

# Autism, Leadership and the Canadian Armed Forces

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**Abstract** - The Canadian Armed Forces (CAF) is mandated to be an inclusive and diverse organization, reflecting the demographic of the Canadian population. As new challenges emerge within national defence, diverse cognitive skills, including those found in individuals with autism, may be increasingly valuable for solving problems related to areas such as artificial intelligence, autonomous weapons, and robotics. Despite the presence of autistic members and leaders in the CAF, there is a need for further research to determine the appropriate support and enabling conditions to effectively integrate autistic individuals into the CAF, providing them with equal opportunities to succeed. Understanding leadership from autistic perspectives and experiences is essential for the development of more inclusive leadership programs within the CAF. By gaining a better understanding of the challenges and identifying research gaps, the CAF can create more inclusive programs and policies. This paper aims to demonstrate the significant potential of the autistic community in contributing to the resolution of complex national defence problems.

**Keywords**—Neurodivergence, Autism, Leadership, Invisible Disabilities, and Canadian Armed Forces

**Note on Language**—The Autism Self-Advocacy Network promotes identity-first language to emphasize that autism is an inherent part of an individual and the condition cannot be separated from the person (Taboas et al., 2023), thus, autistic individuals will be referred to as such throughout this paper and the term neurotypical will be used as the preferred language to describe non-autistic individuals (Hughes, 2015).

## I. BACKGROUND AND MOTIVATION

Autism is described by Lai et al. (2014) as a set of heterogeneous neurodevelopmental conditions, characterized by early-onset difficulties in social communication and unusually restricted, repetitive behaviour and interests. Comorbidity with other cognitive conditions is common with an estimate of greater than 70% of autistics having concurrent conditions, with high prevalence rates of comorbid intellectual disability, attention-deficit/hyperactivity disorder (ADHD), tic disorders, motor abnormality, sleep disorders, addictions, anxiety, or depression.

Autistics also have 2.8 times higher mortality risk than the unaffected population due to co-occurring medical conditions or accidents. Individuals with autism have atypical cognitive profiles, such as impaired social cognition and social perception, executive dysfunction, and atypical perceptual and information processing. Genetics has a key role in the etiology of autism, at greater than 80% heritability, combined with environmental factors during early development (Lai et al., 2014).

The Diagnostic and Statistical Manual of Mental Disorders describes the diagnostic criteria for autism disorder in terms of deficits in social communication and social interaction across multiple contexts and restricted, repetitive patterns of behaviour, interests, or activities. Symptoms must be present in the early development period but may not become fully manifest until social demands exceed limited capacities or may be masked by learned strategies in later life. Furthermore, symptoms must cause clinically significant impairment in social, occupational, or other important areas of current functioning. Estimates of the prevalence of autism within the general population vary, however, it can be assumed that autistics are represented in the Canadian Armed Forces (CAF). This representation is assumed to be autistics who are functionally able and capable of fulfilling military service, including leadership roles (i.e. Level 1 Autistics who have very low support needs).

Autism is widely considered to be an invisible disability, which limits understanding, acceptance and support (van den Bosch et al., 2019). Communication deficits are particularly acute for many autistic individuals who struggle with nonverbal communication, including identifying facial expressions, tone of voice, and body language. The condition includes repetitive patterns of behaviours and routines, plus perseveration of thoughts and special interests. Many autistic individuals experience sleep disturbances, food sensitivities and/or food aversions. However, despite its deficits, autism can also present unique talents and strengths, including pattern recognition, hyper-focus, attention to detail, and hyper-memory (Lai et al., 2014). These strengths often translate to focused abilities in Math, Science, Engineering, Music or Art.

During the brain development of an autistic individual, both in utero and in early childhood, various brain regions develop an overabundance of neurons and communication pathways, becoming highly capable and specialized with heightened sensitivities (Silberman, 2015). This can result in giftedness but can also cause great distress for individuals whose brain regions overfire in undesirable and uncontrollable ways. In contrast, other brain regions and pathways of an autistic individual will

have a deficient number of neurons that are unable to communicate effectively with other areas of the brain. Autism is characterized more by atypical inter-neural network connectivity, than by which discrete brain regions are affected.

Due to this divergence in brain region development, with its excesses and deficits, each autistic individual will have unique gifts and talents plus unique deficits and challenges (Baron-Cohen et al., 2009). Thus, the term spectrum is quite appropriate to describe this condition. A visual representation of the autism spectrum can be likened to a heat map, with various attributes of the human condition depicted by different shades to indicate the level of prevalence or severity of deficit for that attribute in an individual. A graphical depiction of this is provided in Figure 1.

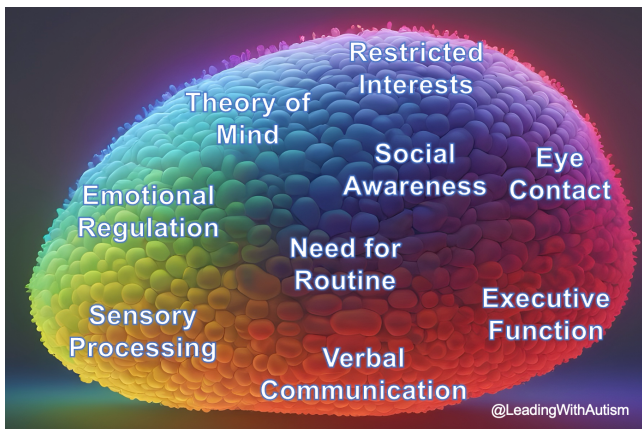


Figure 1: Graphical Representation of the Autism Spectrum

Figure 1 shows various attributes of the autism condition at varying levels of impact or proficiency as represented by gradients on the heatmap for an individual with autism. This visual analogy helps to convey the diverse and unique characteristics of individuals with autism, as well as the distinct positioning of each person on the spectrum based on their specific strengths and challenges.

A study of autism within the Canadian military context is timely and relevant as there is a growing recognition of the value that autistic cognitive profiles bring to unique problems, such as those found in military organizations (Tinsley, 2020). This is in support of CAF objectives that establish workplace culture as a focus area,

Canada as a country is made stronger because of its diversity and commitment to equity and inclusion, and so is the CAF. Diversity, equity, and inclusion are so critical to CAF effectiveness that they are set as professional virtues and a key part of our military ethos (Department of National Defence, 2023).

Understanding neurodiversity more broadly will enable the CAF to support neurodiverse and autistic leaders better while fulfilling its objectives of recruiting and retaining a diverse workforce with a strong talent brand of inclusion and diversity, which underpins many of the CAF's culture evolution goals.

While this study will investigate autistic individuals who can excel in leadership roles, it must be emphasized that the autistic spectrum is vast, ranging from profoundly disabled individuals who have extremely high care needs and cannot live independently in our neurotypical world, to individuals who use their autistic intelligence to accomplish phenomenal feats (Silberman, 2015). In general, autistics may not be well suited to all professions, either in the civilian or military sectors, as the characteristics of autism may preclude the ability to cope in certain jobs, such as those requiring immediate and rapid processing of demands or those that occur in busy and noisy environments. Thus, it is not only important for autistics who can excel in leadership roles to be mentors and role models for the autistic community but to also use their strengths and talents to better the lives and experiences of the entire demographic of autistics who continue to suffer barriers and challenges within the workplace and society.

#### *Outline of Research Methodology*

A literature review was conducted using combinations of the following keywords: autism, neurodivergence, learning disabilities, invisible disabilities, leadership, character-based leadership, and Canadian Armed Forces. While reviewing material specific to autism in the workplace, it was found often to be contained within more general research on neurodiversity. Since autism is a specific type of neurodivergence, this study has included research material on both autism specifically and neurodivergence generally. A search was conducted via the Royal Military College library, the Canadian Forces College library, and Google Scholar. Each source was analyzed critically from various viewpoints while being assessed for relevance to the topic.

## II. LITERATURE REVIEW

### *A. Neurodivergence*

It is important to recognize the strengths and skills of the neurodivergent community independent of neurotypical norms. The neurodiversity perspective encourages the exploration of individuals' different ways of thinking and working as unique skills that can contribute to the effectiveness of organizations, rather than obstacles to employability and upward mobility

which result when neurodivergent characteristics are considered deficits (Roberson et al., 2021).

As Hughes (2015) notes, neurodiversity was first defined around what was termed high-functioning autism; however, it has been since expanded to describe any style of cognitive processing that deviates from typical ways of thinking and being. Neurodivergent individuals learn, think, and behave differently than those who are neurotypical. This includes autism, but also attention deficit hyperactivity disorder (ADHD), dyslexia, Tourette's syndrome, general anxiety disorder, obsessive-compulsive disorder (OCD) and various other cognitive deviations (Hughes, 2015).

Tinsley (2020) makes a case that neurodivergent individuals are necessary to the CAF's future, and the value of their inclusion will be worth the accommodations that must be made. A comprehensive examination of the moral, legal, and operational aspects of recruiting neurodivergent individuals into the CAF was conducted, framing the discussion within the broader context of diversity and inclusion. The study aims to address recruiting shortages while promoting diversity and inclusivity within the CAF by underscoring mutual benefits to both the Canadian military and the neurodivergent community. The CAF is in a period of expansion within a highly competitive recruiting atmosphere, thus making the case that the CAF must consider new sources of talent. There is a moral imperative and operational need for diversity within the CAF and recognition of the potential benefits of recruiting autistic individuals who possess high levels of attention span and detail orientation. The legal and policy considerations related to diversity and inclusivity within the CAF were explored, highlighting the ongoing societal and legal discussions around the rights and accommodations for neurodivergent individuals in the workplace (Tinsley, 2020).

Weinbaum et al. (2023) found that within various United States National Security Organizations neurodivergent individuals outperformed neurotypical individuals at recognizing patterns in a distracted environment, on intelligence tests using nonverbal testing, and at achieving states of hyperfocus. Since national security and defence organizations require highly skilled, intellectual, and creative individuals who are motivated to lend their talents to addressing national security challenges, neurodivergent individuals who think and behave in unique ways are a great fit for what Weinbaum et al. (2023) deem "missions that are too important and too difficult to be left to those who use their brains only in typical ways" (p. 1). Some common neurodivergent strengths and unique skills pertinent to military tasks are pattern recognition, synthesis and

analysis of data, data visualization, unique problem-solving, memory, and achieving a state of hyperfocus to complete a project (Weinbaum et al., 2023). Autism is also associated with rules-based behaviour, and autistic research subjects are more likely to behave ethically even when it is at a personal cost than neurotypical subjects (Baron-Cohen, 2009), which aligns with work in classified National Security environments.

Williams (2022) explored the hypothesis that hiring and recruiting neurodivergent individuals is a competitive advantage for organizations. Neurodiversity, like other forms of human diversity, creates a diverse workforce with differing viewpoints and perspectives which drives innovation, and engagement and results in better decision-making. In addition to unique perspectives and analytical abilities, other advantages cited for hiring from the neurodiversity community include increased employee and brand loyalty and building peer-support networks of mentors to serve as positive representatives for others in the neurodivergent community. Another by-product is that organizations which hire and support neurodivergent individuals find an overall increase in communication effectiveness. This is theorized to be due to the requirement that all employees in the organization employ a direct, unambiguous, and concise communication style to accommodate those with communication deficits, increasing overall communication effectiveness in the workplace (Williams, 2022). Since concise, clear communication is not only inherent but also crucial to CAF's operational effectiveness in most domains, further study into how this phenomenon relates to and could be leveraged by the CAF would be valuable.

Once hired, however, Weinbaum et al. (2023) note that neurodivergent employees often face challenges navigating a workplace that was not designed with them in mind. These challenges include sensory overload, rigid and tightly packed schedules, unspoken social norms, and lack of clarity in instruction. Several aspects of the recruitment and hiring process can pose barriers to neurodiverse candidates. Such barriers include unclear or confusing job descriptions, complex application processes, challenges with job interviews, and the security clearance process (Weinbaum et al., 2023).

For instance, the Institute of Leadership and Management (2020) conducted a study which found a significant disagreement between the lived experiences of neurodivergent minorities versus neurotypical majority perceptions regarding reasonable accommodations. When asked whether reasonable adjustments were made for neurodivergents, fewer than half of diagnosed autists (48%) agreed that their workplace encouraged reasonable adjustments; whereas most non-autistics (75%) reported

that reasonable adjustments were adequate and inclusive of neurodivergent employees (p. 29). Similar results were found when asked whether the organization made reasonable adjustments for neurodivergent candidates during recruitment and selection. Recruitment and selection processes can present challenges to neurominorities, such as timed evaluations that place candidates under time pressures not normally present in their daily duties. This may place neurodivergent candidates at a disadvantage due to different processing speeds and abilities compared to neurotypical individuals (Institute of Leadership & Management, 2020).

Weinbaum et al. (2023) developed several recommendations for accommodating neurodiversity within national defence organizations based on a US Military viewpoint. Employees should have equal access to reasonable accommodations that mitigate the effects of sensory stimulation, such as the ability to select desk locations, noise-cancellation headphones, or do-not-disturb periods. Hiring practices could be changed to attract neurodivergent candidates, such as using direct and concise language in job descriptions and updating the interview process to align with other organizations' best practices for recruiting neurodivergent candidates. Education and understanding of neurodiversity within the workplace must be facilitated by inviting experts to present on the topic of neurodiversity, requiring empathy and psychological safety training for managers, and supporting agency affinity groups that are not tied to disability. Positive systemic change can be promoted and supported across the organization by incorporating the voices of neurodivergent employees in policy decisions (Weinbaum et al., 2023).

It must be noted that many of the recommendations and accommodations suggested by Weinbaum et al. (2023) and others in the context of a military environment may only pertain to well-controlled garrison environments, thus, further exploration is needed into how these accommodations could be applied to a field or deployed environment, if even possible. Due to the diverse range of trades within any military, a homogeneous approach is not possible, and an accommodation that works for a cyber operator who typically works in an office cubicle may not apply to an infantry soldier who works in very dynamic environment or a pilot who works in a very controlled environment. Thus, before the CAF can make comprehensive policy changes that include support not only for autistic individuals on a case-by-case basis, but for the autistic community, an in-depth study will be necessary to ensure overall effectiveness is maintained and the CAF's mandate of protecting Canada and its citizens is not jeopardized.

## B. Autism

Individuals with autism often display particularly acute communication deficits, especially in nonverbal communication. Autism can also present unique strengths, including pattern recognition, hyper-focus, attention to detail, and hyper-memory, which may be advantageous abilities within chaotic military environments; thus, the intersection of autism and military leadership requires further study. This section will explore autism in general to build a base knowledge of the condition and then the intersection of autism and leadership will be further investigated. By looking at some of the notable strengths that autistic leaders and members could potentially bring to the CAF and through the investigation of the common challenges and struggles experienced by this group a more comprehensive understanding will be gained.

Roberson et al. (2021) investigated the creativity and synthesizing attributes of autism and how these skills may relate to effective leadership. Problem-solving involves the creative process in the generation of new ideas and solutions, thus, creativity is foundational to many leadership styles, including transformational, empowerment, and leader-member exchanges. Given the cognitive influence of creativity on leader performance, the atypical lens through which neurodiverse individuals view problems may be associated with leader behaviours that are indicative of novel thinking. The term neurodiversity itself implies a divergence in cognitive processes in both idea generation and evaluation, thus, with proper enabling conditions the systematizing and synthesizing attributes of autism can be leveraged in leadership roles to great effect (Roberson et al., 2021).

Lai et al. (2014) identify that autistic individuals often have a preference and strength for processing local rather than global sensory-perceptual features, i.e. focusing on the details rather than the big picture or seeing the trees but not the forest. This preference for local processing is not a disability but rather a disinclination, and autistic individuals can be equally skilled at global processing when required. The preference for specific details as present in local processing is believed to be associated with enhanced perceptual abilities. This difference may "explain the excellent attention to detail, enhanced sensory-perceptual processing and discrimination, and idiosyncratic sensory responsivity (i.e., hyper-reactivity or hypo-reactivity to sensory input or unusual interest in sensory features of the environment) in autism" (p. 902). The preference for specific, detailed info and the ability to hyper-focus would be valuable skills in certain military tasks such as intelligence or image analysis, or leadership tasks such as scrutinizing and interpreting vast amounts

of detailed data in order to make an informed decision.

Despite its notable strengths, Lai et al. (2014) note that autism is also characterized by persistent deficits in social communication and social interaction across multiple contexts, with deficits in non-verbal communicative behaviours and social-emotional reciprocity, and in developing, maintaining, and understanding relationships. It includes restricted, repetitive patterns of behaviour, interests, or activities and repetitive motor movements. There is an insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or non-verbal behaviour with highly restricted, fixated interests that are abnormal in intensity or focus, combined with hyper-reactivity or hypo-reactivity to sensory input or unusual interest in sensory aspects of the environment (Lai et al., 2014). The atypical behaviours of the autistic condition could pose great challenges within a military environment; thus, additional research and a better understanding of this topic are necessary.

Hughes (2015) offers an analysis of autism to better understand how oppressive discursive mechanisms are disadvantageous to the autistic community by using a social lens to investigate autism in contrast to the medical model of diagnosing autism as a condition or disorder. Perspectives which limit leadership opportunities to those who are effective communicators (by neurotypical standards) are grounded in relationship-based approaches to leadership; however, if the critical disability theory is leveraged then an alternative and more balanced perspective is possible, which includes the cognitive strengths associated with neurodiversity. This enables us to look at autistic communication patterns, or even non-communication, from a new viewpoint. A consequence of the medical model is that autistic behaviours are assumed to be medical symptoms that can be diagnosed and treated. From a social model point of view, it is not an impairment that prevents disabled individuals from enjoying full inclusion in society, rather it is societal constructs that exclude disabled actors from full economic, social, and political participation. By espousing a social model view of autism, one can change their viewpoint from disability to ability (Hughes, 2015).

When autistic viewpoints and voices are not represented there is a diminished return to society. Return of value is only possible when autistic voices and experiences are heard and autistics are observed and accepted despite behaviours that differ from norms established by neurotypical society. Mitchell et al. (2021) investigated the consequences of neurodivergent individuals who camouflage or mask their behaviours, proposing that this prevents opportunities for neurotypicals to learn from cross-neurological social interactions. “This in turn means that society does not

fully benefit from the valuable contribution that autistic people could make in many spheres of life, including innovation, the workforce, and culture, to name but a few” (p. 2). While autistic individuals struggle to understand neurotypical perceptions and culture, it is equally true that neurotypical individuals struggle to understand the perceptions and culture of autistic individuals, which is known as the double empathy problem regarding communication style differences between autistic and non-autistic groups (Mitchell et al., 2021)

Williams (2022) discusses social challenges faced by autistic individuals in the workplace, such as social anxiety and social avoidance. Repeated rejection in childhood may contribute to increased social anxiety and social avoidance. Several other factors may contribute to social anxiety in an autistic individual, including sensory hypersensitivity, low tolerance or comfort with socializing, and deficits in perspective-taking, or theory of mind (ToM). Theory of mind measures, or mentalizing abilities, refer to the understanding of the mental states of oneself and others and perspective-taking. Research suggests that autistic individuals may have acute deficits with instantaneous processing of ToM information from facial expressions, vocal tone, or hand gestures. Considering nonverbal communication is a significant aspect of workplace culture which supports the establishment of social hierarchy, fostering co-worker relationships, and expressing personal attributes and emotions, any difficulty in understanding others’ mental states could contribute to high social anxiety and restricted behaviour among autistic individuals (Williams, 2022). Autistic role models and mentors within all ranks of the CAF could serve to alleviate a number of the social interaction challenges faced by autistics.

Lai et al. (2014) posit that ToM deficits are core to social-communication challenges experienced by autistics. From a neuroscience point of view, numerous brain regions including the medial prefrontal cortex, superior temporal sulcus, temporoparietal junction, amygdala, and fusiform gyrus are hypoactive in autism across tasks related to social perception and cognition.

Dysfunction in the so-called mirror system (i.e., active brain regions both when an individual acts and observes another person performing the same action) has been inconsistently implicated in imitation or observation of action or emotion in autism. (p. 902)

van den Bosch et al. (2019) investigated autistic role models within the leadership domain through the conduct of a case study of a consumer-run organization by and for

people on the autism spectrum in the Netherlands. To counterbalance the dominant narrative of autism being a deficit, an alternative construction of autism is proposed in which autism is described through the lens of human diversity. As more autistic individuals enter leadership positions within the workforce, a case is made for building a peer support network of autistic individuals who serve as role models, mentors, peers, leaders and positive ambassadors of the abilities of autistic individuals. It was also found to be beneficial for autistic employees to be encouraged to have open discussions about the various aspects of autism at work and to serve as role models for other employees who might be inclined to mask their autism and consequently be excluded from gaining appropriate support. Leadership positions held by autistic individuals are important for self-advocacy in how autism is explained and represented to the public, and to influence how financial support is allocated (van den Bosch et al., 2019).

Several traits of autism are advantageous to military roles, providing a strong business case for hiring autistic individuals, yet, underemployment and unemployment are ongoing challenges experienced within the autistic community. Adults with autism also experience high rates of job switching along with difficulty adjusting to new work environments (Seitz & Smith, 2016). Research into autistic individuals who are denied leadership training and opportunities or are improperly supported in leadership roles is important to develop leadership development programs that are inclusive and supportive of autistic individuals.

Seitz and Smith (2016) explored five distinct approaches that leaders and managers could use to accommodate employees with autism and minimize workplace barriers with a focus on job placement, and the behaviours of supervisors. These supervisor behaviours include being accepting and understanding of the unique characteristics of autism, being flexible and accommodating to the varying needs of autistic employees, having the willingness to try to accommodate autistic employees, providing direct communication and clear instructions, and providing mental health and emotional supports in the workplace (Seitz & Smith, 2016).

Markel and Elia (2016) investigated how managers can best support employees with autism. Their study explores the current research and understanding of how human resource management functions play a role in the employment and support of individuals with autism, emphasizing the need for effective workplace design and acceptance culture to be embedded throughout an organization for it to be most effective and supportive towards autistic individuals. This can be addressed

through policies aimed at preventing employment discrimination for people with all disabilities, including autism, and the importance of providing reasonable accommodations when necessary. The impact of autism on social skills, verbal communication, and challenges with managing change, and the need for effective assessment and training to support individuals with autism in the workplace are also addressed in this study, which provides valuable insights into the employment activities and experiences of adults with autism, thus contributing to a better understanding of the challenges and barriers faced in the context of employment (Markel & Elia, 2016).

Crucial to any narrative regarding autism and workplace support is the inclusion of the lived experiences, ideas and desires of the autistic population to create a Canadian Armed Forces that is welcoming to the autistic minority. Autistic experiences should always be included in the development of personnel support and leadership development programs, however, there is an equal requirement for non-autistics to be included in the dialogue as both parties must work in tandem to reduce barriers and support changes that make employment more accessible for all.

### *C. Leadership*

By challenging leadership definitions and characteristics that are based on ableist viewpoints and focusing on the behaviours and characteristics of leaders versus transactional views of leadership, new understandings can be achieved on the notation of autistic individuals fulfilling leadership roles. Autistic individuals bring unique talents to leadership roles which challenge theories and beliefs of what characteristics are truly necessary for leadership. Misconceptions and false beliefs must be challenged, and required competencies must be reviewed.

This author postulates character-based leadership (CBL) as a possible leadership theory that could be applied to CAF leadership development programs which are inclusive of autistic individuals. This hypothesis will be further investigated in this section.

Northhouse (2019) defines leadership as “a process whereby an individual influences a group of people to achieve a common goal” (p. 16). Character-based leadership is a leadership theory that emphasizes the importance of character traits such as integrity, honesty, empathy, and trustworthiness. Character can be further extrapolated from leadership positions to the general populace of an organization or company or community. By focusing on the disposition to lead rather than the

position to lead, character can be applied to all individuals in organizations, which “broadens its reach beyond the purely positional leadership domain to management theory more generally” (Crossan et al., 2021).

Character-based leadership emphasizes positive character dimensions in leadership, describing how leaders perceive and analyze their operating environment, and how they use their skills, knowledge, and experience, combined with their inherent and acquired character traits. Character is foundational for effective decision-making as it influences what information leaders consider and evaluate, and how they convey that information to their employees based on eleven dimensions: integrity, humility, courage, humanity, drive, accountability, temperance, justice, collaboration, transcendence, and judgement (Crossan et al., 2021). Within these positive character dimensions, autistic individuals show strengths and virtues in integrity and accountability and would likely align with other character dimensions to a degree, thus these should be considered and studied within the context of autistic characteristics, behaviours and thinking patterns.

While investigating some of the difficulties that autistic leaders encounter, Williams (2022) conducted a needs assessment and developed a leadership program specifically for autistic individuals. The needs assessment primarily consisted of interviewing autistic leaders and their co-workers, including non-autistic participants. The inclusion of both autistic and non-autistic participants allowed for a more balanced and nuanced perspective of how an autism-friendly leadership development program should be structured. By utilizing both autistic and non-autistic subject matter experts, this research was able to collect experiences from individuals with differing perspectives on autism. This was seminal research that conceptualized leadership development programs specifically for developing autistic leaders (Williams, 2022).

Williams (2022) investigates leadership based on the original and enduring skills model of leadership which breaks leadership into three components: individual attributes, competencies, and outcomes. Attributes are defined in the model as more inherent or trait-like, including personality, cognitive ability, and motivation. The model also identifies three core competencies of leadership which are problem-solving, social judgment, and knowledge. These components manifest in the outcomes of performance and effective problem-solving. The enduring skills could be adapted to include autistic attributes and positive outcomes related to competencies since it emphasizes the development of specific skills and competencies that are essential for effective leadership. These skills are communication, decision-making, and

strategic thinking, which are considered enduring and transferable across various leadership contexts (Williams, 2022). CBL is similar but focuses on the ethical dimensions of leadership, emphasizing the importance of one's character, integrity, and values in guiding leadership behaviour and decision-making; thus, a study comparing the enduring skills model with CBL would inform leadership programs for autistic individuals.

Nurturing leadership character dimensions that intersect with autistic behaviours would foster an environment where autistic individuals are considered effective leaders despite having acute deficits in social or environmental domains, hence, this literature review found that most research regarding autism and workplace culture has focused on autistic workers and how both the individual and organization can adapt to create a better working environment for autistic workers. Research is lacking on how organizations may adapt to accommodate and develop autistic leaders to gain a competitive advantage in the leadership domain. Minimal material was found specifically regarding autistic individuals who are community, corporate or military leaders, thus, this study included material generalized to neurodivergent leaders while searching for linkages and gaps in research.

Roberson et al. (2021) use a critical disability theory lens for reframing assumptions about leadership, postulating that neurodiversity may serve as a cognitive strength from which leadership derives. Critical disability theory argues that cultural assumptions and societal expectations create existing power structures. Thus, critical disability theory presents disabilities as a social construct that emerges from the sociocultural environment in which it is situated, including the normative beliefs, attitudes, and behaviours of that environment. It is the norm, as represented by those without physical or cognitive impairments, who establish ability standards. Those who do not fit social expectations of able body and mind are excluded from full participation and are marginalized. Critical disability theory serves to identify and challenge these normative assumptions that create barriers for differently abled individuals in the workplace. It is also important to be aware and critical of normative beliefs inherent in traditional disability studies to reshape the discourse to include those with disabilities. By using the lens of critical disability to focus on the positive cognitive characteristics of neurodiverse individuals it is possible to introduce and develop new leadership models. Leadership reconceptualized from a critical disability lens highlights advantageous characteristics that reflect leadership potential, such as pattern recognition and systematizing capabilities. By broadening current conceptualizations of leadership to include neurodiverse characteristics and behaviours,

assumptions can be challenged and research gaps can be addressed regarding neurodiverse leadership (Roberson et al., 2021).

Roberson et al. (2021) investigated social influence processes and their importance for effective leadership, however, “an emphasis on the social and interpersonal aspects of leadership shifts focus away from other leadership behaviours and skills at which neurodiverse individuals may excel” (p. 401). As a result, such individuals may not be considered for leadership opportunities due to their social awkwardness despite possessing all the other appropriate leadership qualities necessary to succeed. Autistic individuals may struggle in the leadership process due to social deficits; however, a better understanding of the relationship between autism and leadership can help organizations better support their autistic members in achieving their potential (Roberson et al., 2021).

Thus, Roberson et al. (2021) offer a model of leadership that demonstrates that matching neurodiversity characteristics with the right enabling conditions and leadership behaviours will produce positive leader and follower outcomes. By changing the perspective, many neurodivergent characteristics will enhance leadership behaviours given the right enabling conditions. For example, sensory hypersensitivities of neurodiverse individuals including visual acuity are often negatively associated with a tendency for fixation and in-flexibility, however, with the right enablers these hypersensitivities can create experts in systematizing or recognizing repeating patterns in stimuli. This ability would allow a neurodiverse leader to analyze complex data, recognize connections, and make well-informed decisions based on detailed information, which in the context of CBL may contribute to ethical and principled decision-making. Thus, neurodiverse individuals can often perform at above-average levels in terms of attention to detail in work tasks and subsequent work quality given the right enabling conditions. The systematizing abilities of neurodiverse individuals derived from an internal need for structure and routine also apply to social factors, such as rules and codes. In this way, “social systematization may engender a strong sense of morality for neurodiverse individuals, including an emphasis on honesty and forgiveness, which leads to a greater sense of loyalty and trustworthiness” (p. 407). These attributes may align with the CLB dimensions, such as integrity, humanity, temperance, and justice, thus further research is needed.

While investigating leadership emergence in individuals with learning disabilities, Williams (2022) found that learning disabilities were negatively correlated with formal leadership positions and the emergence of leadership, implying that these individuals were less

likely to be perceived as leaders or offered leadership positions. However, when individuals with learning disabilities were given leadership positions in actuality, it was found that they were just as effective as leaders without learning disabilities. While restricted interests are typically identified as deficits of autism, one advantage would be that restricted or special interests allow autistic individuals to become subject matter experts in core areas, “as the pursuit of a core interest is often intrinsically motivating, outcomes have included increased motivation, task engagement, and task performance” (p. 22). This could be valuable in decision-making and problem-solving within leadership roles or could be leveraged to provide unique insights and innovative solutions, particularly within technical leadership domains or specialized fields.

Williams (2022) points out that autistic individuals are not easily identifiable due to the invisible disability nature of the condition, thus popular media has become a primary educator of the autism experience, with prominent media tropes of autism reinforcing harmful stereotypes, including the fragmentation trope, which suggests that autism leaves an individual incomplete with gaps in personality, community relations, and family relations. Another harmful trope is that autism intrinsically includes a complete lack of self-awareness. Negative representations of the autistic community propagate misconceptions that result in the exclusion of autistic individuals from leadership roles; however, established and effective autistic leaders provide strong role models who can effectively challenge negative perceptions of autism (Williams, 2022).

#### *D. Canadian Armed Forces*

The CAF does not have a specific policy on autism nor is one likely feasible or necessary; however, the CAF does have a duty to accommodate the needs of individuals with learning disabilities, including autism. This policy is contained within Defence Administrative Orders and Directive 5516-5. The duty to accommodate is a legal obligation under the Canadian Charter of Rights and Freedoms, the Canadian Human Rights Act, and the Employment Equity Act, requiring the CAF to accommodate the needs of individuals with learning disabilities unless doing so would impose undue hardship with consideration of health, safety, and cost, to be determined on a case-by-case basis (Defence, 2021).

Policy 5516-5 only applies to members who are undergoing training or education. The policy includes the use of assistive technology, specialized computer programs, specially adapted tools, alternative communication devices, extended time for tests or



taskings, and proof-reading of written work, however, once a member exits the training system and becomes fully employed these supports cease (Defence, 2021). CAF training and educational establishments are controlled environments where accommodations can more easily be provided. Thus, it must be stated that while accommodations may be possible during training, during the execution of real tasks when lives and operations are at peril, every CAF member must be entrusted to perform their duties without accommodations, or with minimal ones at most.

Once an autistic CAF member exits the training system and loses the support and accommodations provided, there is a risk of them being in breach of the universality of service, which requires all CAF members to

perform duties in the full variety of geographical locations and climatic conditions in any physical environment; deploy on short notice; sustain irregular or prolonged working hours; sustain irregular or limited meals, and in some cases missing meals altogether; travel as a passenger in any mode of transportation; perform duties under physical and mental stress; perform duties with minimal or no medical support; and perform effectively without critical medication (Department of National Defence, 2013).

The stringent requirements of the universality of service policy are deemed necessary for the CAF to execute its mission of defending Canada and its citizens most effectively, however, they could be problematic for an autistic individual who experiences sensory and environmental sensitivities, or comorbid conditions such as anxiety, depression, Tourette's, or ADHD which require daily medication for management of the symptoms. Once a member breaches this policy, two options are possible, release from the CAF, or retention on a temporary, transitional basis (Department of National Defence, 2013). A waiver from a CAF psychiatrist stating that autism will not impede a member's ability to work in challenging environments may be required before recruitment or deployments. This policy may restrict autistic individuals to certain environments or trades, or even preclude military service; thus, to leverage the unique talents of autism the unique challenges must be studied, understood, and addressed.

In general, the Universality of Service requirements are necessary due to the nature of military operations, however, policies and procedures that limit the potential of serving autistic CAF members and leaders should be reviewed and updated based on any research that shows

them to be irrelevant or unnecessary. Many autistic struggles and challenges can be overcome through reasonable accommodations, based on what the individual requires balanced against what is possible within the work environment.

It can be presumed that most autistic members and leaders of the CAF mask their symptoms daily, or quietly find their own reasonable adjustments. Awareness, understanding and acceptance are crucial to truly change the work lives of autistic employees and create a workplace culture that is inclusive of all neurotypes.

### III. SUMMARY AND CONCLUSION

Autism results in cognitive deficits, however, it also presents great strengths. Lai et al. (2014) postulated that from an evolutionary viewpoint, autistic traits may be subject to positive selection pressure due to the potential societal benefits from individuals who possess a solitary single-minded obsessive focus on a unique understanding of a system. "Such individuals might have successfully traded products or their building and fixing skills, thus acquiring resources, and increasing their reproductive fitness, which could have contributed to the maintenance of autism alleles in the gene pool" (p. 903).

The CAF is currently focused on becoming a culturally respectful and relevant organization which could be greatly supported by innovative thinkers and honest leaders who align with the character-based leadership dimensions of integrity, accountability, and judgment. Autistic individuals have been found to espouse these positive attributes at a statistically higher rate than neurotypical individuals (Weinbaum et al., 2023) which could enhance the competitive advantage and effectiveness of the CAF. By changing society's perspectives, assumptions, and myths, autistic individuals can better realize their full potential within leadership roles.

The outlined research holds significant potential to contribute to the body of knowledge in the field of management, specifically in understanding and promoting inclusive leadership behaviours and identifying avenues for enhancing support and inclusivity of autism within the Canadian Armed Forces. Changing workplaces to be more inclusive of leaders who are autistic will require significant education and effort to eliminate biases and embed inclusion deep within organizational processes. However, implicit ableism might be impeding the rise of the leadership necessary to solve some of the CAF's greatest challenges across many different domains.

This literature review identified gaps in existing research regarding autism and leadership, with specific gaps noted in the study of autism and leadership with the CAF. Within this context, the social model of disability requires further exploration of essential leadership qualities, and their intersection with autistic behaviours and characteristics, particularly character-based leadership. Communication patterns require specific study with the view that when communication is ineffective, it is a system malfunction that requires all parties to analyze their role in conveying a clear message and accommodation for others' communication styles.

The CAF must understand, accept, and embrace autism with a realization that there are already countless autistic members and leaders whose great potential is being systematically limited by outdated attitudes and policies. For the CAF to be more welcoming and supportive to autistic members, additional research is needed into what reasonable accommodations would allow this community to feel accepted and able to work to its full potential.

In the current constrained job market, organizations must embrace the potential assets of under-represented neurodivergence talent pools, particularly that of the under-employed autistic community. Given the talent shortages that the CAF is facing, there is a pressing need to welcome neurodivergence into all ranks of the CAF. To achieve the cultural and systematic changes necessary to create a workforce that is fully inclusive of neurodivergence and in particular autism, more research is required into how best to attract, recruit, and retain this talent pool based on the shared, lived experiences of this community. The CAF needs strong, technically proficient leaders; thus, competent, qualified individuals or groups should not be excluded from the leadership process.

This literature review surveyed the research landscape of autistic and neurodivergent leadership, based on the specific aim of studying the experiences and challenges of autistic leaders within the Canadian Armed Forces. This study holds the potential to contribute to the body of knowledge in the field of management, specifically in understanding and promoting inclusive leadership behaviours. By synthesizing various findings and insights, this research aimed to advance the understanding of autism within military leadership and identify avenues for enhancing support and inclusivity within the Canadian Armed Forces.

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## Glossary of Terms

**Allistic** - A non-autistic individual

**Autism** - A set of heterogeneous neurodevelopmental conditions, characterized by early-onset difficulties in social communication and unusually restricted, repetitive behaviour and interests. Equally termed, autistic spectrum disorder/condition, or simply, the autistic spectrum (Lai et al., 2014).

**Autistic** - An individual who has autism and experiences the world from an autistic lens.

**Critical Disability Theory** - Presents disabilities as a social construct that emerges from the sociocultural environment in which they are situated, including the normative beliefs, attitudes, and behaviours of that environment (Hughes, 2015).

**Invisible Disability** - A disability that is not readily apparent, such as a learning disability. Typically applied to non-mobility disabilities.

**Leadership** - A process whereby an individual influences a group of people to achieve a common goal (Northouse, 2019).

**Learning Disability** - Any of several conditions, believed to involve the nervous system, which interferes with mastering a skill such as reading or writing (Collins English Dictionary, 2023).

**Neurodivergent** - An individual or group who has a neurotype that is not typical, i.e. diverges from the norm.

**Neurodiversity** - Used to refer to the different ways in which each brain functions. This includes every neurotype, including neurotypical (Collins English Dictionary, 2023).

**Neurominority(ies)** - A subgroup that differs from the majority of a population in terms of behavioural traits and cognitive function (Collins English Dictionary, 2023).

**Neurotypical** - An individual whose brain functions in a way that is usually considered normal (Collins English Dictionary, 2023).

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