class, I walked away from the class, because I definitely don't mind when somebody shouts at me to push me to some result but when she started insulting me and said completely needless things that would make you terribly sorry, so it seemed to me . . . kind of unnecessary, alright? So I showed her properly that I really don't need this. (Katerina, Individual interview, August 10, 2011)

> So after some time it got really unpleasant, such constant pressure, because the teachers don't accept at all that you wouldn't go to the competition, they just go straight to you and "There is the Czech language competition" and you say "No, I am not going," and they are like "Why not, it is just one day and you even don't have to prepare so try it and it's going to be alright" and I say "No, I am not going." But it took me a long time before I persuaded them to let me be. (Lucie, Individual interview, August 7, 2011)

Subtheme 3: Agents of Their Own Future. At the time of the interview, these participants voiced strong beliefs that they acted as active agents of their educational and professional careers and that they were capable of making choices that would ensure their further optimal development. In contrast to the previous groups of participants, they did not feel limited either by their abilities or by the expectations of other people. For example, Lucie, who had been previously highly successful in humanities, decided in her last year of high school to focus on medicine, completely reorganized her studies and was accepted to a medical faculty as one of the top applicants.

In general, these young people expressed willingness to strive for the best possible future results and at the same time were focused on immediate goals that directed their day-to-day preparation. As short-term goals, they described, for example, organizing their study activities as efficiently as

possible and achieving study results that would help them to get accepted to the best educational institutions. Their long-term goals were related to starting and developing a professional career in the area of their interest.

> Yeah, I definitely want to break through later in my profession, I want to be good, I guess it also motivates me because I want to help people, I don't want to end up as a bad doctor who harms rather than helps. So yes, I want to be good but now I'm focusing on other things, I want to finish school well and get into the medical faculty. (Lucie, Individual interview, August 7, 2011)

This did not mean, however, that they necessarily strove to be "the best." For example, neither Katerina nor Magda perceived their current level of skill as outstanding, nor did they expect inevitable success in the future. These perceptions and expectations seemed to ease the pressure to achieve and allowed them to make choices that provided them with the best learning opportunities.

> How I see my future. . . . Since I was a child I've had a dream that I would teach little kids, and now I really do teach kids and I really enjoy it so I'm not scared that I'll end up teaching for good, I am not afraid of it at all. But I still plan to study abroad, in France, Paris, I want to look around a bit, so maybe I will speak differently after I have this experience, more international competitions, when people maybe know my name, so I don't know, right now I still cannot expect too much. (Katerina, Individual interview, August 10, 2011)

Discussion

As the main contribution to the current discussion on the development of giftedness across the lifespan, this study explored giftedness as a subjective phenomenon that is experienced and made sense of by individuals. The participants encountered various situations when achieving on a much higher level than their peers. While some situations were similar across all cases, others were specific to a particular group, or to individual participants. On the basis of these experiences, the participants sought explanations for their achievements, with consequences for their motivation and action. Our analysis indicated that the participants came up with three distinctively different yet consistent narratives that provided them with clear interpretative framework through which they made sense of their achievements and educational development. Subsequently they acted on the results of this sensemaking and in this way shaped their educational paths (Weick, 1995; Weick et al., 2005).

The following discussion applies the sensemaking perspective to the analysis of the development of systemic interactions between the participants' capabilities, motivation, and social environment. The ways in which the participants made sense of their past educational development provided them with answers to two questions related to their motivation and sense of agency: "Can I do the activity?" and "Do I want to do the activity?" (Eccles, 2005). To understand how the answers to these two questions developed and influenced the participants' educational decisions in adolescence, we interpret the results of the sensemaking in the framework of current motivational theories (i.e., Bandura, 2006; Deci & Ryan, 2002; Dweck, 2006; Eccles, 2005). Furthermore, we discuss how this process may be influenced by the social environment–parents, teachers, the context of the discipline and cultural discourses on the nature of giftedness.

In all participants, early excellent results represented a starting point at which they were recognized as exceptionally gifted in comparison with their peers. The nature of this recognition, however, directed them on different paths toward or away from adult excellence by shaping their sensemaking with implications for their motivation. In the first group, the social environment provided cues through enforcing social control and through emphasizing competition and the best possible immediate results. Although the participants were recognized as exceptionally gifted, they also learned that giftedness comes at a cost and with few benefits; they talked about the lack of freedom, the exhausting preparation, and minimal subjectively valuable rewards. In this environment they perceived their potential more as a burden than a gift and could not find a way to pursue their careers that was both permissible in their educational environment and in accord with their personal goals. Therefore, although they objectively achieved at a very high level and were still interested in the activity during adolescence, they were unable to see a meaningful way of continuing and quit. This absence of a sense of agency was prompted by their realization that they *did not want to do the activity.* Perceiving the intensive practice as fulfilling the achievement goals of other people, they experienced growing resistance, which hindered their intrinsic motivation–a process well-described by self-determination theory (Deci &Ryan, 2002; Garn, Matthews, & Jolly, 2010). The pressures of parents and coaches also disturbed the subjective value of the activity by raising the perceived cost of continuing involvement and lessening enjoyment in the activity (Eccles, 2005).

In the second group, the participants received few cues from their social environment about their performance, but won easily, almost without effort or practice. For a time, they had no need to explain their outcomes; they enjoyed their easy successes and allegedly engaged in little sensemaking about possible causes. However, later when their victories were accompanied also by failures, they were forced to make sense of things. Because they perceived both their successes and the failures as happening without their personal contribution, they saw themselves as insufficiently gifted to become successful professionals. At the same time, their previous involvement limited their career options and they decided to stay in the field in which they had been most successful, although pursuing careers they perceived as less demanding. This group of participants based their low sense of agency on the conclusion that they *could not do the*

activity. These participants experienced "emerging limits" in the later phases of their development as their easy learning prevented them from connecting practice with future success and supported their "fixed mindset" (Dweck, 2006) in the process. The effortless victories also prevented them from obtaining mastery experiences and developing self-efficacy (Bandura, 2006) and disturbed the subjective value of the activity by preventing their identification with it (Eccles, 2005).

In the third group, the participants received numerous cues from their social environment that prompted them to make sense of their extraordinary outcomes as resulting from effortful and proper practice. They learned that more intensive, focused and organized preparation led to better results, rewards and further opportunities. They were also provided with an opportunity to decide for themselves about the course of their development and make a difference through their own activity. As a result, they formed the belief that they had agency in the ways in which their development would unfold and that they were able to achieve goals and overcome emerging obstacles. This dynamic directed their learning pathways, in contrast to those of other participants, toward possible future eminence in their respective fields. Even when they perceived themselves as "not good enough" in some aspect of their education, they believed that they would eventually overcome any obstacles and chose activities that provided them with the best learning opportunities to do so. Only this group of participants seemed to have a positive answer to both of the motivational questions. These participants underwent a series of mastery experiences (Bandura, 2006) through which they came to believe that the intensive and effortful practice was meaningful and future success possible and gradually became "agents of their own learning." This focus on the future seemed to support a growth mindset (Dweck, 2006), the development of self-efficacy (Bandura, 2006), and self-directed learning and intrinsic motivation (Deci & Ryan, 2002). It also raised the subjective value of the activity that they perceived as increasingly useful and as a part of their identity (Eccles, 2005). All these factors were to the benefit of a sense of agency in and the long-term successful development of these gifted children.

This analysis highlights the vital role of the participants' sense of agency (or lack of it) with regard to the development of their performance. Their sense of agency was constructed, above all, by the participants' sensemaking about their previous results, the causes of these results, and their possible professional futures. As the analysis indicated, their sensemaking was strongly influenced by the social environment that provided the participants with cues about how to interpret these factors. At the same time, the sensemaking was related to the participants' identity construction and determined their sense of who they were, who they could be, and who they wanted to become (Weick, 1995).

The observed role of sensemaking in the development of the sense of agency has some important theoretical implications. In contemporary theories of giftedness, giftedness is usually approached as an objective phenomenon (e.g., Gagné, 2004; Mönks & Mason, 1993; Renzulli, 2005; Subotnik et al., 2011); these theories try to explain *what giftedness is.* The present analysis, however, shows that it is also important to ask *what giftedness means.* The subjective meanings of giftedness that resulted from the sensemaking of our participants seemed to be as significant for the development of their potential as their "objective" capabilities. Some of the participants perceived their giftedness in a way that supported their agency and their identification with the domain, fuelling their motivation to learn. For others, their perception of their own giftedness discouraged them, alienated them from the domain, and prevented their further striving for adult excellence.

The analysis also draws attention to the crucial role of parenting and educational practices in shaping the subjective experience of giftedness in gifted children. Some parents and teachers overemphasized competition and immediate achievement. This concern with "winning" led to excessive pressures in the first group or, conversely, to a lack of encouragement in the second group. The parents and teachers either wanted their children "to make it big" or were satisfied with easy childhood victories, in both cases shaping the participants' experience of giftedness in a way that hindered the latter group's sense of agency. We may argue that adult criteria of achievement were applied to the performance of these participants during childhood. Their childhood was approached not as a learning stage that should pave the road to future adult productivity but as a final destination in which flawless performance, success in competition with others, and immediate results were valued over long-term learning, a risk factor in the social environments of some promising children, also reported in other studies (Borland, 2005; Frazer-Thomas et al., 2008; Garn & Jolly, 2013; Mudrak, 2011). By contrast, the participants in the third group seemed to benefit greatly from the fact that their environments, or at least important others, did not emphasize immediate results but were oriented to future development. The focus on the future was manifested through the encouragement of independent learning, an ability to cope with emerging obstacles, and personal responsibility for continuing educational development. This approach was crucial in helping the participants perceive their giftedness in a way that developed their sense of agency and facilitated their ability to overcome the social and motivational challenges stemming from their exceptionality.

It should be emphasized that parents and teachers are a part of a broader social environment formed by the discipline and the cultural discourse in which certain practices are more customary than others (Mudrak & Zabrodska, 2013). Some authors have recently argued that the current discourse of giftedness often emphasizes and reifies the immediate achievements of children which may lead to ineffective or even harmful educational practices (Borland, 2005; Mudrak, 2011). In our study, the focus on immediate results seemed to be more prevalent for athletes and musicians whereas the

academically oriented students had a more future-oriented upbringing. This might have stemmed from the differences between the developmental contexts of the "performers" and "producers" (Subotnik et al., 2011) that put different emphases on competition, early specialization, and the selection of promising candidates. For example, elite youth athletes, and gymnasts in particular, are often subjected to excessive pressures to achieve during childhood with consequences similar to those found in our study (Frazer-Thomas et al., 2008; Lavallee & Robinson, 2006). In comparison, there seems to be much less pressure in science education, even though also here students may experience pressures to achieve with negative impacts on their motivation (Garn & Jolly, 2013). Even so, our analysis suggests that children across different disciplines would benefit from educational practices that develop or allow their sense of agency.

Finally, the possible impact of the scientific discourse of giftedness on the sensemaking of developing individuals and of their social environment should be considered. Theories of giftedness present interpretative frameworks that often prioritize one or several developmental factors over others (e.g., Dai, 2012; Ericsson et al., 2007; Gagné, 2004; Mönks & Mason, 1993; Renzulli, 2005). These interpretative frameworks may be used by individuals in their search for coherent meaning, resulting in relatively diverse individual experiences being subsumed into a particular narrative (Ancona, 2011).[2] In this way, these theories of giftedness may inadvertently contribute to the production of simplified lay theories held by some parents, teachers, or children themselves. Such lay theories may then support the emergence of extreme performance practices similar to those observed in our study.

In this context, the present study underscores the importance of the recent calls for a reconceptualization of the field (Borland, 2005; Subotnik et al., 2011; Ziegler & Phillipson, 2012) to consider more explicitly the complexity, interconnectedness and contextual nature of various developmental influences. By putting subjective experience at the center of our systemic framework, our study encourages a focus on the subjective reasoning and decision making of developing individuals regarding whether to give up their pursuits or take the path toward the actualization of their potential. We believe that this approach may provide a way of understanding why some children develop their gifts to adult eminence whereas others become "the sprinters in the course of a marathon."

Limitations, Future Directions, and Conclusions

The study has several limitations. First, we based our research on the subjective perspectives of the participants. Consequently, the analysis inevitably emphasized the importance of their motivation and activity, while sidelining other possible influences (e.g., family economic status, availability of educational institutions, or social networks) that might have played an equally important role in their development. Second, our results are based on retrospective accounts of the participants, an approach that might have affected our interpretations by hindsight bias to some degree. Also, the retrospective explanations might provide a more coherent narrative of the events than was actually experienced at the time. Third, our findings offer insight into sensemaking about and systemic aspects of development of giftedness but provide no information about the prevalence of the identified sensemaking themes. This would require a further study on a larger, more representative sample. Due to certain similarities, the cases included in our study happened to neatly distribute themselves across the three groups. However, in a larger and more diverse sample, the sensemaking themes might be less distinctive and overlap more, and thus be harder to distinguish. Finally, the study was carried out in the specific national context of the Czech Republic, which may limit the transferability of its findings.

The study offers a number of venues for future research. The study explored sensemaking and the systemic aspects of the development of gifted children in a small number of case studies. Further studies could examine our findings on more representative samples and focus explicitly on the subjective experiences of people coming from diverse educational contexts. Such studies could use a broader range of methods (e.g., ethnography) that would enable the collection of data that is more objective than interviews. Future research into the subjective perception of giftedness could also include different age groups or implement a longitudinal research design, as learners of different ages may deal with different social and motivational challenges. A longitudinal study might also help with a better understanding of the causal effects of social environments on the development of a sense of agency. Finally, future studies could also consider the meanings given to giftedness and explore how cultural and scientific discourses on giftedness impact individual perceptions and practices related to high-achieving children.

In conclusion, in the current study, we sought to explain, from a systemic perspective extended by the approach of sensemaking, the social and motivational factors that may support, or hinder, the development of childhood giftedness to adult excellence. The ways in which other people responded to the early successes of the participants by displaying encouragement, overinvolvement, or lack of interest affected the ways in which the gifted individuals made sense of their giftedness. These cues from parents and teachers cocreated the participants' perceptions of whether it was worthwhile working toward future excellence, whether their giftedness was more of a burden than a gift, or whether they were gifted at all. The participants perceived as most beneficial practices that were involved and encouraging but supportive of their personal agency and independence.

These findings underline the importance of educational and parenting practices enhancing the sense of agency in high-achieving children and allowing them to deal productively with their exceptionality. We conclude that current theories of giftedness should more explicitly recognize the importance of the subjective experience of giftedness, the role of sensemaking in shaping this experience, and its impact on the sense of agency of developing individuals and their educational decisions.

Acknowledgments

The authors would like to thank the anonymous reviewers and the associate editor for their valuable comments and suggestions to improve the quality of the article. They are also grateful to Dr. Constance Ellwood for proofreading the article.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The article was supported by the Czech Science Foundation Research Grant No. P407/11/P512 awarded to Jiri Mudrak, with the support of RVO, 68081740, and in the Framework of the Scientific Branch Development Programme UK FTVS No. 39.

Notes

1. When using the term "gifted children" or "giftedness" in the article, we refer predominantly to this fact of being recognized as gifted in the social context rather than to latent personality characteristics. To emphasize this distinction, we prefer using descriptors such as "promising" or "high-achieving" that imply a process of identification by others.
2. This may also partially explain the "neatness" with which individual narratives of our participants fit into one or other of the sensemaking themes.

References

Ancona, D. (2011). Sensemaking: Framing and acting in the unknown. In S. Snook, N. Nohria, & R. Khurana (Eds.), *The handbook for teaching leadership: Knowing, doing, and being* (pp. 3-19). Thousand Oaks, CA: Sage.

Bandura, A. (2006). Adolescent development from an agentic perspective. In F. Pajares & T. Urdan (Eds.), *Self-efficacy and adolescents* (pp. 1-43). Scottsdale, AZ: Information Age.

Bloom, B. S. (1985). *Developing talent in young people*. New York, NY: Ballantine.

Borland, J. H. (2005). Gifted education without gifted children: The case for no conception of giftedness. In R. J. Sternberg & J. E. Davidson (Eds.), *Conceptions of giftedness* (pp. 1-19). Cambridge, England: Cambridge University Press.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*, 77-101.

Chi, M. T. H. (2006). Two approaches to the study of experts' characteristics. In K. A. Ericsson, N. Charness, & P. J. Feltovich (Eds.), *Cambridge handbook of expertise and expert performance* (pp. 21-29). Cambridge, England: Cambridge University Press.

Dai, D. Y. (2012). The nature-nurture debate in regarding high potential. Beyond dichotomous thinking. In D. Ambrose, R. J. Sternberg, R. Sternberg, & B. Sriraman (Eds.). *Confronting dogmatism in gifted education* (pp. 41-54). New York, NY: Routledge.

David, N., Newen, A., & Vogeley, K. (2008). The "sense of agency" and its underlying cognitive and neural mechanisms. *Consciousness and cognition*, *17*, 523-534. doi:10.1016/j.concog.2008.03.004

Deci, E. L., & Ryan, R. M. (2002). *Handbook of self-determination research*. Rochester, NY: University of Rochester Press.

Dweck, C. (2006). *Mindset: The new psychology of success*. New York, NY: Random House Digital.

Eccles, J. S. (2005). Subjective task value and the Eccles et al. model of achievement related choices. In C. S. Dweck & A. J. Elliot (Eds.), *Handbook of competence and motivation* (pp. 105-121). New York, NY: Guilford Press.

Ericsson, A. K., Roring, R. W., & Nandagopal, K. (2007). Giftedness and evidence for reproducibly superior performance: An account based on the expert performance framework. *High Ability Studies*, *18*, 3-56. doi:10.1080/13598130701350593

Frazer-Thomas, J., Cote, J., & Deakin, J. (2008). Examining adolescent sport dropout and prolonged engagement from a developmental perspective. *Journal of Applied Sport Psychology*, *20*, 318-333. doi:10.1080/10413200802163549

Gagné, F. (2004). Transforming gifts into talents: The DMGT as a developmental theory. *High Ability Studies*, *15*, 119-147. doi:10.1080/1359813042000314682

Garn, A. C., & Jolly, J. L. (2013). High ability students' voice on learning motivation. *Journal of Advanced Academics*, *25*, 7-24. doi:10.1177/1932202X13513262

Garn, A. C., Matthews, M. S., & Jolly, J. L. (2010). Parental influences on the academic motivation of gifted students: A self-determination theory perspective. *Gifted Child Quarterly*, *54*, 263-272. doi:10.1177/0016986210377657

Garn, A. C., Matthews, M. S., & Jolly, J. L. (2012). Parents' role in the academic motivation of students with gifts and talents. *Psychology in the Schools*, *49*, 656-667. doi:10.1002/pits.21626

Holas, M. (1994). *Hudebni nadani* [Musical talent]. Prague, Czech Republic: AMU.

Horowitz, F. (2009). A developmental understanding of giftedness and talent. In F. Horowitz, R. Subotnik, & D. J. Matthews (Eds.), *The development of giftedness and talent across the life span* (pp. 3-19). Washington, DC: American Psychological Association.

Hribkova, L. (2009). *Nadani a nadani* [Giftedness and the gifted]. Prague, Czech Republic: Grada.

Junge, M., & Dretzke, B. (1995). Mathematical self-efficacy and gender differences in gifted/talented adolescents. *Gifted Child Quarterly*, *39*, 22-26. doi:10.1177/001698629503900104

Kvale, S. (1996). *Interviews. An introduction to qualitative research*. London, England: Sage.

Lavallee, D., & Robinson, H. K. (2006). In pursuit of an identity: A qualitative exploration of retirement from women's artistic gymnastics. *Psychology of Sport and Exercise*, *8*, 119-141. doi:10.1016/j.psychsport.2006.05.003

Matthews, D. (2009). Developmental transitions in giftedness and talent: Childhood into adolescence. In F. Horowitz & R. Subotnik (Eds.), *The development of giftedness and talent across the life span* (pp. 89-107). Washington, DC: American Psychological Association.

Morawska, A., & Sanders, M. R. (2009). Parenting gifted and talented children: Conceptual and empirical foundation. *Gifted Child Quarterly*, *20*, 1-11. doi:10.1177/0016986209334962

Mönks, F. J., & Mason, E. J. (1993). Developmental theories and giftedness. In K. Heler, F. Mönks, & A. H. Passow (Eds.), *International handbook of giftedness and talent* (pp. 89-101). New York, NY: Pergamon Press.

Mudrak, J. (2011). "He was born that way": Parental constructions of giftedness. *High Ability Studies*, *22*, 199-217. doi:10.1080/13598139.2011.622941

Mudrak, J., & Portesova, S. (2008). *Stabilni a promenlive faktory nadani: Prehled nekterych determinant ontogeneze mimoradneho vykonu* [Stable and changeable factors of giftedness: Overview of some determinants of high achievement development]. *Ceskoslovenska Psychologie*, *52*, 32-46.

Mudrak, J., & Zabrodska, K. (2013). Human potential as psychological construct. *Ceskoslovenska Psychologie*, *57*, 201-217.

Pajares, F. (1996). Self-efficacy and mathematical problem-solving of gifted students. *Contemporary Educational Psychology*, *21*, 325-344. doi:10.1006/ceps.1996.0025

Papierno, P. B., Ceci, J. S., Makel, M. C., & Williams, W. M. (2005). The nature and nurture of talent: A bioecological perspective on the ontogeny of exceptional abilities. *Journal for the Education of the Gifted*, *28*, 312-332. doi:10.4219/jeg-2005-343

Patrick, H., Ryan, A. M., Alfeld-Liro, C., Fredricks, J. A., Hruda, L. Z., & Eccles, J. S. (1999). Adolescents' commitment to developing talent: The role of peers in continuing motivation for sports and the arts. *Journal of Youth and Adolescence*, *28*, 741-763. doi:10.1023/A:1021643718575

Peric, T., & Suchy, J. (2011). *Identifikace sportovnich talentu* [Sport talent identification]. Prague, Czech Republic: Karolinum.

Portesova, S. (2009). *Skryte nadani: Psychologická specifika rozumově nadaných žáků s dyslexií* [Hidden talent: Psychological characteristics of intellectually gifted students with dyslexia]. Brno, Czech Republic: Masarykova Univerzita.

Reis, S. M., & McCoach, D. B. (2000). The underachievement of gifted students: What do we know and where do we go? *Gifted Child Quarterly*, *44*, 152-170. doi:10.1177/001698620004400302

Reis, S. M., & Renzulli, J. S. (2004). Current research on the social and emotional development of gifted and talented students: Good news and future possibilities. *Psychology in the Schools*, *41*, 119-130. doi:10.1002/pits.10144

Renzulli, J. (2005). Applying gifted education pedagogy to total talent development for all students. *Theory into Practice*, *44*, 80-89. doi:10.1207/s15430421tip4402_2

Rimm, S. B. (2003). *Underachievement: A national epidemic*. In N. Colangelo & G. A. Davis (Eds.), *Handbook of gifted education* (3rd ed., pp. 424-443). New York, NY: Pearson Education.

Rimm, S. B., & Lowe, B. (1988). Family environments of underachieving gifted students. *Gifted Child Quarterly*, *32*, 353-359. doi:10.1177/001698628803200404

Schunk, D. H., & Pajares, F. (2005): Competence perceptions and academic functioning. In C. S. Dweck & A. J. Elliot (Eds.). *Handbook of competence and motivation* (pp. 85-104). New York, NY: Guilford Press.

Schunk, D. H., & Meece, J. (2006). Self-efficacy development in adolescents. In F. Pajares & T. Urdan (Eds.), *Self-efficacy and adolescents* (pp. 71-96). Scottsdale, AZ: Information Age.

Simonova, N. (2003). The evolution of educational inequalities in the Czech Republic after 1989. *British Journal of Sociology of Education*, *24*, 471-485. doi:10.1080/01425690301919

Smith, J. A., & Osborn, M. (2008). Interpretative phenomenological analysis. In J. A. Smith (Ed.), *Qualitative psychology: A practical guide to research methods* (2nd ed., pp. 53-81). London, England: Sage.

Sosniak, L. A. (2003). Developing talent: Time, task and context. In N. Colangelo & G. A. Davis (Eds.), *Handbook of gifted education* (3rd ed., pp. 247-253). New York, NY: Pearson Education.

Speirs Neumeister, K. L. (2004). Factors influencing the development of perfectionism in gifted college students. *Gifted Child Quarterly*, *48*, 259-274. doi:10.1177/001698620404800402

Speirs Neumeister, K. L., & Finch, H. (2006). Perfectionism in high-ability students: Relational precursors and influences on achievement motivation. *Gifted Child Quarterly*, *50*, 238-250. doi:10.1177/001698620605000304

Stake, R. E. (2006). *Multiple case study analysis*. New York, NY: Guilford Press.

Sternberg, R. J. (2001). Giftedness as developing expertise: A theory of the interface between high abilities and achieved excellence. *High Ability Studies*, *12*, 159-179. doi:10.1080/13598130120084311

Sternberg, R. J., & Grigorenko, E. L. (2002). The theory of successful intelligence as a basis for gifted education. *Gifted Child Quarterly*, *46*, 265-277. doi:10.1177/001698620204600403

Subotnik, R. F. (2009). Developmental transitions in giftedness and talent: Adolescence into adulthood. In F. Horowitz & R. Subotnik (Eds.), *The development of giftedness and talent across the life span* (pp. 155-170). Washington, DC: American Psychological Association.

Subotnik, R. F., & Jarvin, L. (2005). Beyond expertise: Conceptions of giftedness as great performance. In R. J. Sternberg & J. E. Davidson (Eds.), *Conceptions of giftedness* (pp. 343-357). New York, NY: Cambridge University Press.

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*, 3-54. doi:10.1177/1529100611418056

Subotnik, R. F., & Steiner, C. (1994). Adult manifestations of adolescent talent in science: A longitudinal study of 1983 Westinghouse Science Talent Search winners. In R. Subotnik & K. Arnold (Eds.), *Beyond Terman: Contemporary longitudinal studies of giftedness and talent* (pp. 52-76). Norwood, NJ: Ablex.

Weick, K. E. (1995). *Sensemaking in organizations*. Thousand Oaks, CA: Sage.

Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. (2005). Organizing and the process of sensemaking. *Organization Science*, *16*, 409-421. doi:10.1287/orsc.1050.0133

Ziegler, A. (2005). The Actiotope model of giftedness. In R. J. Sternberg & J. E. Davidson (Eds.), *Conceptions of giftedness* (2nd ed., pp. 411-437). New York, NY: Cambridge University Press.

Ziegler, A., & Phillipson, S. N. (2012). Towards a systemic theory of gifted education. *High Ability Studies*, *23*, 3-30. doi:10.1080/13598139.2012.679085

Author Biographies

Jiri Mudrak holds a PhD in developmental psychology from Masaryk University in Brno and is affiliated with Charles University in Prague. His research interests include development of giftedness, social environments of gifted children, achievement motivation, discourses of human potential, and qualitative methodology. His work has appeared, among others, in *High Ability Studies, Gifted and Talented International, Culture and Organization, The New Educational Review*, and *Czechoslovak Psychology*. Recently, he has published a Czech monograph introducing a systemic perspective on giftedness development.

Katerina Zabrodska is a researcher at the Institute of Psychology of the Czech Academy of Sciences in Prague. She holds a PhD in social psychology from Masaryk University in Brno. Her research interests include interpretative, critical, and discursive theories in psychology, qualitative research methods, and organizational studies. Her articles have appeared, among others, in *Qualitative Inquiry, Culture and Organization, Employee Responsibilities and Rights Journal*, and *The Czech Sociological Review*.