Title: From Invisible Talent to Systemic Risk: Why Modern Societies Cannot Rely on Behavior-Based Ability Assessment

Essay:

Introduction

Disability and neurodivergence are not marginal conditions affecting a small minority; they are enduring features of human populations across the life course. According to the World Health Organization, approximately 1.3 billion people nearly 16 percent of the global population live with some form of disability, encompassing physical, sensory, cognitive, and neurodevelopmental differences (WHO, 2024). Yet the significance of this fact extends far beyond questions of inclusion or social justice. At scale, the systematic failure to recognize cognitive ability represents a structural weakness in how modern societies govern talent.

Across education systems and labor markets, ability is still largely recognized through narrow behavioral proxies: fluent speech, social ease, rapid conformity to interactional norms, and performance under evaluative pressure. These criteria are treated as neutral indicators of competence, despite growing evidence that they systematically misrepresent the abilities of neurodivergent individuals and others with atypical cognitive or communicative pathways (Chapman, 2020; Mottron, 2011). What appears as an individual mismatch thus accumulates into a population-level loss of cognitive capital.

This failure is not merely ethical in nature; it is increasingly economic and political. Advanced economies facing demographic aging, labor shortages, and rising skill complexity cannot afford assessment systems that filter out ability before it becomes visible. OECD data show that employment gaps for persons with disabilities persist not because of insufficient capability, but because evaluation mechanisms privilege behavioral normality over cognitive competence (OECD, 2024). At a systemic level, such mechanisms transform latent talent into long-term productivity loss, undermine the legitimacy of merit-based selection, and weaken public trust in institutions tasked with allocating opportunity.

The problem begins early. In educational settings, children whose cognitive strengths do not align with expected behavioral performances often fail to be recognized as capable, despite clear evidence of advanced reasoning, pattern recognition, or creative problem-solving. During my academic training in an art-therapy classroom with autistic adolescents, I observed this dynamic repeatedly. One student spoke four living languages fluently and solved complex problems with exceptional speed. Yet when a new evaluator entered the room, he became silent not due to incapacity, but because of anxiety triggered by behavior-centered assessment structures. In such moments, ability did not disappear; it simply became institutionally invisible.

This article argues that the persistence of behavior-dependent assessment constitutes a form of policy failure. By equating observable social performance with cognitive ability, systems systematically exclude talent that does not conform to dominant interactional norms. Technological tools have entered education and employment as partial solutions, yet many replicate the same assumptions at scale, reinforcing exclusion under the guise of efficiency.

In response, this article proposes the Hidden Ability System (HAS): an artificial-intelligence-based framework designed to identify cognitive ability independently of behavioral display. Rather than asking individuals to adapt to assessment systems not designed for their minds, HAS seeks to redesign

assessment logic itself. By shifting the focus from how ability is expressed to how cognition unfolds, HAS aims to transform hidden ability into a visible, governable resource. In an era defined by demographic pressure, cognitive diversity, and increasing demand for skilled human capital, recognizing ability without tying it to behavioral identity is no longer an ethical preference; it is a policy necessity.

The Invisible Gap in Ability Assessment

The gap between individuals' actual cognitive abilities and what becomes visible within formal assessment structures is typically not the result of individual error or insufficient talent. Rather, it emerges from systems that treat social behavior and verbal expression as direct indicators of cognitive ability, an approach shown to be ineffective and inequitable for many neurodivergent individuals.

In competitive contexts, reliance on face-to-face interviews and speech-based assessments can obscure applicants' abilities due to assessment logic rather than cognitive weakness. The International Labour Organization (ILO, 2022) reports that such practices disproportionately exclude individuals with atypical communication patterns. Findings from the Japan Institute for Labour Policy and Training (JILPT) and the OECD show that persistent emphasis on oral assessments in Japanese higher education and labor markets limits recognition of individuals with heterogeneous cognitive processing pathways. At the same time, the UNESCO Global Education Monitoring (GEM) Report (2023) indicates that digital inequality in parts of Africa constrains the use of assessment tools independent of social behavior.

This misalignment persists in employment outcomes. U.S. Bureau of Labor Statistics data (2024) show that unemployment among persons with disabilities is nearly double that of those without disabilities. The OECD (2024) attributes this disparity not to ability deficits, but to mechanisms prioritizing "standard behavior" over cognitive competence. Deloitte (2024) further demonstrates that neurodivergent individuals even with equal or higher ability face structural barriers to employment and advancement.

Despite technological advances capable of revealing cognitive patterns, continued reliance on behavior-centered assessment reflects a gap in talent governance. Without behavior-independent mechanisms, systems systematically exclude ability and lose cognitive capital at scale. The world still lacks a reliable framework for assessing cognitive ability independently of social behavior one that can translate ability into educational and professional opportunity without requiring conformity to expected behavioral performance.

The Intersection of Technology, Policy, and Demography in Ability Assessment

The use of artificial intelligence in educational and occupational assessment has expanded rapidly, driven not only by technological progress but also by demographic and institutional pressures. Workforce aging, declining working-age populations, and increasing cognitive diversity have reduced the effectiveness of traditional human-judgment based assessment systems (OECD, 2019). As a result, systems are expected to recognize ability across diverse cognitive pathways an expectation misaligned with fixed, behavior-centered models.

Technological tools have therefore entered talent policy as scalable solutions. For many governments, this shift reflects political responses to budget constraints, skill shortages, and demands for large-scale accountability. In practice, technology simplifies complex decision-making.

However, what is often labeled "ability assessment" functions less as talent discovery than as a mechanism for reducing institutional uncertainty, even when this comes at the cost of excluding real ability. Research on algorithmic hiring shows that systems relying on conventional behavioral data tend to reproduce existing inequalities. Bogen and Rieke (2018) demonstrate that many such tools replicate institutional assumptions about "fit" and "optimal performance," leading to systematic exclusion of individuals with different communication or presentation styles despite cognitive or professional qualification.

Demographic change intensifies this tension. Neurodivergence research, with autism as a salient example, shows that communicative differences render interview-based assessments inherently problematic. Kapp et al. (2013) argue that many assessments implicitly treat neurotypical social norms as benchmarks of ability, causing autistic individuals' cognitive strengths to be overlooked due to misalignment with interactional expectations. Similar misinterpretations affect older adults, individuals with social anxiety, and those with divergent linguistic or cognitive pathways trends amplified by workforce aging and diversified educational trajectories (OECD, 2019).

At the policy level, assessment validity and fairness become central concerns. Algorithmic systems grounded in historical and behavioral data may produce institutionally efficient decisions that nonetheless result in structural exclusion, transforming technical error into large-scale policy failure (Bogen & Rieke, 2018). Floridi et al. (2018) warn that deploying intelligent systems without clear definitions of competence and responsibility risks undermining public decision-making legitimacy. Policymakers thus face a structural conflict between efficiency and equity.

evidence suggests that the convergence of technology, policy, and demography in ability assessment leads to structural impasse unless assessment logic is fundamentally redesigned. This impasse cannot be resolved through minor behavioral adjustments or the mere addition of technology. Without interventions capable of identifying cognitive ability independently of behavioral display and from early developmental stages systems only increase complexity while deferring the costs of policy error.

Proposal

This article proposes the Hidden Ability System (HAS) as a policy-level intervention addressing a structural failure in contemporary talent governance. Across education systems and labor markets, cognitive ability is still largely inferred from behavioral performance, such as verbal fluency, social ease, and conformity under evaluative pressure. While often treated as neutral indicators of competence, these criteria systematically misrepresent the abilities of individuals with diverse cognitive and communicative pathways, resulting in large-scale exclusion of usable human capital.

From a policy perspective, this failure is no longer marginal. Societies facing demographic aging, labor shortages, and increasing skill complexity cannot afford assessment regimes that filter out ability before it becomes visible. Persistent employment and education gaps among persons with disabilities are not primarily driven by insufficient capability, but by evaluation mechanisms that privilege behavioral normality over cognitive competence. At scale, this produces long-term productivity loss, undermines the legitimacy of merit-based selection, and weakens public trust in institutions responsible for allocating opportunity.

The Hidden Ability System is designed to correct this failure by introducing behavior-independent ability assessment as a decision-support infrastructure. Rather than evaluating how individuals present themselves socially, HAS focuses on cognitive processes directly. Through structured, task-based engagements, the system analyzes problem-solving strategies, decision pathways, learning dynamics, and adaptive responses to feedback. These engagements are intentionally designed to minimize reliance on language, social signaling, and performative interaction, thereby reducing systematic bias introduced by behavior-centered evaluation.

HAS is not intended as a diagnostic instrument, nor as an automated decision-maker. Its policy value lies in enhancing the accuracy and fairness of human judgment. By providing more stable and behavior-independent data on cognitive ability, HAS supports better-informed decisions in education, academic guidance, recruitment, and workforce development. Governance frameworks must therefore ensure transparency, auditability, and the right to human review to prevent misuse or overreach.

Critically, HAS enables a life-course approach to talent governance. Ability recognition within the system is conceived as a longitudinal process rather than a single high-stakes evaluative moment. Early identification of cognitive patterns allows educational and developmental pathways to be aligned before repeated assessment failure leads to disengagement or skill loss. Over time, this alignment improves policy coherence across education, labor, and inclusion domains.

In societies where economic resilience, institutional legitimacy, and social cohesion increasingly depend on effective use of cognitive resources, redesigning assessment logic is not optional. The Hidden Ability System represents a shift from compensatory inclusion policies toward preventive talent governance. Recognizing ability independently of behavioral identity is therefore not merely an ethical aspiration, but a strategic policy requirement.

Risks and Limitations

Despite its potential, HAS is neither a risk-free nor a self-sufficient solution, and its implementation requires caution. From a technological perspective, any data-driven system may reproduce latent biases; if task design or data sources rely on dominant norms, the removal of overt behavior-centered criteria may merely reintroduce them in subtler forms. Transparency and institutional oversight are therefore essential to mitigating this risk.

At the institutional level, in the absence of clear governance frameworks, HAS could become an unchallengeable instrument in educational or employment decisions. The elimination of behavioral assessment must not lead to the exclusion of human judgment or the possibility of review and appeal.

Reliance on digital infrastructure may also exacerbate inequalities of access. Particularly in the case of children, the use of HAS must be accompanied by ethical safeguards to prevent premature labeling or irreversible decisions.

HAS should not be regarded as a final standard, but rather as a corrective tool aimed at changing the underlying logic of ability assessment not at replacing one restrictive framework with another

Conclusion

This article has argued that the persistent gap between cognitive ability and institutional recognition is not a matter of individual limitation, but a structural failure in assessment logic. By equating behavioral

performance with competence, contemporary education and labor systems systematically exclude usable cognitive capital, undermining productivity, legitimacy, and social trust. Technological scaling has often amplified this failure rather than corrected it. In response, the Hidden Ability System (HAS) reframes ability assessment as a governance challenge rather than a compensatory inclusion measure. By enabling behavior-independent recognition of cognitive processes across the life course, HAS shifts policy from reactive accommodation toward preventive talent governance. In societies facing demographic pressure, skill scarcity, and rising complexity, the ability to recognize talent accurately is no longer optional. Redesigning assessment logic is therefore not an ethical add-on, but a strategic requirement for resilient and legitimate institutions.

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