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Understanding Talent Identification and Cultivation in Türkiye and the Middle East: Cultural, Social, and Developmental Perspectives

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Highlights

- Sentence1: Talent is not merely an inborn gift. It needs to be developed through the interaction of personal abilities, cultural values, structural opportunities, and family/community support.
- Sentence2: Rare talent can grow when people have equality in opportunity and support system, but it can be lost because of structural inequality and exclusion
- Sentence3: To identify and nurture rare talent, developing countries need inclusive talent policies and joint education program

Key words: Talent, giftedness, education, Turkiye, MENA, Global South

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Abstract (400-500 words)

Talent can cherish with access and equity in education, but it is lost under conditions of systemic inequality or under mismanagement of identification and management. How can the developing countries cherish talent by designing proper rare talent identification and cultivation programs? This is a largely policy question that needs sociological study. This is why this paper first asks how rare talent is defined, culturally framed, identified and cultivated? To answer this major research question, the paper first reviews the definition of rare talent in current literature, investigates what “rare” means, what “talent” represents in a specific context. Then considering the issues of access and equity in building talent development policies, it examines how literature looks at the psychological, cultural and structural determinants of talent identification and cultivation. Noticing the gap between psychological and sociological approaches to rare talent identification and cultivation, this paper aims to bridge this gap by proposing a multilayered model. This model conceptualizes talent not as an innate ability, but as social product evolved in the course of dynamic interaction between personal abilities, cultural and structural dynamics at macro and micro level. This paper also integrates empirical case studies of Mahir and Atakan from Türkiye to exemplify how talent development process is shaped by structural factors, cultural framing and national policies. Mahir’s case shows that talent emerging in a disadvantaged context can remain hidden or flourish within talent-friendly ecosystems. Atakan’s case shows the importance of cultural validation of talent and ethical values exposing it to public in both conventional and social media. The paper operatizes the socio-cultural model to formulate policy recommendations for developing countries. Social equity, sustainability and cultural sensitivity combined with inclusive educational systems can be functional to identify, develop, and retain rare talent.

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العنوان مقاربة عملية اكتشاف المواهب وتنميتها في تركيا والشرق الأوسط: من منظور ثقافي، اجتماعي وتنموي

الملخص:

يمكن رعاية المواهب من خلال توفير فرص الوصول إلى التعليم والإنصاف فيه، لكنها تضيع في ظل ظروف عدم المساواة المنظومية أو سوء إدارة عمليات اكتشافها وتنميتها. كيف يمكن للدول النامية أن تعزز المواهب من خلال تصميم برامج مناسبة لاكتشاف المواهب النادرة وتنميتها؟ هذا السؤال يحتاج إلى حد كبير إلى دراسة سوسيولوجية. ولهذا السبب، تطرح هذه الورقة أولاً السؤال التالي: كيف يتم تعريف المواهب النادرة، في إطارها الثقافي، وكيف يتم اكتشافها وتنميتها؟ للإجابة على هذا السؤال البحثي الرئيسي، تستعرض الورقة أولاً تعريف المواهب النادرة في الأدبيات الحالية، وتبحث في معنى كلمة «نادرة»، وما تمثله كلمة «الموهبة» في سياق محدد. ثم، مع الأخذ في الاعتبار قضايا الوصول والإنصاف في صياغة سياسات تنمية المواهب. تبحث الورقة الحالية في كيفية تناول الأدبيات للعوامل النفسية والثقافية والهيكلية المحددة لتحديد المواهب النادرة وتنميتها. وإدراكًا للفجوة بين النهجين النفسي والاجتماعي في تحديد المواهب النادرة وتنميتها، تهدف هذه الورقة إلى سد هذه الفجوة من خلال اقتراح نموذج متعدد المستويات. لا يُنظر في هذا النموذج إلى الموهبة على أنها قدرة فطرية، بل كمنتج اجتماعي تطور في سياق التفاعل الديناميكي بين القدرات الشخصية والديناميات الثقافية والهيكلية على المستويين الكلي والجزئي. كما تتضمن هذه الورقة دراسات حالة تجريبية لكل من ماهر وأتاكان من تركيا لتوضيح كيفية تأثير العوامل الهيكلية والإطار الثقافي والسياسات الوطنية على تشكيل عملية تنمية الموهبة. تُظهر حالة ماهر أن الموهبة التي تنبثق في سياق محروم يمكن أن تظل مخفية أو أن تزدهر ضمن أنظمة بيئية مواتية للمواهب. أما حالة أتاكان فتُظهر أهمية الاعتراف الثقافي بالموهبة والقيم الأخلاقية التي تعرضها للجمهور في كل من وسائل الإعلام التقليدية ووسائل التواصل الاجتماعي. وتقوم هذه الورقة بتطبيق النموذج الاجتماعي-الثقافي لوضع توصيات سياسية للدول النامية. ويمكن أن يكون للعدالة الاجتماعية والاستدامة والحساسية الثقافية، مقترنةً بأنظمة تعليمية شاملة، دور فعال في تحديد المواهب النادرة وتنميتها والاحتفاظ بها.

الكلمات المفتاحية: رعاية المواهب، تنمية المواهب، الشرق الاوسط، المنظور الثقافي، المنظور الاجتماعي والتنموي،

Introduction: Focus Question and Significance of the Study

When a child demonstrates deep curiosity, such as carefully observing a butterfly or an insect, Turkish parents often perceive such behavior as peculiar, rather than as an indicator of giftedness or talent. Traditionally, curiosity and exploratory thinking have not often received social recognition or institutional encouragement within Turkish society. Comparable tendencies are observed across many developing contexts, where the manifestation of rare talent frequently remains unnoticed. Consequently, numerous children with exceptional potential put down their exploratory and intellectual capacities instead of cultivating them. This dynamic represents not merely the neglect of talent but its exclusion from developmental pathways resulting in economic cost (World Economic Forum, 2023), and causing the silent loss of potential thinkers, scientists, and artists.

Recognizing this risk and considering that talent identification is a primary step in building gifted education (Treffinger & Feldhusen, 1996) and that talent recognition needs new method and approaches (Feldhusen, 2003), it becomes critical to explore the sociocultural and structural conditions that enable or inhibit the identification and nurturing of rare talent in Türkiye and MENA region. Such an inquiry is essential for innovation and designing effective development policies in the era of digital transformation and in the time of "talent war" (Beechler & Woodward, 2009).[1] Talent identification and cultivation process is the major area of interest for the educators and it is a key for innovation, while talent management[2] is highly critical for the strategic success of the organization in the 21st century. Focusing largely on the identification and cultivation process, this paper has two major aims and one key task: first, to examine how rare talent or giftedness is conceptualized within sociological theory; and second, to investigate the cultural and structural challenges and opportunities that shape its recognition

[1] See McKinsey's famous article, titled "The War for Talent". It was published at the end of 20th century in 1998.

[2] For the definition of talent management and and critical view on its defintion, see Lewis & Heckman (2006).

and development, with specific attention to the contexts of Türkiye and the broader MENA region. Through the demonstrative cases of Mahir, Atakan, and others, the paper analyzes how cultural and social factors mediate the construction, identification, and cultivation of rare talent. The main task of this paper is to develop a sociocultural analysis of rare talent identification and cultivation by primarily utilizing Dai's (2017) Evolving Complexity Theory (ECT) of Talent Development, Sak's (2021) Fuzzy Theory of Giftedness, and the psychological science model proposed by Subotnik, Olszewski-Kubilius, and Worrell (2011). Additionally, it incorporates other relevant theories and concepts outlined below, in Section 3, "Conceptual Framework: Selected Theoretical Approaches to the Study of Talent". This combined framework aims to present a multilayered model that illustrates how contextual, recognitional, and developmental factors interact to shape the emergence and nurturing of talent. This model would contribute to research and policy by providing conceptual and operational parameters for the use in academic research, education policy, human resource strategy, or social policy design.

The study begins with the idea that talent or giftedness lacks a universally accepted definition; rather, its meaning is negotiated and shaped by cultural influences. What is considered "gifted" can vary depending on cultural norms and epistemological perspectives, which significantly affect how talent is recognized (Sternberg, 2019). In addition to cultural dynamics, institutional and structural factors are also at play, either creating obstacles that diminish visibility or providing support for gifted individuals (Roda, 2015; 2025). Talent cultivation is the next step after talent recognition, and it too is influenced by cultural dynamics as well as social and institutional contexts, which can impose limitations or offer opportunities for growth. Subotnik et al. (2011; 2021) emphasize how successful talent development relies on the interplay of opportunity, motivation, sociocultural context, and institutional support.

Moving from these interrelated factors configuration, this paper examines several key themes within the sociology of giftedness and talent: the definitional and conceptual frameworks of giftedness or rare talent in the current literature; the cultural framing and treatment of gifted individuals across societies; the relationship between talent and social inequality; and the social identity and potential stigma associated with being labeled as gifted. A central analytical concern is to understand how cultural contexts and policy frameworks structure the processes through which giftedness and rare talent are identified, developed, and retained within a given society.

Studies on identification and educating gifted individuals do not only contribute to research, but they also provide strategic push for innovation, productivity, and long-run national competitiveness. Countries that systematically identify high-ability youth and channel them into accelerated learning, research pathways, and mission-critical occupations enjoy outsized dividends in science, technology, and economic complexity. Historical evidence demonstrates many nations in Western Europe, beginning in the early 20th century, benefited significantly from early investments in gifted education and specialized programs (Tannenbaum, 1979; 2000; Treffinger & Feldhusen, 1996; Boettger, 2015; Stoeger, 2019; Çitil, 2018). Today the European Union continues such endeavor by employing special policies for talent harnessing. In 2023, the EU launched a new EU system, the 'Talent Booster Mechanism' in the context of

the *European Year of Skills*, proposed by the Commission. It aims to bring a fresh impetus for re- and upskilling (Errin.eu, 2023), which is timely as AI is replacing skills and talents. This new mechanism also aims to create a "talent-friendly society", a network-based, multi-actor framework so that talented individuals are identified, supported, and not lost. The EU has also built a talent map for all the members and candidate EU countries to support gifted individuals as part of education, social policy and regional development.[3]

1. Definitions, Dimensions and Categories of Talent in Literature

Sociological analysis of talent or giftedness requires clarity about how talent and giftedness are defined and categorized. Most of the existing literature has long emphasized unidimensional definition of talent and focused on cognitive traits or pedagogical techniques, examining talent and giftedness from psychological and educational perspectives (Sękowski & Łubianka, 2015). Giftedness has been conceptualized within an IQ-based framework and their research focused on individuals achieving superior scores on standardized intelligence tests (Cross & Cross, 2019). Howe, Davidson, and Sloboda (1998) provide a foundational psychological definition, describing talent as an "ability" or aptitude present in some individuals that selectively facilitates the acquisition of very high levels of skill in a domain, beyond what is typical, emphasizing both rarity and potential. Somewhat less attention has been paid to its sociological dimensions because traditionally. The change began with interdisciplinary research on talent, exploring how cultural norms and institutional frameworks shape the very definition and recognition of talent and giftedness. Phillipson and McCann (2020) studied cross-cultural perspectives, Western, Chinese, Japanese, Aboriginal Australian, Malay, and others, and concluded that definitions of "giftedness" or "talent" are culturally constructed and exhibit significant variation across societies. Departing from viewing giftedness as universal was Sternberg (2019) who argues that giftedness is context-dependent, reflecting histories, values, local cultures, education systems, and political priorities. Growing body of research more increasingly studied the scope of what constitutes giftedness and talent, how a range of endogenous and exogenous forces shape its definition (Dai & Renzulli, 2008).

Building psychological foundation of talent definition and social context, Sak (2021) reframes talent as multidimensional construct and a fuzzy phenomenon. Meyers (2013) views rare talent as a combination of high potential, domain-specific capacity, and opportunity for development, thus placing it on a continuum shaped by environmental and cultural conditions. Gallardo-Gallardo, Thunnissen, and Scullion (2020) enhances organizational dimension and define talent as individuals who demonstrate exceptional current performance and future potential in strategically significant roles, skills that are scarce in the labor market. Collings and Mellahi (2009) support similar conceptualization of talent by arguing that it is context-dependent, combining high performance with unique expertise valued differently across industries and regions. Recognition of talent and giftedness depends are based on cultural and social parameters, which can introduce biases into the identification process (Long et al., 2023). There are examples of such biases have contributed to the underrepresentation of minority and non-white students, particularly African American and Hispanic learners, in gifted education

[3] For this talent map, see the ETSN website (https://etsn.eu/map-of-etsn/)

programs in Western countries (Ford, 2014). Socioeconomic disadvantage further complicates this issue, influencing both recognition and development of talent (Reynen-Woodward, 2023). Gifted education services, depending on their underlying definitions and methods, may therefore disproportionately identify well-resourced and demographically advantaged students while unintentionally excluding those from marginalized backgrounds (Brigham & Bakken, 2014).

This is why considering a social environment dimension and social inequalities is critical in talent identification. Frankenhuis et al. (2019) introduce the concept of "hidden talents," arguing that rarity can emerge from environmental adaptation as well as innate ability. Individuals raised in difficult environments may develop adaptive abilities, such as resilience and resourcefulness. Yet identifying such talents can be missed due to conventional measures of giftedness. All these studies cited reveal that talent is not merely an individual attribute but a socially and institutionally mediated construct

While literature integrating sociological perspective documents that talent recognition depends on cultural values, institutional practices, and access to developmental opportunities (Subotnik, Olszewski-Kubilius, & Worrell, 2011; Gallagher, 1996), there is a still a gap in the literature. The first one is the identification gap between purely cognitive models of giftedness/rare talent and those focusing on context-dependent definition that considers social forces. The second gap is the educational and organizational limitations in how talent is developed, nurtured and retained. The second gap is also related to overlooking the influence of cultural and structural contexts in cultivation and development of talent. The management literature on talent is a growing field, yet it has shortcomings. The literature names talent development process by integrating human resource and market needs perspectives: "talent management", "talent strategy", "succession management", and "human resource planning" are often used interchangeably. (Lewis & Heckman, 2006). A critical literature review by Kravariti & Johnston (2020) reveals that the definition of talent management is still disputed and the current policy lacks sociological insights into how talent is socially constructed, stratified, or excluded. These disciplinary divides result in a fragmented understanding: educational psychology tends to define giftedness narrowly, whereas human resource management conceptualizes talent strategically.

Bridging these divides is undertaken by this paper that brings the sociology of talent into conversation with giftedness and talent identification, nurturing and management scholarship. It also gives due attention to the issues of under-representation, equity, and cross-cultural variance in rare talent definitions. The risks of privileging certain groups or domains of talent while excluding others across educational and organizational systems are also central to this paper's study.

Accordingly, this paper makes three key contributions. First, it shows how culture, institutions, and power dynamics influence the definitions, criteria for recognition, and processes for developing talent. This provides a theoretical synthesis by merging sociological theories of giftedness and rare talent as social constructs with educational and organizational perspectives on identification and cultivation of such competencies. Second, it highlights the context of developing countries where gender and socioeconomic inequality, brain drain,

limited resources pose significant challenges in these regions (Docquier, 2014). The study in this paper employs case studies from Turkiye to show how regional disparities, existence or lack of identification mechanism, and the management or mismanagement of publishing rare talent affect its identification and cultivation. Lastly, to provide a conceptual and operational model, it develops a multilayered model for talent identification and cultivation. Taking cultural, social and environmental dynamics and linking macro and micro level factors, this model (STICM) provides conceptual model (see below) and applicable practical tools for policymakers and educators to create more inclusive and context-aware talent strategies while addressing the negative impacts of cultural bias in talent identification and development.

In building this model, demarcating key dimensions/parameters of talent is needed. By conceptualizing talent as complex and multidimensional construct and considering its dynamic and context-dependent nature, four key dimensions/parameters of rare talent and giftedness are outlined. The first one is the selectivity and social rarity of rare talents in that they are often noticed in a small segment of the population. Worth noting that the notion of rarity reflects socially defined hierarchies of value (Howe et al., 1998; Gallardo-Gallardo et al., 2020). Definitions of both "rare" and "talent" are context dependent as organizations and nations define and regulate which abilities are considered strategically or symbolically valuable (Collings & Mellahi, 2009). Second parameter is conceptualized, owing to Bourdieu's concept of symbolic capital and its emergence in specific fields. Talent is predisposed to function as symbolic capita when there is societal valuation. Then it can be recognized as capital in given field (Bourdieu, 2018), in those socially valued domains such as science, technology, or leadership, mirroring social values and national and market priorities (Gallardo-Gallardo et al., 2020). Once recognized, then institutional support would turn a valued ability, a talent, into a form of symbolic capital that can reproduce privilege (Howe et al., 1998; Meyers, 2013). The third parameter of talent is determination and the ability to learn, adapt, and grow within social systems that reward such performance (Meyers, 2013; Frankenhuis et al., 2019). Connected to these three parameters, the fourth one is structural opportunity to cultivate talent in a specific context. These parameters are key to understanding the interaction of individual potential, opportunity structures, and societal valuation (Sternberg, 2019; Subotnik et al., 2011; Gallagher, 1996) and links macro and micro social forces.

Categories of rare talents can be defined based on the types of ability and specific domains*:* Technical skills are competencies in science and technology, and they are developed through experiential learning (Araújo et al., 2025; Ghannam & Chan, 2021). In today's world emerging competencies are AI, quantum computing, or biotechnology. Soft skills like emotional intelligence, leadership, and communication are increasingly defined as desired competencies and become critical for performance and collaboration (Coronado-Maldonado & Benítez-Márquez, 2023; Hosseinioun et al., 2025; CCI Training Center, 2025). Thirdly, adaptation that includes learning agility and resilience under uncertain conditions. It is valued as essential for innovation and organizational survival (Hosseinioun et al., 2025; Aura, 2025). The fourth category is a set of hybrid skills that are valued in digital economy, including the integration of technical and interpersonal abilities (e.g., big data analysis, digital storytelling).

Taking all these definitions, dimensions and categorizations, it is conceptually plausible

to go beyond defining giftedness as an ability or aptitude present in certain individuals that selectively facilitates the acquisition of exceptionally high levels of skill in a domain beyond what is typical (Howe, Davidson & Sloboda, 1998). As giftedness is socially constructed, Gallagher (1996) argues that a society's cultural context plays a pivotal role in shaping prevailing beliefs about what giftedness is, and in determining behavioral and institutional responses to it.

1. Conceptual Framework: Selected Theoretical Approaches to the Study of Talent

Sociological inquiry in rate talent studies notes how definitions and evaluative criteria for identifying giftedness vary across social, cultural and historical contexts (Gallagher, 1996) and thus emphasized the necessity of going beyond classical psychological traditions treating talent as innate attributes (example: Howe et al., 1998). A meta-analysis of contemporary studies of giftedness shows that the focus is shifting to the structural and contextual factors as determinants explaining how talent emerges, being noticed and developed. (Dingeç & Kılıçarslan ,2023). Current studies, like our paper, conceptualize talent and giftedness as socially constructed categories (Subotnik, Olszewski-Kubilius & Worrell, 2011), shaped by cultural values, institutional frameworks, and differential access to opportunity (Sternberg, 2007; Subotnik et al., 2011, Bourdie 2018).

a) Dia's Evolving Complexity Theory (ECT)

Conceptualizing talent as dynamic and continuous evolving construct, Dai (2017) explains the necessity of a new model. His new theory of talent development, the Evolving Complexity Theory (ECT) of Talent Development posits four essential parameters: domain, person, development and culture. It offers an integrative framework for understanding the complex interplay of cultural and structural factors in the identification and cultivation of talent. The inclusion of the "culture" parameter is particularly significant for building a socio-cultural model, a task of this paper, because culture here encompasses values, historical contingencies, and systemic opportunities or constraints shape individual trajectories of talent development. Dai's theoretical lens serves the present study's model building endeavor to examine how cultural and structural contexts influence the identification and development of rare talent, illuminating how structural barriers may either suppress or enable such development.

b) Fuzzy Theory

Sak's (2021) Fuzzy Theory also treats giftedness and talents as social constructs that cannot be clearly defined, and that there is a cross-cultural and contextual variability defining and identifying and nurturing rare talent. Intelligence and giftedness are constructs that are negotiated within specific social and cultural settings. The Fuzzy model treats giftedness as multidimensional and he identifies three components to define giftedness that could be used in identifying and cultivating talent: intellective and non-intellective dispositions, stimulus conditions, and interaction. (Sak, 2023).

c) Key Talent Supportive Structural and Socio-cultural Dynamics and Environmental Catalysts

Integrating social concepts in the empirical research on giftedness provided evidence showing decisive roles of cultural and institutional structures play in determining how giftedness is identified, culturally validated and developed. They also show how structural and

cultural dynamics influence equality in opportunity and access to talent education programs. Educational systems (Naujoks-Schober et al., 2025), family upbring and investment patterns (Bronfenbrenner, 1979), political priorities, environmental opportunities and constraints (Dai & Sternberg, 2004), and social stratification shape access to talent enrichment programs and elite training (Sak, 2021; Borland, 2005; Naujoks-Schober, 2025). Social inequalities, rooted in class, cultural and social capital, regional development differentials, frequently mediate which forms of giftedness are recognized and rewarded (Freeman, 2010).

Talent identification and development is context-dependent, and it is an ecological process. Bronfenbrenner's (1979) Bioecological Model of Human Development offers a useful analytical lens *Bioecological Model of Human Development.* This ecological process unfolds multiple interrelated systems. Structural and contextual dynamics including macrosystem institutional policies, cultural norms, social networks, and micro-level family or peer dynamics, jointly shape developmental outcomes. The importance of mentorship, family investment, and institutional recognition, rather than through innate ability emerges in several studies (Feldman & Goldsmith, 1986; Sternberg, R. J., & Davidson, 2005; Subotnick et al., 2011). Gagne focuses on environmental dynamics in talent development within his *Differentiated Model of Giftedness and Talent (DMGT)* that identifies "environmental catalysts" (e.g., family, school, culture) and "intrapersonal catalysts" (e.g., motivation, personality) as critical mediators in the transformation of giftedness into realized talent.

d) Framing Talent in Global South and Global North

Inequalities and power imbalances between the global North and Global South need attention to discuss how talent is culturally framed across diverse societies and economic systems. (Stoeger, et al., 2018). One of the challenges in global south is to retain talent and human capital investment. There have been larger outflows of students and talent from the Global South to Global North. (Bhandari, 2019). Global North attracts talents from the Global South and consequently students from the Global South, the developing world, take their knowledge, skills and talents to the developed world. This causes brain drain and loss of talents for the developing countries. This is why social models and institutional policies for effective talent identification and cultivation are important in the Global South where there are several developing countries. Early industrialization and modernization mark the Global North where investment in gifted education and standardized measurement of talent started early, as in the case of Germany. (Stoeger, 2019). Identification measurements have been later enriched by integrating social dynamics, specialized educational trajectories that emphasize individual merit and measurable cognitive performance (Eurydice, 2019).

While the measurement of IQ is handy in talent identification, adopted by Global North, the fuzzy definition of giftedness provides room for including creativity, resilience, and social problem-solving developed in adversity context as observed by Frankenhuis et al., (2019) and Sak (2021). Empirical research in developing contexts shows diverse talents are valued as competence, which include community leadership, innovation in resource-constrained environments, social innovation, contributions to collective wellbeing, and adaptive intelligence. (Freeman, 2010). Acknowledging these plural forms of and fuzzy understanding of giftedness is essential for inclusivity, sustainability and preventing the reproduction of

educational hierarchies on a global scale. (Lavy & Goldstein; 2022).

2. Socio-Cultural Model for Talent Identification and Cultivation

By theoretically triangulating the models and concepts summarized above, and by synthesizing five frameworks explained below, this paper builds a multi-layer socio-cultural conceptual model, the *Sociological Talent Identification and Cultivation Model* (STICM). Organized into three concentrated layers, Contextual Foundations, Identification Parameters, and Cultivation and Developmental Paths (Figure 1), this model bridges the disciplinary gaps mentioned above and explains the socio-economic factors that affect how talent is identified and cultivated within a socio-economic system.

First, Sak's (2021) theoretical stance, *Fuzzy Theory of Giftedness,* is central to our theoretical triangulation with its argument that talent exists on evolving continuum molded by cultural and contextual conditions and boundaries, including educational institutions. Based on this, the outer layer, the Contextual Foundations of the STICM situates talent identification within sociocultural norms, socioeconomic factors, and institutional structures.

Designing the second level of the STICM benefits from Dai's (2017) *Evolving Complexity Theory (ECT)* of Talent Development, which is a meta-framework underlying the dynamic interaction among person, domain, and context and linking personal, domain-specific, developmental, and cultural dimensions of talent identification process. The ECT posits that giftedness emerges through continuous person–environment interaction within a given cultural and historical context. Thus, the ECT also serves in understanding the dynamic connectivity between the contextual and developmental layers of the STICM model and the systemic character of talent evolution.

Defining giftedness as a dynamic, developmental process rather than a fixed trait, Subotnik, Olszewski-Kubilius, and Worrell's (2011) *Psychological Science Model of Talent Development* provides substantial contribution to building the middle and inner layers of the (STICM), Identification Parameters, and Cultivation and Development Pathways. The theoretical of Psychological Model stance emphasis on potential, domain specificity in talent identification, and social and environmental interaction corresponds to our models the middle and inner layers; and it. highlight multidimensional performance indicators, adaptive learning trajectories, and individualized development strategies in talent cultivation.

Gagné's (2004) *Differentiated Model of Giftedness and Talent (DMGT)* enhances conceptual power of the STICM by highlighting how social, cultural, educational, and institutional conditions act as either catalysts in facilitating or inhibiting talent realization. Focusing on the importance of the combination of environmental and intrapersonal catalysts, the DMGT framework shows the critical role of structural and contextual variables in transforming latent potential into measurable performance.

For enhanced conceptualization of the connectivity amongst the three layers of STICM, this paper benefits from Bronfenbrenner's *Bioecological Model of Human Development* (1979). In the context the STICM, this perspective supports the recognition that environmental and structural factors (e.g., family, community, educational institutions, policy environments) co-determine the emergence and manifestation of rare talent. It contributes a systemic understanding of how multiple contextual layers, micro, mezzo, and macro systems, interact to

influence individual development.

Bridging the sociocultural, psychological, and organizational dimensions to explain how talent is recognized, nurtured, and sustained, this multi-layered STICM illustrates how rare talent emerges, is recognized, and developed through the interaction of three interdependent layers. The outer layer (Contextual Foundations) represents the sociocultural, economic, and institutional environments that define how talent is defined and valued within a particular social context. The middle layer (Identification Parameters) illustrates the multidimensional criteria in identifying rare talents, and outlines the processes through which psychological, cultural, and contextual indicators are at work in this. The inner layer (Cultivation & Development Paths) outlines the social process and mechanisms that transform talent potential into realized performance, through mentorship, education, institutional support, and adaptive development planning.

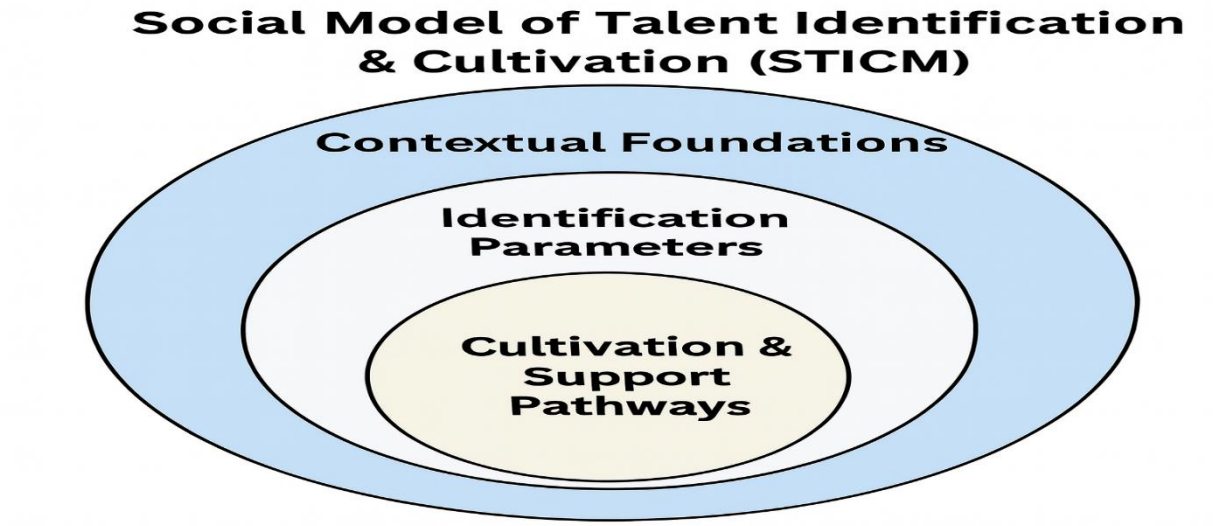
Outer Layer (Contextual Foundations): cultural norms, socioeconomic factors, institutional frameworks, equity & inclusion

Middle Layer (Identification Parameters): multidimensional performance, sociocultural fit, adaptive learning, network potential

Inner Layer (Cultivation & Development Paths**):** personalized development plans, cross-cultural mobility, inclusive recognition, well-being support

This model helps to understand the dynamic mutual relationship between macro-level forces (e.g., education systems, cultural definitions of talent, related narratives, and priorities of labor markets) and micro-level identity formation, family investment, and motivation processes that shape individual trajectories of talent development.

Figure 1: Social Model of Talent Identification & Cultivation (STICM)



a) Contextual Foundations

Based on the theoretical stances of Sak's (2021) Fuzzy Theory, Dai's (2017) Evolving Complexity Theory (ECT), and Bronfenbrenner's (1979) Bioecological Model, the outer layer, the contextual foundation of STICM, correspond to the sociocultural environment and macro level forces which defines who is perceived as "gifted", who has "rare talent" and which capacities and abilities are valued or marginalized within a society. To operationalize the

principle that talent is context-contingent, the study outlines key contextual variables, parameters, and indicators, summarized in Table 3.1.

Table 3.1. Dimensions of Contextual Foundations Shaping Talent Identification and Cultivation

Dimension	Key Considerations in Building Indicators
Cultural and Institutional Definitions & Values	Definitions of "giftedness,", "rare talent", valued domains of prestige of professions (e.g., STEM vs. arts), validation of individual vs. collective achievement
Socioeconomic Factors	Differential access to education and opportunities, urban–rural and regional disparities, Socioeconomic inequities created by social stratification
Institutional Frameworks	Education systems, institutional design in talent-hunting policies, labor market priorities and regulations
Equity & Inclusion	Identifying existing discrimination against gender groups, ethnic and linguistic diversities

b) Identification Parameters

Building upon the contextual foundations, the middle layer of STICM translates sociocultural understanding into operational criteria for identifying rare talent. Benefiting from Subotnik et al., (2011) and Dai's (2017) ECT, a dynamic, multi-dimensional, and contextually embedded system of talent identification process is tailored in STICM. What is critical here is to have validity and equity of the talent identification method in culturally diverse or resource-limited contexts where standard testing could miss unconventional or localized expressions of rare talent.

Based on conceptualizing talent as an emergent property of person through the interplay of individual potential, harmonizing with cultural system, and adaptive learning abilities across time and context, Table 3.2 presents parameters, their definition, and methods for measurement.

Table 3.2. Talent Identification Parameters

Parameters	Definitions	Methods / Indicators
Multidimensional Functioning	Include creativity, leadership, empathy, and resilience along with IQ and standardized aptitude test scores	Portfolio assessments, peer nominations, test performances
Sociocultural Adaptiveness & Distinctiveness	Evidence of innovative thinking within or bridge across cultural contexts	Narrative interviews and sociometric methods
Personal Drives and Motivations in Learning	Evidence of self-learning mastery, unconventional learning pathways, curiosity, socio-emotional resilience	School report tracking, micro-credential systems, teacher evaluations
Network Building Capacity	Capacity to generate social impact through collaboration and mentoring	Social network analysis, community feedback evaluations
Teacher Nomination	Educator-based recognition of exceptional potential in contextually nuanced environments	Structured nomination forms, reflective narratives, multi-rater evaluation panels

Added to psychometric and performance-based measures demonstrating rare talent, teacher insights can uncover latent, contextually embedded forms of potential competences that are often invisible to standardized tools. Sustained teacher reports help to identify

adaptive behaviors, socio-emotional resilience, and creative persistence expressed in both formal and informal learning environments.

c) Cultivation and Development Paths

Building upon the middle layer, another inner layer of the STICM integrates cultural expectations, organizational structures, and individual well-being. It focuses on supportive mechanism, sustaining talent development and retention, and well-being of individuals identified as possessing rare talent in a talent friendly eco systems. This is the transformation of potential into performance through environmental and intrapersonal catalysts in Gagné's (2004) *Differentiated Model of Giftedness and Talent* (DMGT). Table 3.3 presents the related strategies.

Table 3.3. Talent Development and Sustaining Strategies for Institutions

Strategy	Key Actions	Cultural and Context Sensitivity Programs and Measures
Designing Custom Tailored Development Plan	Mentorship networks, inclusive leadership and availability of flexible career pathways	Harmonizing with local needs, understanding of achievement and family expectations,
National and International Mobility	Students exchange programs, participation in international projects and contests	Teaching essentials of cultural adaptation
Symbolic Capital and Awards	Enhancing symbolic capital by rewarding gestures, honors, and decorations	Include culturally validated symbols of rewards, consider community values and innovation
Mental Health and Social Protection	Design support mechanism for well-being of talented individuals and their family and for maintaining healthy social relations	Take preventive measures against social problems such as social stigma against public recognition of giftedness

d) Implementation and Application Process

Implementation of this model needs a feedback-driven dynamic system based on reflexivity, learning, and adaptation at every stage can safeguard talent development. The road implementation map has four stages.

(I) Mapping the contextual characteristic by understanding cultural norms, national and local definitions of talent, equity gaps, institutional support and regulations

(II) Identification Method: designing multi-dimensional, participatory assessments including standardized tools, teacher evaluations and nominations, and community validation.

(III) Co-design talent cultivation path by integrating individual aspirations, cultural sensitivities, local needs and relevance without ignoring global considerations.

(IV) Establish feedback and review mechanisms, such as periodic multi-stakeholder reviews (mentors, peers, families, institutions, both local and international) to monitor and adapt strategies and sustain the cohesion between individual growth and systemic conditions is critical to guarantee that both individuals and institutions learn from experience, adapt to contextual change, and sustain talent developmental process,

At the application level, the essentials are as follows: multi-dimensional identification mechanism, an education policy integrating gifted education programs, science and innovation strategy, human resource policies integrating talent analytics systems, building local talent friendly ecosystems that respect participatory inclusion and local cultural relevance are

essential. The foundational principles of this model can ensure fairness, transparency, social equity and respect for cultural diversity in all stages of talent identification and cultivation.

1. Cases Studies of Rare Talents in Turkish Context

a) Mahir Case: Hidden Potential Rising from Disadvantaged Context

Mahir Gündoğdu's story tells how someone with rare talent can rise from tough social and economic environment. His story is an example of hidden talent in unexpected places. Mahir who was born and raised in Yemişdere village in the Çemişgezek district of Tunceli Province, has a strong inner push paved the way for realizing his potential. From a young age, Mahir undertook heavy family chores and helped his family to raise small animals after school by herding sheep and goats. Despite his hard daily grind, Mahir showed great curiosity, self-driven learning ability and self-control. During his elementary schooling he took both textbooks and novels out to the fields. He allocated much time to practice tests, studying and reading novels while watching the animals. He was able to blend learning right into his countryside life and to meet family expectations.

Demonstration of his talent came when he scored near the top on Turkey's TEOG exam that is instrumental in finding a good place in secondary education institutions. His exam result got him a full scholarship to study in the prestigious high schools, Robert College that ranks among the top and toughest to enter in Turkiye. Mahir manifested adaptation ability as he handled cultural and mental hurdles smoothly in the course of moving from village life to big-city Istanbul developing his talent in a big city. He built connections and fit into the school and social scene. His giftedness and inner drive cherished his TEOG breakthroughs in a supportive system that opened doors. The TEOG test and Robert College's aid program paved the way for talent cultivation while his teachers and the school head spotted his skills and kept motivating him. Upon completing his secondary education, he headed overseas to Tilburg University in the Netherlands. He studies math, business, and economics there now.

His story has broader implications for rare talent identification and cultivation. It exemplifies how social structures and institutional recognition can transform “silent potential” into tangible achievement when the talent cultivation opportunities present in the environment.

b) Atakan Kayalar Case: Giftedness, Stigma and Ethics of Visibility,

Atakan Kayalar is an example of a gifted child whose public visibility of giftedness created complications due to mismanagement of making his talent public. Turkish society was introduced to Atakan with a viral video in 2020 showing a 10-year-old discussing philosophy. This created huge public interest in him as national TV channels[4] tabloids branded him the "philosopher boy (“filozof çocuk.”), turned Atakan into a child celebrity. His intellectual curiosity was converted into entertainment and speculation rather than channeling his talent in development path. Responding to concerns that public interest in his giftedness could create risks of sensationalism and misdirection, the Family Ministry and psychologists warned against

[4] See CNN Türk. (2020, February 20). *Filozof Atakan Kayalar CNN Türk'te soruları yanıtladı* [Video]. YouTube Filozof Atakan Kayalar CNN TÜRK'te soruları yanıtladı, nasıl bir eğitim almak istediğini anlattı
Also see TGRT Haber. (2021, November 16). *Küçük Filozof Atakan Kayalar içini döktü* [Video]. YouTube Küçük Filozof Atakan Kayalar İçini Döktü | Yeşil Salkım İle Şeffaf Masa - TGRT Haber; Fikir Coğrafyası. (n.d.). *Bir sosyal medya fenomeni: “Filozof Atakan.”* Retrieved from Bir Sosyal Medya Fenomeni: "Filozof Atakan" | Fikir Coğrafyası

exploitative coverage. Atakan and his parents withdrew from the public eye. His sensational media coverage also triggered intense debate on child rights and digital ethics.

Atakan case demonstrates the failure points in the social handling of extraordinary ability and stigmatizing excellence. Lack of developmentally appropriate framing, consent protocols, and long-term educational support could harm talent.

c)Analysis of Mahir and Atakan Cases

The cases Mahir and Atakan presents empirical grounding for the sociocultural model for talent identification and cultivation. At the contextual level, nationwide talent identification mechanisms like TEOG exams let Mahir demonstrate his talent despite his rural background that could obscure and cause loss of a gifted person. Mahir is a rare talent that emerged from disadvantaged socioeconomic environment. Conversely, Atakan's identification emerged through media exposure that magnified visibility without institutional validation and protection.

At the development level, talent cultivation worked for Mahir who was given structural opportunities like scholarship, mentorship, and supportive educators including teachers and headmaster. Mahir's case shows how tailored talent development plans and inclusive recognition mechanisms lead to realization of potential. Atakan, however, lacked access to coordinated developmental support to transform his talent into success. Media exposure of his talent turned his visibility turned into vulnerability as he was marked as "different" within normative childhood. Consequently, Atakan and his family disappeared from public scenery to avoid further exploitation.

The case study data validates the conceptualization of rare talent as a dynamic construct evolving, and this data supports the central thesis in this paper arguing that talent cultivation is context-contingent and results from the interaction of structural opportunity, institutional arrangements and cultural framing. The data confirms the importance of institutional management of talent, equitable structures that can activate and develop talent. The data from Atakan's case provides a lesson for ethical management of talent developments and the ethics of visibility in talent recognition. Without protective framing and structured developmental support recognition as a form of unregulated exposure can transform giftedness into social spectacle and results in social stigma.

2. Institutional Framework for Talent Identification and Cultivation: Global and Turkish Model

Sociological study of giftedness needs to examine institutional arrangements and policies at the national and global level to see limitations at both level and to learn from good practices. One of the best examples of talent cultivation institutes is the United States and its National Association for Gifted Children (NAGC). It is a good example of a decentralized talent program (NAGC, 2022) where advanced teacher training and larger access to opportunities properly spot gifted kids. (Renzulli, 2016; Ford, 2010). Policy makers can learn from its flexible, context sensitive and individual-centered education program in gifted education.

As a part of national development and innovation efforts, Türkiye has developed institutions for talent identification and cultivation. The policy is a systematic approach to talent identification and development, where national policy frameworks cooperate with localized institutional implementation. As a national coordinating body, Ministry of Education (MoNE)

has committed to large scale education programs for expanding gifted education, enhancing teacher training, and promoting inclusive practices. The policy of balancing equity and excellence are key, and they are documented in the MoNE 2023 Education Vision and the 2024–2028 Strategic Plan (MoNE, 2023, 2024).

At the national level, the Ministry of National Education (MoNE) and the Scientific and Technological Research Council of Türkiye (TÜBİTAK) lead development of talent programs for gifted students (MoNE, 2023; TÜBİTAK, 2022). One of their achievements is creating Science and Art Centers (BİLSEMs). BİLSEM centers aims to make children more creative, critical thinkers, and obtain knowledge of research by giving them mentors and projects (Gürşen & Ülger, 2020). These centers work with regular schools and teach large number of students across the country. In identification and selection of gifted students they use diverse standard tests, teacher evaluation and nomination (Sak, 2021).

TÜBİTAK targets early engagement of children with scientific inquiry and innovation and directly contributes to talent identification and cultivation through scholarship programs, national competitions, and research-oriented platforms such as the TÜBİTAK 2204-A High School Research Projects Competition and the 2204-B Middle School Research Projects Competition. (TÜBİTAK, 2022).

There are public and private institutions. The Prof. Dr. Baykoç Gifted and Talented Institute is one of the private one that provides one-on-one mentoring to help pupils of all levels, from normal to super gifted. (Baykoç, 2014). This center is a good example of a talent development preprograms that are based on the needs of individuals, paying attention to their well-being and social protection.

All these institutional efforts are not free from challenges in translating potential in action and translating policies into classroom practice. Limitations are listed as shortage of teacher training and limitations in financial resources, and regional and income disparities (Dönmez & Sak, 2022). Nevertheless, individual cases, such as Mahir Gündoğdu, demonstrate how human agency, personal resilience and persistence can meet structural opportunities and can enable gifted individuals to succeed. The digital avenues and social media have potential for talent recognition if it is ethically managed.

Conclusion and Policy Recommendations

This paper focuses on conceptualizing and operationalizing how talent emerges, being identified, and cultivated within social systems. Empirical grounding from Turkish case studies and synthesizing the current sociological theories of talent studies substantially support the STICM main arguments of this model: rare talent and giftedness are not innate attributes, but they are socially negotiated, cultivated and contextually mediated phenomena. The STICM conceptualizes that the cultivation of rare talent as a social and ecological process involving education systems, policy frameworks, social networks, ethics in selection and visibility, and cultural norms.

Based on the case studies, his paper formulates three conclusions. First, Türkiye where despite certain level of development, regional disparities, social stratification and institutional limitations can constrain social mobility, a talent from disadvantaged background can be lost or emerge. Thus, early and context-sensitive identification is critical. Secondly, access to

structural opportunities, despite their limitation, can increase the likelihood of talent cultivation thanks to Türkiye's investment in gifted education by TUBITAK and MoNE. Türkiye's development policy prioritizes talent identification mechanism not only as educational priority but a strategic dimension of national progress at the time of digital transformation. Thirdly, the paper emphasizes the importance of embedding talent cultivation within equitable, networked, and ethically grounded systems. As exemplified in the two Turkish cases, studies illustrate the risks of losing talent if talent is misdirected. Directing a gifted child into proper education programs and into shared social capital increases the likelihood of both nurturing, developing and retaining talent.

The third conclusion is the importance of individual agency (e.g., Mahir's intellectual curiosity and persistence). However, talent can be lost with the lack of proper cultural framing of talent, identification mechanisms and channels, institutional opportunities (e.g., scholarships and supportive teachers). The risk of losing talent can result from social inequality and regional disparity or from mismanagement of the public visibility of talent, as in the case of Atakan, a case of hyper-visibility without protection. His giftedness was distorted through media sensationalism. and social fascination and gave us a lesson, the "ethics of visibility" in rare talents.

Both Türkiye and MENA countries have established several public and private educational centers, and they have been developing institutional arrangements for gifted and talented individuals (listed in Appendix A). Based on the STICM model and the current literature, the paper formulates the following policy recommendations

a) Develop Context-sensitive Talent Identification Mechanism

Training teachers for identification of talents in rural and disadvantaged regions, note that fact that developing countries still have rural urban disparity.

b) Built National and Regional Talent Zones and Networks.

Establish and coordinate nationwide talent policy and centers, following the EU models mentioned above. Schools, youth clubs, NGOs would be turned into talent zones for equitable outreach.

c) Integrated Institutional Arrangements and Policy

Develop strategy for talent development and retention, bridging all stakeholders, schooling including ministries of education, science, culture, and labor in with innovation and employment ecosystems.

d) Inclusion and Social Equity

Invest in micro-scholarships, teacher training and family engagement to prevent losing talent particularly in disadvantaged regions. Increase access to national and global knowledge networks.

e) Ethics of Talent Visibility

Prepare guiding principles for publishing gifted minors and inform media and public institutions and families about the risks of sensational exposure of talent.

f) National Retention Policy

Bridge gifted education with higher education, research, and entrepreneurship domains to retain emerging talent within Türkiye's innovation system.

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