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AMO perspectives on the well-being of neurodivergent human capital

Abstract

Purpose Existing management research and management practices frequently overlook the relationship between the above-average human capital of highly functioning neurodivergent employees, their subjective well-being in the workplace and performance outcomes. This paper calls for greater attention to the hidden human capital associated with neurodiversity by mainstreaming implementation of neurodiversity-friendly policies and practices.

Approach - Drawing on the ability, motivation and opportunity (AMO) framework, this conceptual paper integrates research on employee neurodiversity and well-being to provide a model of HR-systems level and human capital development policies, systems and practices for neurodivergent minorities in the workplace.

Findings - This paper illustrates that workplace neurodiversity, like biodiversity, is a natural phenomenon. For subjective individual psychological and organisational well-being, neurodivergent employees require an empathetic culture and innovative talent management approaches that respect cognitive differences.

Practical implications - The case is made for neurodivergent human capital development and policy-makers to promote inclusive employment and decent work in a context of relatively high unemployment for neurodivergent individuals.

Originality - This paper extends current debates on organisational equality, diversity and inclusion to a consideration of workplace well-being for highly functioning neurodivergent workers. It calls for more equitable and empathetic approaches to investing in employees with neurodevelopmental and cognitive disabilities.

Keywords AMO model, HR practices, Human capital, Neurodiversity, Well-being

Paper type Conceptual

Introduction

Are you aware of the superpowers that are shared with Albert Einstein and theoretical physics, to Jennifer Aniston and acting, to Greta Thunberg and environmental activism? The common theme here is they are all neurodivergent. Neurodivergence refers to a natural range of differences in human brain functions in the workplace based on alternative thinking styles, such as **attention deficit hyperactivity disorder (ADHD)**, autism, dyspraxia and dyslexia. Prominent companies are increasingly leveraging the above average abilities of high functioning neurodivergent employees as a source of human capital for competitive advantage (Krzeminska *et al.*, 2019). This is because highly functioning neurodivergent individuals often possess unique abilities akin to human superpowers that are likely to make them excel in professional settings (Austin and Pisano, 2017). However, many organisations still unintentionally exclude or discard neurodivergent talent (Scott *et al.*, 2019) based on innocent assumptions of employee homogeneity (Winterton and Cafferkey, 2019).

Indeed, neurodivergent employees are often barred from work opportunities and experience significant levels of employment exclusion (Knapp *et al.*, 2009). Those who secure employment frequently experience isolation (Hedley *et al.*, 2018), stigmatization (Müller *et al.*, 2003), and stereotyping and biases (Maroto and Pettinicchio, 2015; **Premeaux, 2001**) with negative impact on their well-being and mental health (Mastroianni and Storberg-Walker, 2014) and disappointing employment outcomes (Tomczak, 2020). However, from a strengths-based perspective, the problem does not lie with neurodivergent individuals but with the limited opportunities for engagement and growth (Johnson *et al.*, 2020) and employment practices that fail to acknowledge that the concept of well-being is pluralistic (Hagner and Cooney, 2005; Krzeminska *et al.*, 2019).

By providing a conceptual model **underpinned by a literature review** to explore how the abilities, motivations, and opportunities for neurodivergent individuals can be enhanced in the workplace, the article makes several contributions to existing employee relations literature. First, it takes neurological developments traditionally regarded as atypical and conceptualizes them as normal human variations (Jaarsma and Welin, 2012). By highlighting extraordinary knowledge, skills, and abilities offered by neurodivergent individuals, a nuanced and less obvious consideration of human capital that resides in a specific category of people is presented. Second, the well-established Ability-Motivation-Opportunity (AMO) framework is adopted in an adapted version (Kellner *et al.*, 2019) to enhance our understanding of workplace well-being from the perspective of neurodivergent minorities. Third, this paper explains how perceptions of, and reactions to the same HR practices differ for neurodivergent and

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neurotypical employees. In doing so, it addresses the call by Cafferkey *et al.* (2019) to move away from universal HRM as a route to positive employee outcomes and it facilitates a more accurate reflection of organisational reality (see also: Kinnie *et al.*, 2005) for disadvantaged members of society. Finally, while diversity management is a core competency for HR scholars (Bierema, 2010), the areas of study are largely limited to age, gender, and race with little emphasis paid to neurodevelopmental and cognitive disability (Procknow and Rocco, 2016). Our study adds to the existing limited research scrutinizing how neurodivergent human capital could be integrated into organisations and developed for organisational performance and employee satisfaction.

This paper is structured as follows. First, we discuss the literature review methodology and key debates on human capital and neurodiversity in organisational settings. Second, building on the dynamic AMO model, we investigate the abilities and motivations of neurodivergent individuals and consider what organisational practices can enhance these. Finally, we discuss implications for future research and practice.

Literature review methodology

To review the existing literature, we identified human capital, neurodiversity, and well-being studies in three ways. First, we engaged in a manual scan of leading HR and management journals rated two and above in the 2018 CABS Academic Journal Guide, journals in the field of developmental disabilities, professional body literature, and key textbooks. Second, we conducted a comprehensive web-based search of relevant themes (e.g., neurodiversity at work, neurodiversity and well-being) using several electronic databases (e.g., Business Source Premier, Web of Science, Google Scholar) covering the last three decades (1991-2021). Third, we further scanned the references lists from the articles identified through the first two methods. This strategy was aimed at the specific question: how can we support the well-being of neurodivergent human capital in the workplace? The subsequent analysis resulted in a development of a conceptual model of neurodivergent abilities-motivation-opportunities for HRM research. Importantly, we do not intend to be exhaustive with our model, but the constructs we chose illustrate possibilities for neurodiversity research.

Human capital and neurodiversity

Human capital generally describes the knowledge, skills, and attitudes that make employees assets to organisations (Beardwell and Thompson, 2017). This paper supports Winterton and Cafferkey’s (2019) argument that human capital is preferable to human resources to conceptualise workers. Human resources are exploited for organisational advantage and human

capital, which is owned by individual employees, needs to be invested in (Cappelli, 2020) by organisations. This perspective thus advocates creating opportunities for development (Garavan *et al.*, 2001) and emphasises that the way in which human capital is managed is vital for organisational success (Davenport and Prusak, 1998).

To manage human capital, it is important to recognise that distinct categories of employees have different needs and require specific HRM practices to contribute to organisational performance (Kinnie *et al.*, 2005). For instance, HR practices may have different effects based on employment modes (Lepak and Snell, 2002), occupational identities (Cafferkey *et al.*, 2020), or employee demographic dissimilarity (Jiang *et al.*, 2017). Clearly, existing human capital typologies are not designed to consider neurodevelopmental differences in the workplace. Accommodating the values and specific needs of neurodivergent individuals, however, should be high on organisational agenda since neurodivergent individuals represent in total over 10% of the overall population (CIPD, 2018). This, in turn, poses particular challenges for organisations and HR functions.

First, hiring processes still tend to define talent too narrowly (Krzeminska *et al.*, 2019) and over-reliance on interviews introduces bias against neurodivergent people who adopt atypical forms of interaction (Patton, 2019). For instance, research highlighted difficulties with shared intentionality (Tomasello *et al.*, 2005) and reciprocating nonverbal cues (García-Pérez *et al.*, 2007). This, in turn, leads to what has been described by Heasman and Gillespie (2019: 911) as ‘mutual misunderstanding’ which can be further intensified in the interview situation. Partly as a result of such inappropriate organisational hiring practices, neurodivergent individuals become unemployed or underemployed, with estimates as high as 90% for the autistic minority group (Lever, 2016). Second major challenge is concerned with how neurodivergent talent could be integrated into organisations to overcome potential problems relating to difficulties with social interaction, stress control and maintenance of interpersonal relationships (Hedley *et al.*, 2018). Such difficulties that neuro-minorities face may be further exacerbated in light of the COVID-19 crisis. More specifically, recent changes to working patterns and new modes of communication (Davies, 2020) may have a negative impact on job experience (Kelly and Senior, 2021) and may be particularly difficult to navigate and manage for individuals who experience difficulties with adapting to change (Annabi *et al.*, 2019). In light of these challenges, we call to move away from employment perspectives that view diversity as ‘the problem’ and instead we suggest that the problem lies in inappropriate management of diversity (see also: Härtel and Fujimoto, 2015).

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Despite calls for more theoretical and empirical research on the inclusion of neurodivergent individuals into employment (Johnson *et al.*, 2020), 90% of HR professionals in the UK reported that they do not consider neurodiversity in their people management practices (CIPD, 2018). Similarly, we know little about the well-being of neurodivergent employees beyond studies that show autistic minority groups suffer disproportionately from under and unemployment (Lever, 2016) as well as social isolation (Hedley *et al.*, 2018) with potentially detrimental effects on their mental health (Mastroianni and Storberg-Walker, 2014). Consistently, this paper highlights the impact of the ways in which human capital is managed in organisations in relation to wider issues of well-being for disadvantaged individuals and employers where there are particular workforce shortages.

A dynamic model of neurodivergent AMO for HRM research

In our consideration of neurodivergent human capital, we adapt the dynamic version of the AMO model introduced by Kellner *et al.* (2019) to understand how varying needs of neurodivergent individuals can be accounted for by tailored HR practices. The model clearly delineates individual-level ability and motivation, and systems-level practices that enhance or inhibit these variables. It also points our attention to opportunities that overlap individual and systems levels. Kellner *et al.* (2019) suggest that all dimensions of the model interact with each other as well as with performance.

The utility of this model in the context of neurodivergent human capital is based on its assumptions that individuals do not blindly conform to HR intentions and the emphasis placed on the role of individual characteristics in meeting organizationally-relevant goals. By elevating the role of individuals and their specific characteristics, the model appears particularly well suited to emphasise the need for diversified HRM systems that are capable of recognizing but also effectively utilising and further developing the specific skills that reside within neurodivergent individuals. In fact, HR practices have been associated with their ability to disrupt the vicious cycle of inequality (Audenaert *et al.*, 2020). Consistently, adapting the dynamic version of the AMO model to the context of neurodivergent employees could help us not only to better utilise employees’ skills (Boxall *et al.*, 2019) but to adopt a multi-stakeholder perspective for mutual gains from HR (Troth and Guest, 2020).

Figure 1 illustrates the adapted dynamic model induced from the literature review. It relates to the abilities and motivation of neurodivergent employees at individual and system levels. It further includes opportunities designed to create an inclusive workplace environment

where both neurodivergent but also neurotypical employees can thrive and equally contribute to organisational success.

---Insert Figure 1 around here---

Abilities

Ability is the essence of human capital (Winterton and Cafferkey, 2019). It relates to individuals' skills, the occupation-relevant knowledge contextualised in work processes, as well as effectiveness in social interactions. At an individual level, neurodivergent individuals are described as having cognitive functioning different from what is seen as standard (CIPD, 2018). While not all neurodivergent individuals are the same, it is generally accepted that there are common characteristics and behaviours for each group as shown in Table I.

---Insert Table I around here---

Analytical thinking and attention to detail by individuals with autism often make them successful in a variety of roles, specifically in the IT industry (Annabi and Locke, 2019). The ability of dyslexic and dyspraxic individuals to think innovatively is useful for individual employees and teams (Doyle, 2020). Individuals with ADHD have become successful entrepreneurs because of their extraordinary ability to multitask and remain calm under pressure (Antshel, 2018).

Recruitment and selection

To realize the above-average abilities of neurodivergent individuals, organisations would have to adjust their recruitment and selection processes to reflect a broader definition of talent. Traditional interviews may constitute a significant challenge for many neurodivergent individuals (Carrero *et al.*, 2019). For instance, difficulties with making eye contact, stress control, or lack of confidence may be challenging in interview situations particularly for individuals with autism (Hagner, 2003). Austin and Pisano (2017) concluded that neurodivergent individuals are likely to earn lower scores in interviews than their less-talented neurotypical counterparts. Hands-on skills assessment over an extended period of time may be preferable (Annabi and Locke, 2019) and project-based assessment with more relaxed interactions should allow for candidates' capabilities to emerge (Hurley-Hanson *et al.*, 2020; Patton, 2019).

Training and development

Effective training and development practices not only increase the skills abilities of employees but also help organisations to boost employees' morale (Jiang *et al.*, 2012). In order to combat

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the difficulties neurodivergent employees face when processing social information, communicating, or adapting to changes (Johnson *et al.*, 2020) organisations may consider developing special training initiatives to support their skills, e.g. on-the-job interpersonal skills training, skills coaches providing individualized support or team buddies who provide assistance with daily tasks and workload management.

Motivation

Motivation relates to an individual’s willingness to use their abilities in a productive manner (Purcell *et al.*, 2003). Strategies commonly used for motivating typical employees may not resonate well with their neurodivergent counterparts (Parr *et al.*, 2013). In contrast with typical employees, individuals with autism spectrum disorders may be more motivated by menial and repetitive tasks and will find too much autonomy or skill variety as overwhelming (Doyle, 2020) while employees with ADHD are likely to be motivated only if the task is intrinsically interesting (Brown, 2017). Additionally, the prospective workplace challenges that neurodivergent employees face (see Table I) will often perpetuate stigmatizing and discriminatory practices against these individuals (Hurley-Hanson *et al.*, 2020; Silvers, 2011) with a potentially negative effect on their motivation (Whelpley *et al.*, 2020). Interestingly, the challenges associated with communication faced by some neurodivergent employees (Doyle, 2020), being less responsive to social and monetary rewards (Scot Van-Zeeland *et al.*, 2010) and placing less emphasis on impression management (Chevallier *et al.*, 2012) often lead to the false perception that neurodivergent employees are disengaged and unmotivated (Patton, 2019). In reality, however, neurodivergent individuals may differ in their social and communication skills and often struggle to have their needs met but they do not lack motivation (Morrison *et al.*, 2020: 2-3).

Communication enhancement

Prior research proved the need to facilitate communication between neurodivergent employees and employers for motivational outcomes (Scott *et al.* 2015). Since electronically mediated forms of communicating based on non-direct and non-verbal contact can improve communication processes disturbed by the difficulties in social interaction and social reciprocity (Tomczak, 2020, Tomczak *et al.*, 2020), HR can incorporate the use online communicators, chats, discussion forums and chatbots to their more formal internal communication strategy. Personal digital assistants could be further used as vocational support to reduce personal support needs on the job and improve motivation to perform (see: Gentry *et al.*, 2015). Cross-organisational neurodiversity awareness training may also be implemented as

there are positive links between disability awareness training and improved communication outcomes (Philips *et al.*, 2016). Such programmes explore, for example, coworker resentment (Jones, 1997), health-focused leadership, creating an inclusive organisational climate and diversity-related HR practices (Boehm and Dwertmann, 2015).

Job design

Although the impact of job design on employee motivation is well established, not much is known on its impact on neurodiverse employees. Initial insights from the extant literature suggest that some neurodivergent employees who experience difficulties with demands of flexibility may benefit from a structured work environment (Scott *et al.*, 2015). It is also suggested that combining consistent and predictable tasks with a job that matches the intrinsic interests of neurodivergent individuals may bring further motivational benefits (Goldfarb *et al.*, 2019). Work environment should be also designed in a way that gives neurodivergent individuals feelings of relatedness to maintain motivation. Indeed, caring workplace relationships are known to enhance well-being (Szulc, 2020) and work is portrayed as an opportunity for positive social interaction for neurodivergent employees through day-to-day communication and ad-hoc social events (Hedley *et al.*, 2018), especially in small-group settings (Dreaver *et al.*, 2020). Finally, research emphasised the role of positive reinforcement on the motivation of neurodivergent individuals (Müller *et al.*, 2003). Consistently, clear, regular and constructive feedback is likely to have a positive impact on employee's motivation to complete a task (see also: Dreaver *et al.*, 2020).

Opportunities

Neurodivergent individuals frequently face obstacles that prevent them from using their skills effectively (Patton, 2019). A number of opportunities aimed at supporting specific areas where neurodivergent individuals face the greatest difficulties can support effective interpersonal communication, coping with stressful situations, or sensory sensitiveness. These must be ingrained in wider inclusive organisational culture (Shore *et al.*, 2018) based on inclusive leadership (Randel *et al.*, 2018) and perceiving neurodivergent individuals through the prism of their strength and competence as opposed to potential deficits (see also: Annabi and Locke, 2019). Such an environment should allow for the utilization of the possibilities created by diversity not only in the context of performance-increasing effects (Roberge and van Dick, 2010) but in the context of enhanced well-being of neurodivergent individuals in the first place.

The subsequent sections introduce specific opportunities that could be adopted as potential solutions to the problematic areas identified. They comprise non-technological (e.g.,

Johnson *et al.*, 2020, Dreaver *et al.*, 2020, Hayward *et al.*, 2019) as well as technology-based interventions (e.g., Tomczak, 2020, Walsh *et al.*, 2016) used to maintain, increase, and improve the functional capabilities of individuals with disabilities.

Use of technology

Management scholars have started to recognize the opportunities for neurodivergent employees arising from digital technology development (Tomczak, 2020), specifically assistive technology (Tomczak, 2018). For instance, multi-sensor stress measurement tools and dedicated mobile applications can reduce their workplace stress (Tomczak *et al.*, 2020). HR may further consider how digitized technologies can assist them with the development of a remote form of work which gained importance in light of the COVID-19 pandemics. For instance, research suggests that the use of virtual reality within the workplace context provides a predictable and stable environment (Mpofu *et al.*, 2019) which is so much needed for neurodivergent individuals and can serve as a vocational support device.

Physical work environment

Successful employment for neurodivergent individuals requires modification of the physical work environment to meet the specific needs as a result of sensory sensitiveness (Hayward *et al.*, 2019). A network of sensors and controllers dynamically customizing ambient environment parameters such as temperature, humidity, noise, smell, and sunlight exposure can reduce distracting factors negatively affecting work comfort and efficiency (Tomczak, 2020). Office space can be further rearranged according to the needs of neurodivergent employees by providing relaxation areas - chill rooms, avoiding flashy colors, enabling work with headphones. Research demonstrates how such practices could result in increased opportunities to use neurodivergent skills more effectively with associated positive effects on one's subjective well-being (Dreaver *et al.*, 2020; Hedley *et al.*, 2018).

External relations

Since few organisations have expertise in neurodiversity, they could build relations with experts such as government and non-for-profit organisations committed to supporting neurodivergent individuals. Building on a number of case studies of prominent organizations engaged in wider neurodiversity programs, Austin and Pisano (2017) demonstrated how such social partners can assist organisations with local employment regulations, assist with recruitment and selection, delivering training and ongoing support.

Discussion

The aim of this paper was to show the increased importance of understanding the well-being of neurodivergent employees from the perspectives of human capital systems to enhance their abilities, motivations and opportunities in the workplace. The model developed in this paper emphasizes the need for talent and diversity management policies to incorporate more nuanced approaches pre-appointment and throughout the employee life cycle. **The insights generated provide several theoretical and practical cues, which we discuss next.**

Theoretical implications

Our first contribution pertains to providing a more nuanced and less obvious consideration of human capital that resides in a specific category of neurodivergent people. While we observe a tendency in research to move away from focusing on privileged workers as organizational assets (Ashley and Empson 2013) to acknowledge the contribution of disabled employees to organizational success (Luu, 2018), little is still known about the value of neurodivergent human capital. We therefore contribute to the emerging strength-based approach to mental disorders (Wiklund *et al.*, 2020) and neurodiversity (Wiklund *et al.*, 2018) where a focus is placed on a person's assets as opposed to weaknesses.

Second, we emphasize the need for examining the strengths of neurodivergent individuals and highlight potential adjustments. Our conceptual framework of interactions between individual and systems factors enables a better theoretical understanding of the conditions under which high performance of neurodivergent individuals could be achieved with associated positive impact on their well-being. We partly answer the calls for existing mainstream HRM research to stop treating employees as an undifferentiated mass (Jiang *et al.*, 2017) and to acknowledge the importance of differentiated HRM practices that capture unique needs of different groups of employees (Cafferkey *et al.*, 2020).

Third, while dominant HRM models focus largely on performance, we elevate the importance of employee well-being (Boxall *et al.*, 2016; Guest, 2017). By providing a more nuanced understanding as to how employers can promote a customised well-being agenda while supporting the abilities and motivations of neurodivergent individuals and facilitating the opportunities for human capital development, we answer Troth and Guest's (2020) calls for multi-stakeholder perspectives to explore the scope for mutual gains from HRM. This, in turn, has several practical implications discussed in the subsequent sections.

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Practical implications

The conceptual model presented in this paper can assist HR practitioners in developing a comprehensive approach to skill-, motivation-, and opportunity-enhancing practices tailored at specific needs of neurodivergent individuals to generate mutual gains. We demonstrated that traditionally understood systems-level practices may constitute a significant challenge for individuals (Krzeminska *et al.*, 2019) who vary in terms of their neurocognitive ability in comparison to a typical employee (Doyle, 2020). For instance, we suggested that traditional interviews should be de-emphasised in favour of more inclusive recruitment approaches reflecting a broader definition of talent (for practical examples see: Carrero *et al.*, 2019). Such practices will facilitate realizing the above-average abilities of neurodivergent employees only if they are combined with inclusive work designs and environments embedded in the entire organization (Obeidat *et al.*, 2016). Consistently, we advocated a number of accommodations designed to make a significant difference to the quality of working life of neurodivergent employees and to enable them to reach full potential. Accommodations such as sensory sensitive office space design, transparent work structure or clear communication channels are often cheap and simple to implement but can bring real value for all employees (see: CIPD, 2018) through ensuring high levels of job involvement and fulfilment (Torraco, 2005).

The expectations placed on line managers to be involved in HR practice (Harney and Cafferkey, 2014) point our attention to their important role in the process of carrying out the practices tailored at specific needs of neurodivergent employees. We argue that organizations should explore what it means to be ‘an effective line manager of neurodiversity’ (see: Richards *et al.*, 2019: 1917). By providing necessary resources (such as awareness training), they are likely to enable line managers to act as neurodiversity-confident HRM agents aware of the talents that neurodivergent individuals bring to the business. Since successful mentoring and coaching relationships are commonly positively associated with employee development and performance outcomes (Kim *et al.*, 2013), further support from job coaches, team buddies, and external parties may not only facilitate building on the neurodivergent talent and skills but also to provide a more holistic view on their well-being and mental health.

Organizations could further work with medical and psychology professionals to develop cross-organizational awareness training fostering understanding of neurodiversity among organizational members. Such activities are found to promote relationship building and increase support for neurodivergent employees (Johnson *et al.*, 2020: 141) and to remove the stigma associated with their employment (Hidegh & Csillag, 2013).

Future research directions

Although the topic of neurodiversity is gaining attention among management (Krzeminska, 2019) and HR scholars (Johnson *et al.*, 2020), the work in this area is largely atheoretical. Most research is interested in the effectiveness of particular workplace accommodations (e.g., Scott *et al.*, 2019) but not in the underlying processes of desirable employment outcomes (see: Goldfarb *et al.*, 2019). We, therefore, call for a wider use of theory to promote a more comprehensive understanding of how neurodiversity-friendly accommodations can be administered and how they help to achieve positive outcomes. As Vogus and Taylor (2018) suggest, using validated measures associated with diversity climate, psychological safety and inclusive leadership may be a good starting point. Similarly, extensive theories on work experience such as self-determination theory (Deci & Ryan, 2012) or job characteristics model (Hackman, 1980) can address the style of management most adaptive for neurodivergent employees in terms of autonomy support, or other social variables that promote stability and well-being (Goldfarb *et al.*, 2019).

Beyond understanding the process behind workplace accommodations for neurodivergent employees, there is an urgent need for future research to evaluate the effectiveness of such adjustments. As Doyle (2020) argues, further research in this area would enable us to see what particular adjustments work for different individuals and roles and what impact this may have on organizational performance and employee well-being.

To accurately address the challenges of neurodiversity and an increasingly challenging environment for employability and organisational sustainability (Bailey and Breslin, 2021), collaborative research between neurodiversity and organizational researchers may be particularly useful (Vogus and Taylor, 2018). Such interdisciplinary collaborations can lead to developing integrated and comprehensive solutions to the persistent problems faced by neurodivergent minorities.

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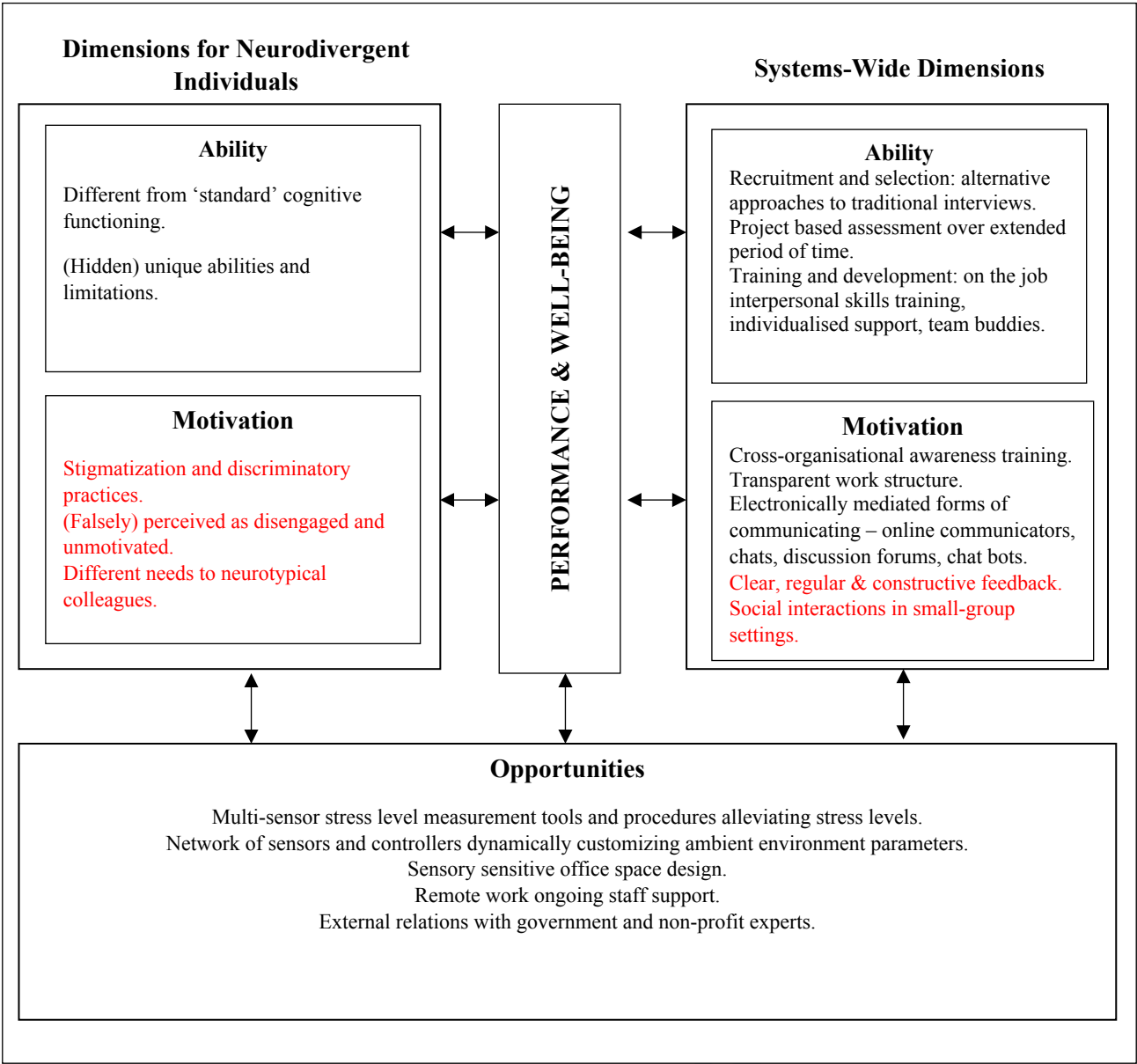


Figure 1. Dynamic model of neurodivergent AMO for HRM research.
Adapted from: Kellner *et al.* (2019)

Table I. Neurodivergent individuals' abilities

CONDITION	PROSPECTIVE WORKPLACE CONTRIBUTIONS	PROSPECTIVE WORKPLACE CHALLENGES
ADHD	Creativity, hyper-focus, energy and passion, authenticity, entrepreneurialism	Impulsive temper outbursts, hyperactivity, low frustration threshold, poor listening skills, difficulty with maintaining employment, difficulty with team-work
Autism Spectrum Conditions	Concentration, fine detail processing, memory, honesty, sensory awareness	Over- and under-sensitive to light, noise, touch, temperature, difficulty with speech and language, difficulty with stress control, poor listening skills
DCD/Dyspraxia	Verbal skills, empathy, intuition, honesty	Difficulties with planning, movements, coordination, poor spatial awareness, over- and under-sensitive to light, noise, touch, temperature, difficulty with speech and language, poor listening skills
Dyscalculia	Verbal skills, innovative thinking, creativity	Difficulty with number concepts and calculations, poor listening skills
Dyslexia	Visual thinking, creativity, 3D mechanical skills, authenticity, entrepreneurialism	Difficulty with words: reading, writing, spelling, speaking, listening; preference for non-linear thought, distractibility, poor listening skills
Tourette Syndrome	Observational skills, cognitive control, creativity, hyper-focus, innovative thinking	Verbal and physical tics, poor listening skills

Adapted from: Doyle (2020)