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Review Article

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A Longitudinal Case Study of Neurodivergent Struggle, Masking, and Technological Liberation in Tertiary Education

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Abstract

This longitudinal case study examines the lived professional trajectory of a high-functioning autistic educator with co-occurring dyslexia, foregrounding the emotional, cognitive, and institutional dimensions of neurodivergent experience across the lifespan. While early and mid-career phases were marked by intense productivity, they were equally characterised by repeated rejection, misunderstanding, and internalised despair arising from systemic misalignment with neurotypical expectations. Drawing on contemporary educational and neuropsychological literature, the study analyses three phases: (1) early-career struggle and misrecognition, (2) sustained masking and compensatory endurance, and (3) late-career transformation through generative artificial intelligence (AI) and assistive technologies. The findings highlight the hidden cost of masking, the structural barriers that obscure neurodivergent capability, and the transformative potential of technological mediation in restoring voice, agency, and identity. The study contributes to inclusive education discourse by reframing neurodivergence as latent capability contingent upon environmental and technological alignment.

Please listen to this piece of work in musical expression. Follow the link below. Click the bottom right-hand corner of the page, and as the page turns, the music will play.
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Keywords: Autism Spectrum Disorder, Dyslexia, Masking, Neurodiversity, Educational Leadership, Assistive Technology, Ai In Education, Lived Experience, Longitudinal Case Study

1. Introduction

Educational and organisational systems continue to privilege normative modes of communication, social interaction, and performance. For individuals with Level 1 Autism Spectrum Disorder (ASD), these expectations frequently create a disjunction between **internal capability and external recognition** [1]. This case study presents the longitudinal narrative of an educator whose career was defined not only by productivity and creative insight, but also by persistent experiences of rejection, misunderstanding, and emotional isolation. Situated within the frameworks of the "spiky profile" of cognition, compensatory functioning, and the "double empathy problem", the study explores both **what was achieved and what it cost to achieve it** [5,10,12]. The purpose is to illuminate how systemic misalignment obscures neurodivergent capability, and how technological mediation may fundamentally reshape this relationship.

2. Methodological Framing

This study adopts a **narrative longitudinal case study methodology**, integrating autobiographical data with scholarly interpretation. The subject's experience, derived from a detailed personal narrative , is presented in the third person to align with academic convention while preserving emotional authenticity. Narrative inquiry is particularly appropriate in this context, as it enables the exploration of identity, resilience, and systemic interaction over time—dimensions that are often underrepresented

in traditional empirical research on neurodiversity.

3. Phase One: Early Career – Capability Without Recognition

The subject's early professional life was characterised by **high levels of energy, creativity, and conceptual thinking**, reflecting the uneven but often exceptional capabilities associated with autistic cognition [5-6]. He demonstrated the ability to move fluidly between detailed analysis and big-picture system design, contributing meaningfully across diverse professional contexts.

Yet, this capability was accompanied by a deeply felt contradiction: The more he contributed, the less he felt understood.

Written communication, significantly impacted by dyslexia, became a persistent barrier to recognition. Ideas that were conceptually rich and strategically valuable were frequently misunderstood or dismissed due to their form rather than their substance .

This led to a recurring cycle:

- Intensive intellectual effort
- Submission of work
- Misinterpretation or rejection
- Internal questioning of competence

Over time, these experiences accumulated into a **quiet but profound sense of despair**. The subject experienced growing professional isolation and a persistent feeling of being misaligned with the expectations of those around him. This reflects broader findings that individuals with Level 1 ASD often experience **invisible struggle**, where capability masks unmet needs [9].

4. Phase Two: Masking, Compensation, and the Cost of Survival

As the subject progressed through his career, he developed increasingly refined strategies to navigate environments that did not naturally accommodate his cognitive profile. Central among these was **masking**, or the deliberate adaptation of behaviour to conform to neurotypical norms.

He learned to:

- Rehearse and script interactions
- Mimic communication patterns
- Suppress natural responses
- Overcompensate through excessive preparation

While effective in maintaining professional standing, masking imposed significant cognitive and emotional costs. Beneath outward competence lay:

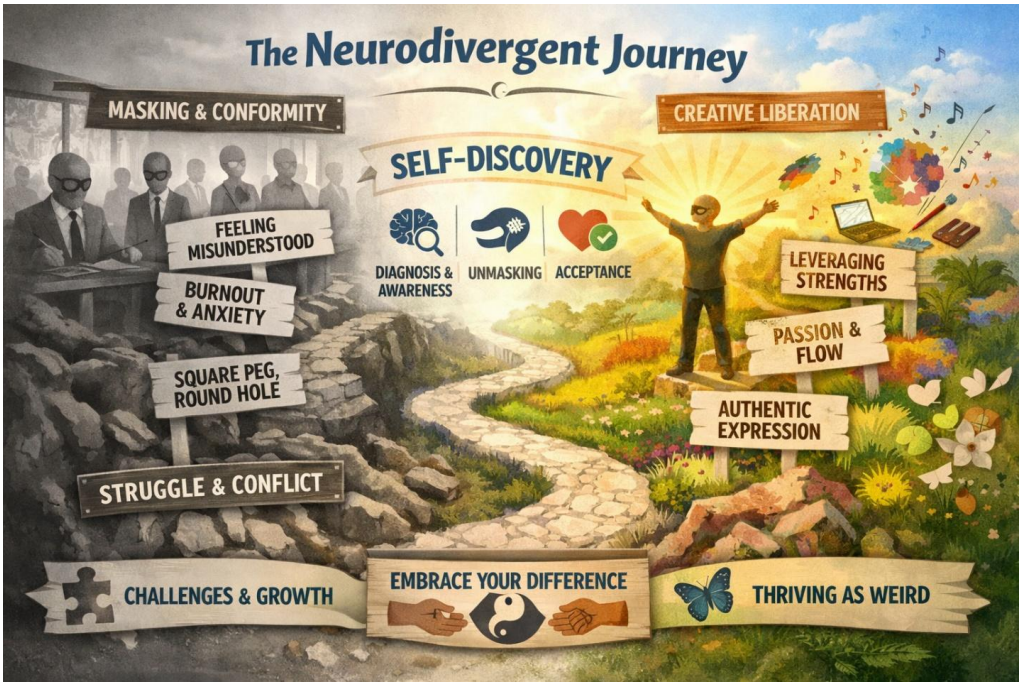
- Chronic fatigue from sustained self-monitoring
- Emotional strain from inauthentic performance
- Erosion of personal identity

These experiences align with literature linking masking to burnout and psychological distress in autistic adults.

The subject's experience also reflects the **double empathy problem**: while he expended considerable effort to understand others, this understanding was rarely reciprocated [12].

Compounding this dynamic was the presence of dyslexia, which created a persistent **expressive bottleneck**, limiting the translation of internal cognition into externally acceptable formats [7-8].

Despite these barriers, the subject persisted through what may be described as **hyper-determination**—an internally driven commitment to succeed regardless of systemic misalignment. This strategy enabled survival, but not ease.



5. Phase Three: Technological Mediation and Neuro-Emancipation

A profound turning point emerged with the introduction of voice-to-text technologies and **generative AI**. These tools effectively removed the long-standing barriers associated with dyslexia, allowing the subject to express complex ideas with clarity and fluency .

For the first time:

- Internal cognition translated seamlessly into written expression
- Ideas were received and understood as intended
- Creative output expanded significantly

This shift was not incremental but transformative. The subject experienced a transition from constrained productivity to **creative flow**, producing academic, literary, and conceptual work with newfound freedom. Simultaneously, retirement reduced the necessity for sustained masking, removing the dual burden of performance and social adaptation. The result was a state of **alignment**, in which internal capacity and external expression were fully integrated. This phase represents what may be termed **neuro-emancipation**—a liberation of capability through technological and contextual change [3-4].

6. Patient/Author Voice: Lived Experience

For much of his working life, he lived with a quiet contradiction. He knew he could think, create, and see patterns others could not. Yet when required to express these ideas in writing, the clarity dissolved. Work that held depth and meaning was often rejected—not for lack of substance, but for lack of form. Over time, rejection became familiar. Misunderstanding became expected. Beneath outward persistence grew an internal question: "*Is it me*?"

He responded by working harder—rehearsing interactions, masking differences, and pushing himself beyond sustainable limits. This effort enabled success, but at a cost: exhaustion, isolation, and a persistent sense of disconnection. The turning point came unexpectedly through technology. With the arrival of AI and voice-based tools, the long-standing barrier to expression disappeared.

For the first time, his thoughts moved into words with clarity.

What followed was not simply improvement, but transformation:

- From rejection to affirmation
- From isolation to connection
- From effort to flow

And with that came something previously absent in such fullness: **joy**.

The capability had always been present. What changed was the ability to express it.

7. Key Messages for Educators

This case study offers the following critical insights for educators, leaders, and institutions:

- Do not equate expression with intelligence
  Students and staff may possess deep conceptual understanding that is obscured by difficulties in written or verbal communication. Assessment practices must distinguish between **thinking quality and expression format.**
- Recognise the hidden cost of masking
  Apparent competence does not equate to wellbeing. Individuals who appear to be "coping" may be sustaining significant internal strain. Proactive support and relational awareness are essential.
- Design for neurodiversity, not conformity
  Educational systems should move beyond accommodation toward **universal design**, where multiple modes of engagement, communication, and assessment are normalised.
- Leverage assistive and AI technologies as enablers
  Tools such as voice-to-text and generative AI are not shortcuts, they are **equity mechanisms** that allow neurodivergent individuals to demonstrate capability without unnecessary barriers.
- Value relational understanding (the double empathy lens)
  Communication breakdown is mutual, not unilateral. Educators must develop **reciprocal understanding**, rather than expecting neurodivergent individuals to carry the full burden of adaptation.
- Create environments where authenticity is safe
  When individuals are not required to mask, both performance and wellbeing improve. Psychological safety is foundational to inclusive excellence.

8. Discussion

This case study highlights the systemic nature of neurodivergent challenge within education. The subject's early experiences of rejection were not due to lack of ability, but due to **misalignment between cognitive style and institutional expectation**. Masking enabled participation but obscured need, reinforcing a cycle in which support was neither requested nor provided. The introduction of AI disrupted this cycle, demonstrating the transformative potential of technology to act as a **cognitive equaliser**. The findings underscore the need for a shift from deficit-based models toward **capability-centred frameworks of inclusion.**

9. Conclusion

This longitudinal narrative is ultimately a story of endurance, misrecognition, and liberation.

For decades, the subject navigated a world in which his capability was only partially visible, constrained by systems that privileged form over substance. The emotional toll—marked by isolation, exhaustion, and quiet despair—was significant.

Yet the latter phase reveals a powerful truth:

The capability was never absent. The barrier was in its expression. When that barrier was removed, what emerged was not new ability, but long-held brilliance finally made visible.

This case challenges educators and institutions to consider how many others remain similarly unseen—not due to lack of potential,

but due to systems not yet designed to recognise them.
Follow the link https://heyzine.com/flip-book/23406e4932.html to hear the musical presentation of this medical narrative.

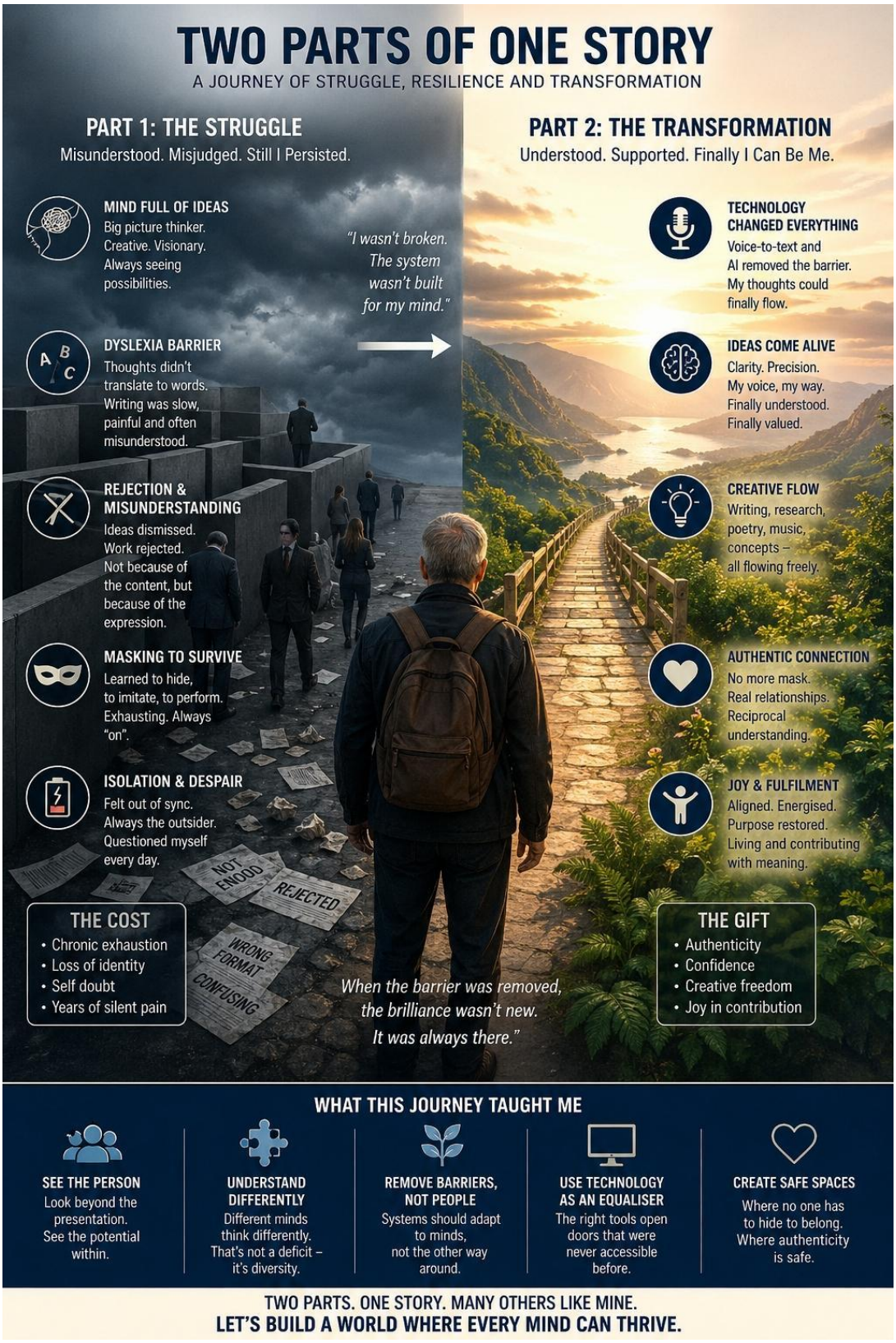


Figure 2

References

1. American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders*. American Psychiatric Association Publishing.
2. NeuroSpark Health [2026]. Level 1 Autism in adults: experiences, challenges, and strengths [Internet].
3. AI-powered assistive technologies for improved accessibility [2024]. ResearchGate.
4. Breaking barriers—the intersection of AI and assistive technology. J Pers Med. 2024,14(2):162.
5. Spiky profiles in autism: skill variation [2026]. Carescribe.
6. Baron-Cohen, S. (2002). The extreme male brain theory of autism. *Trends in cognitive sciences, 6*(6), 248-254.
7. Autism and dyslexia: are they linked? Above and Beyond Therapy, 2025.
8. Frith U. Autism and dyslexia: a glance over 25 years. J Cogn Neurosci. 2012,24(12):2243–51.
9. National Autistic Society. Autism profiles: Level 1 and the 'invisible' struggle, 2025.
10. Livingston, L. A., & Happé, F. (2017). Conceptualising compensation in neurodevelopmental disorders: Reflections from autism spectrum disorder. *Neuroscience & Biobehavioral Reviews, 80*, 729-742.
11. The role of AI in supporting executive function. J Educ Technol Soc. 2024,27(1).
12. Milton, D. (2020). The double empathy problem.