

COMMENTARY

A conceptual model of risk and protective factors for autistic burnout

Jane Mantzalas  | Amanda L. Richdale  | Cheryl Dissanayake 

Olga Tennon Autism Research Centre, La Trobe University, Bundoora, Victoria, Australia

Correspondence

Amanda L. Richdale, OTARC, School of Psychology and Public Health, La Trobe University, Kingsbury Drive, Bundoora, VIC 3086, Australia.
Email: a.richdale@latrobe.edu.au

Abstract

Early qualitative research indicates that autistic burnout is commonly experienced by autistic people and is associated with significant, negative consequences for their mental health, wellbeing, and quality of life, including suicidality. Findings to date suggest that factors associated with being autistic and the widespread lack of autism awareness and acceptance within society contribute to the onset and recurrence of autistic burnout. Based on autistic adults' descriptions of their lived experiences, a Conceptual Model of Autistic Burnout (CMAB) is proposed, which describes a series of hypothesized relationships between identified risk and protective factors that may contribute to, or buffer against, autistic burnout. The theoretical framework for the CMAB is based on the Social-Relational model of disability and neurodiversity paradigm, and the Job Demands-Resources model of burnout, and Conservation of Resources theory. The CMAB offers a holistic perspective for understanding individual, social, and environmental factors that can influence autistic burnout via various direct and indirect pathways. Autistic burnout research is in its infancy and the CMAB provides a foundation for future investigations about this condition.

Lay Summary

Although many autistic people describe experiencing autistic burnout, there has been little research on this topic. Based on descriptions of autistic peoples' lived experiences, we developed a conceptual model to explore how various risk and protective factors may interact to contribute to, or prevent, autistic burnout.

KEYWORDS

autism, autistic burnout, burnout, conservation of resources theory, job demands-resources model, neurodiversity, social-relational model

INTRODUCTION

“Burnout” occurs when an individual's coping capacity has been exceeded, with the term originally used to describe a loss of motivation and fatigue in employees within people-centered professions (Schaufeli & Greenglass, 2001). It has since been expanded to explore these symptoms in other populations including athletes and parents (Gustafsson et al., 2011; Mikolajczak & Roskam, 2018). According to the dominant theory, the core characteristics of burnout are exhaustion, depersonalization and reduced personal accomplishment (Maslach & Jackson, 1981).

The term “autistic burnout” has long been used by members of the autistic community to describe the

negative consequences of living in a predominately non-autistic world. Despite myriad anecdotal accounts online, research into autistic burnout is relatively new. To date, only a few qualitative studies have sought to define autistic burnout and understand its core features by examining the lived experiences of autistic adults (Higgins et al., 2021; Mantzalas et al., 2021; Raymaker et al., 2020). Their findings validate first-person reports and characterize autistic burnout as long-term mental, physical, and emotional exhaustion that builds over time, often recurring after stressful life events or transitions. Common features of autistic burnout include impaired cognitive function, the loss of previously acquired skills (e.g., self-care or speech), social and sensory withdrawal, and a marked increase in observable autistic traits

(Higgins et al., 2021; Mantzalas et al., 2021; Raymaker et al., 2020). Factors including “masking” autistic traits, stressful life events, and alexithymia contribute to autistic burnout, as do stigma and discrimination against autistic people. In contrast, energy management, social support, stimming, and good self-awareness can be protective (Higgins et al., 2021; Mantzalas et al., 2021; Raymaker et al., 2020). Findings suggest that autistic burnout can severely impact the mental health, quality of life and wellbeing of autistic people. Thus, it is vital to learn more about potential risk and protective factors. Based on the current literature, we propose a conceptual model to better understand the factors underlying autistic burnout.

THEORETICAL FRAMEWORK

The theoretical framework proposed for the model is based on two disability theories: the Social-Relational Model of disability ([S-RM]; Simpson et al., 2013; Thomas, 2004), and the neurodiversity paradigm (Kapp, 2020), and two theories of burnout and stress: the Job Demands-Resources model ([JD-R]; Bakker et al., 2004; Demerouti et al., 2001) and Conservation of Resources theory ([COR]; Hobfoll, 1989).

MODELS OF DISABILITY

Within the medical model of disability, autism is viewed through a deficit-based lens. Diagnostic criteria for autism (e.g., restricted and repetitive behaviors; American Psychiatric Association, APA, 2013) are pathologized and treatments often aim to reduce or extinguish “undesirable” or observable autistic traits. The social model of disability, on the other hand, posits that disability arises from external factors that limit people’s participation in society (Oliver, 2013). The S-RM bridges these perspectives, conceptualizing disability as a form of social oppression dependent on the relationship between an individual’s “impairments” and social and environmental influences (Simpson et al., 2013). While aspects of a person’s condition may restrict their activity, *disability* is socially imposed. Disability may be “structural” or “psycho-emotional” and affect an individual’s activity and psychological or emotional wellbeing (Simpson et al., 2013; Thomas, 2004). Whereas structural disablement is caused by exclusionary factors in the environment (e.g., access to employment or information, and physical access to buildings), psycho-emotional disablement is an internal form of oppression that can indirectly or directly contribute to exclusion (Reeve, 2014).

Exclusion by *indirect* psycho-emotional disablement stems from structural reminders that individuals with disabilities are different, leading to embarrassment and preventing them from using services or facilities (e.g., accessing a building via a hidden entrance or a

supermarket’s designated “quiet hour”). On the other hand, *direct* psycho-emotional disablement comes from an individual’s relationships with their families, friends, professionals, strangers, and themselves. Being stared at, called names, infantilized, ignored, and narratives about curing disabilities can lead to lower self-esteem and self-worth, and subsequent social withdrawal (Reeve, 2014). These experiences can contribute to internalized oppression where individuals try to pass as “normal” or overcompensate to achieve above expectations, both of which can be physically and emotionally exhausting. Individuals who internalize negative messages about disability may subconsciously exclude themselves from normative life experiences (e.g., marriage or having children; Reeve, 2014).

Autism is a heterogeneous condition with a wide range of traits and support needs, some of which are challenging and can limit social participation. For example, sensory and social-communication differences may limit social connectedness. Furthermore, autistic people often report co-occurring conditions such as sleep problems (Jovevska et al., 2020), epilepsy (Lukmanji et al., 2019) and psychiatric conditions (APA, 2013) which can further limit social participation. Existing social, medical, cultural, and economic barriers can compound these difficulties and contribute to disability. Examples of structural disablement include a lack of low-sensory spaces in workplaces or shopping centers, which may prevent autistic individuals retaining employment or purchasing essential items. Similarly, noisy, or brightly lit waiting rooms may prevent autistic people seeking healthcare. Autistic people are a minority group who experience marginalization, negative stereotyping and poor awareness about the diversity of autism characteristics (Botha & Frost, 2020; Cage et al., 2019; Sarrett, 2016), which can contribute to internalized stigma and psycho-emotional disablement. For example, if autistic people feel like a burden, or unworthy of reasonable accommodations, this can restrict their participation in work, study, or social interactions.

Challenging the medical model’s focus on cure and societal stigma about people with neurodiverse conditions (e.g., autism, attention deficit hyperactivity disorder, Tourette’s syndrome), the neurodiversity paradigm adopts a strengths-based lens with acknowledgment that aspects of these conditions can be challenging and disabling (Kapp et al., 2012; Silberman, 2015), particularly when needs are not supported. Neurodiversity is an advocacy movement that supports the inclusion and acceptance of neurodivergent people and views autism as a natural form of human variation with inherent strengths rather than a collection of deficits that should be eliminated (den Houting, 2019; Kapp et al., 2012). Positive representation of neurodivergent conditions can help combat the direct and indirect psycho-emotional disablement experienced by autistic people by reframing stereotypical views about autism and emphasizing participation, self-acceptance, self-advocacy, and inclusion.

THEORIES OF BURNOUT AND STRESS

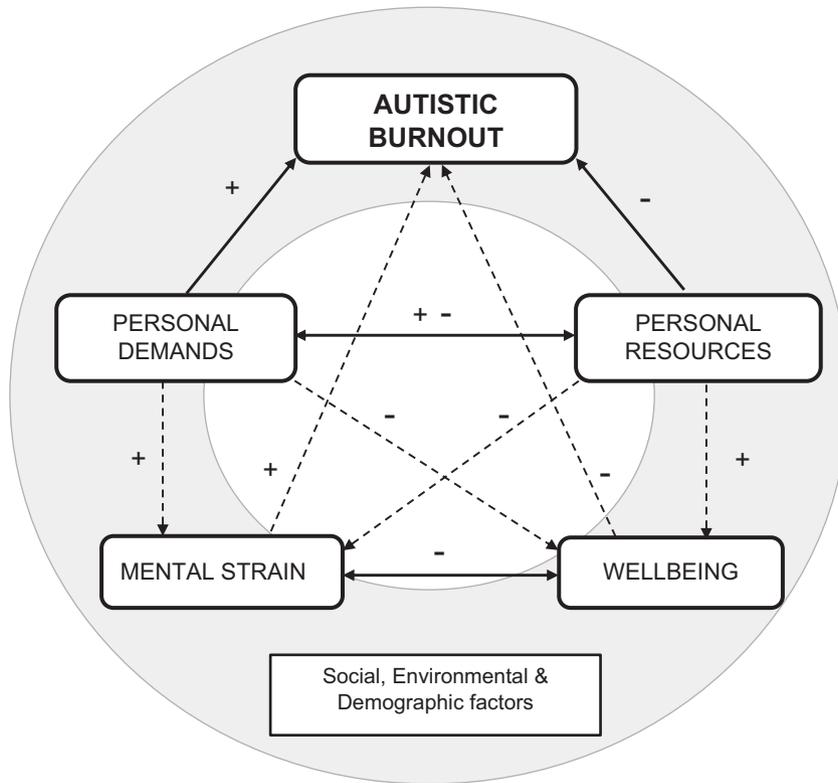
The JD-R is a theory of workplace stress that classifies work attributes as either demands or resources. Job demands require physical or cognitive effort that may lead to physical or psychological costs over time, whereas job resources can offset the costs associated with job demands and are experienced as fulfilling or rewarding. According to the JD-R, exhaustion and burnout can occur if job demands consistently exceed job resources (Bakker et al., 2004; Xanthopoulou et al., 2007). A core assumption of the JD-R is that resources act as a buffer between demands and exhaustion; however, COR theory posits that this relationship is not always straightforward.

Fundamentally, COR theory is a motivation model based on the premise that individuals strive to acquire, protect, and replenish resources. Stress and burnout may occur if an individual's investment in resources (e.g., time) does not produce expected returns (Hobfoll, 1989; Hobfoll & Freedy, 2017). Resources are objects, conditions, personal

qualities, and energies that are intrinsically valued, or which facilitate the acquisition of other valued resources (e.g., education, money, self-esteem). Resource loss can trigger “loss spirals” that lead to further resource losses. For example, depleted energy (resource) may prevent an autistic individual engaging with their special interests (resource) which could, in turn, reduce their mental wellbeing (resource). Additionally, the effort associated with acquiring and maintaining some resources can outweigh their protective, buffering effect (Hobfoll & Freedy, 2017).

THE CONCEPTUAL MODEL

Guided by the disability and stress models, we developed the Conceptual Model of Autistic Burnout ([CMAB]; Figure 1) to explore the direct and indirect relationships among categories of measurable variables including demands and resources, mental strain and wellbeing, demographics, and social and environmental factors, and their



Autistic Burnout	Personal Demands	Personal Resources	Mental Strain	Wellbeing	Social, Environmental, Demographic
Exhaustion	Masking or camouflaging	Stimming	Depression	Satisfaction with life	Stigma
Social withdrawal	Sensory sensitivities Autistic traits	Special interests Self-awareness Social support	Anxiety Stress	Community	Discrimination Gender Age

FIGURE 1 The conceptual model of risk and protective factors for autistic burnout. Solid lines between variables depict direct hypothesized relationships, and dashed lines represent indirect hypothesized relationships

potential influence on autistic burnout. The selection of model variables was informed by the current literature about autistic burnout (Higgins et al., 2021; Mantzalas et al., 2021; Raymaker et al., 2020) and the mental health and wellbeing of autistic adults (Lai et al., 2019).

Further, an Advisory Group of four autistic adults with lived experience of autistic burnout reviewed the model and endorsed the relevance of the chosen variables and hypothesized relationships. This group comprised three autistic females and one autistic male, over 18 years, who had all received a late autism diagnosis. The CMAB incorporates demands and resources that may influence the onset of autistic burnout directly, or indirectly via the intermediate factors of mental health and wellbeing. The CMAB also integrates the impact of loss spirals described in COR theory.

Based on the CMAB, 14 positive and negative relationships are hypothesized (Table 1). The rationale for the inclusion of the variables in the CMAB is discussed in the next section.

RISK AND PROTECTIVE FACTORS FOR AUTISTIC BURNOUT

Personal demands

Autistic traits

Autism is a heterogeneous condition where, in the absence of robust biological markers, diagnosis is based

on observable behavioral traits including social-communication difficulties, repetitive and restricted behaviors, and sensory issues (APA, 2013). Research suggests that elevated autistic traits are associated with negative social and mental health outcomes including a greater risk of bullying among autistic children (Rai et al., 2018), and a higher incidence of abuse and trauma throughout the lifespan (Roberts et al., 2015). Among autistic adults, autistic traits may contribute to suicidality (Pelton & Cassidy, 2017), depression (Hedley et al., 2018; Rai et al., 2018) and dissatisfaction with social support (Hedley et al., 2018). Conversely, fewer autistic traits are associated with fewer negative life events (Griffiths et al., 2019). During periods of autistic burnout, adults report feeling “more autistic” and commonly experience the loss of previously acquired skills (e.g., self-care and speech), greater sensory sensitivities and increased social communication difficulties (Higgins et al., 2021; Mantzalas et al., 2021; Raymaker et al., 2020).

Studies examining the influence of autistic traits on mental health often report total scores on validated measures (e.g., the Autism Spectrum Quotient; Baron-Cohen et al., 2001). It has been suggested, however, that examining subscale scores could identify nuances in the relationship between individual autistic traits and mental wellbeing (Stimpson et al., 2021). Using the Broad Autism Phenotype Questionnaire (Hurley et al., 2007), which measures sub-clinical autistic traits and produces both a total and three subscale scores, Stimpson et al. (2021) found that “aloofness” was the only significant predictor of mental wellbeing among adults in a non-clinical sample. Similarly, the core autism traits of social communication difficulties and insistence on sameness have been associated with depression and suicidal ideation (Hedley et al., 2021). Thus, the CMAB includes the broad category “autistic traits,” to assess their general impact on mental strain, wellbeing, and autistic burnout, but also considers the impact of individual traits such as sensory sensitivities and special interests, which may influence the development of autistic burnout, positively or negatively.

Masking/camouflaging

According to autistic adults, the effort of masking (or camouflaging) their autistic traits is exhausting and is a prominent risk factor for autistic burnout (Higgins et al., 2021; Mantzalas et al., 2021; Miller et al., 2021; Raymaker et al., 2020). Masking can be understood as the “conscious or unconscious suppression of natural responses and adoption of alternatives across a range of domains including social interaction, sensory experience, cognition, movement, and behavior” (Pearson & Rose, 2021, p. 53). Although the terms are often used interchangeably, Hull et al. (2017) differentiate between three types of camouflaging strategies: “compensation” (e.g., pretending to make eye contact), “masking”

TABLE 1 Hypothesized relationships among variables in the conceptual model of autistic burnout

CMAB facet	Hypothesis
Personal demands	<ul style="list-style-type: none"> • Will directly increase the risk of autistic burnout. • Will indirectly increase the risk of autistic burnout by increasing mental strain. • May either increase or decrease personal resources. • Will decrease wellbeing.
Personal resources	<ul style="list-style-type: none"> • Will directly decrease the risk of autistic burnout. • May either increase or decrease personal demands. • Will indirectly decrease the risk of autistic burnout by increasing wellbeing. • Will decrease mental strain.
Mental strain	<ul style="list-style-type: none"> • Will increase the risk of autistic burnout. • Will decrease wellbeing.
Wellbeing	<ul style="list-style-type: none"> • Will decrease the risk of autistic burnout. • Will decrease mental strain.
Additional variables	<ul style="list-style-type: none"> • Gender and age may influence the risk of autistic burnout. • Social and environmental factors will influence the risk of autistic burnout.

(e.g., using pre-prepared scripts during conversations), and “assimilation” (e.g., trying to blend in with a social group). (Hereafter, we use “masking” to describe the suite of strategies used to disguise autistic traits). Masking is used to facilitate social communication between autistic and non-autistic people, which can be stressful and confusing (Hull et al., 2017). Unsuccessful social interactions are commonly attributed to autistic people’s social-communication difficulties and poor understanding about the motivations, mental and emotional states of others (“theory of mind”; Baron-Cohen et al., 1985). These perceptions likely motivate autistic people to mask. However, autistic people report fewer social-communication difficulties during interactions with other autistic people (Gernsbacher et al., 2017), suggesting that autistic *and* non-autistic people have difficulties understanding each other (Edey et al., 2016; see also “the double empathy” problem; Milton, 2012).

Pearson and Rose (2021) suggest that masking extends beyond behavioral strategies and could be a trauma response that develops from experiences of stigma. It is well established that autistic people mask to avoid discrimination, stigma, and victimization (Cage & Troxell-Whitman, 2019; Hull et al., 2017), and to gain access to employment and social inclusion. Indeed, autistic adolescents mask to avoid being perceived as mentally deficient and less competent by others (Bernardin et al., 2021).

These cost–benefit characteristics describe why the CMAB categorizes masking as both a demand and a means of resource gain. However, despite its potential benefits, long-term masking can harm the mental health of autistic adults and may contribute to suicidality (Bargiela et al., 2016; Cage & Troxell-Whitman, 2019; Livingston et al., 2019). Masking can also conceal support needs (Baldwin & Costley, 2016) and contribute to the misdiagnosis and under-diagnosis of autism, particularly among women (Livingston et al., 2019; Milner et al., 2019). Masking can contribute to psycho-emotional disablement through feelings of guilt and isolation (Hull et al., 2017; Livingston et al., 2019), withdrawal to avoid social rejection (Hull et al., 2017), and identity confusion (Pearson & Rose, 2021). However, while “taking the mask off” can assist with recovery from autistic burnout (Mantzalas et al., 2021; Raymaker et al., 2020), unmasking is complex and may contribute to burnout through trauma associated with resultant bullying, discrimination, and stigma (Mantzalas et al., 2021; Miller et al., 2021; Pearson & Rose, 2021).

Sensory sensitivities

Sensory sensitivities are common among autistic people of all ages and can significantly impact their mental health and wellbeing (Halim et al., 2018; Milner et al., 2019). Compared to the general population,

autistic people are more likely to report over- or under-responsivity to sensory stimuli which continues across the lifespan (Ben-Sasson et al., 2009; Crane et al., 2009; Lane, 2020). Indeed, a study comparing sensory over-responsivity among autistic and non-autistic adults found that autistic participants self-reported increased over-responsiveness in all sensory categories (sight, smell, hearing, touch, taste, and proprioception) compared to a control group (Tavassoli et al., 2014). Autistic females have identified sensory sensitivities as one of the most challenging aspects of autism that can reduce quality of life and contribute to meltdowns (externalized aggression, crying, distress) or shutdowns (internalizing behaviors including emotional and cognitive dissociation, or appearing “frozen”; Halim et al., 2018; Milner et al., 2019; Phung et al., 2021). Sensory overload is a prime risk factor for autistic burnout, with reduced tolerance to sensory stimuli commonly reported during burnout episodes. Conversely, sensory withdrawal and avoidance can be beneficial for prevention and recovery (Higgins et al., 2021; Mantzalas et al., 2021; Raymaker et al., 2020).

Personal resources

Self-stimulatory behaviors

Repetitive, self-stimulatory behaviors (“stimming”) are a core diagnostic feature of autism (APA, 2013) and can be physical (e.g., fidgeting, rocking), vocal (e.g., humming, repeating phrases), visual (e.g., staring at a lava lamp), tactile (e.g., rubbing fabric), or olfactory (e.g., sniffing things; Steward, 2015). Stimming is an important form of sensory and emotional self-regulation that facilitates coping during overwhelming and stressful situations, (Kapp et al., 2019; Manor-Binyamini & Schreiber-Divon, 2019), and is a vital part of many autistic people’s identity (Steward, 2015). Despite this, the use of noticeable stims by adults is stigmatizing and generally socially unacceptable (Kapp et al., 2019). Some autism interventions focus on eliminating stims, which can be harmful for mental health (Halim et al., 2018; Kapp et al., 2019). Findings from two qualitative studies (Higgins et al., 2021; Mantzalas et al., 2021) that examined autistic adults’ lived experiences of autistic burnout ($N = 23$ and $N = 612$, respectively) suggest that stimming to regulate emotions helps offset the accumulation of stress that contributes to burnout. However, the stigma surrounding stimming can become internalized (Kapp et al., 2019), thus contributing to psycho-emotional disability.

Special interests

Another diagnostic criterion of autism is restricted interests or activities (APA, 2013). “Special interests” are

topics about which autistic individuals are highly knowledgeable and competent, and provide enormous pleasure, familiarity, and calm during times of stress (McDonnell & Milton, 2014). These interests can facilitate identity formation (Jordan & Caldwell-Harris, 2012) and emotional self-regulation, as well as improve self-esteem and self-efficacy (McDonnell & Milton, 2014). While intense interests are usually called hobbies or passions among non-autistic people, they are often perceived as unusual and unhealthy obsessions among autistic people (McDonnell & Milton, 2014). A possible reason for these negative perceptions is that autistic people can persevere or “hyperfocus” on their beloved activities to the exclusion of other things (Ashinoff & Abu-Akel, 2019). Intense focus, also called “monotropism,” (Murray et al., 2005) may partly explain attention and social-communication differences in autism. Absorption in a preferred activity can make it difficult for autistic people to switch focus and engage in social interaction if they are interrupted (Milton, 2017). Deep immersion in an enjoyable activity is also called “flow” (Ullén et al., 2012), which can mitigate depression and emotional exhaustion associated with workplace burnout among non-autistic people (Mosing et al., 2018).

As time with special interests can assist during recovery from autistic burnout (Higgins et al., 2021), they have been categorized as a personal resource in the CMAB. However, the overwhelming exhaustion that defines autistic burnout could offset the positive benefits of special interests if individuals lack the energy to engage with them. Additionally, hyperfocus may offset their protective qualities if it interferes with self-care (e.g., rest and eating regularly; Mantzalas et al., 2021); therefore, it is hypothesized that special interests may also increase personal demands.

Self-awareness

Autistic burnout occurs after demands build up over time; therefore, recognizing early signs of physical and mental overwhelm is vital. It is estimated, however, that approximately 50% of autistic people experience alexithymia—difficulties identifying and describing one’s feelings and emotions—compared to 5% of the general population (Berthoz & Hill, 2005; Kinnaird et al., 2019). Individuals with alexithymia are more likely to experience emotion regulation and mental health difficulties (Kinnaird et al., 2019), and it has been suggested that alexithymia could be a risk factor for workplace burnout (Riethof et al., 2020).

Alexithymia is also a prominent marker for impaired interoception (Shah et al., 2016). Interoception refers to the ability to perceive bodily states including pain, hunger, and tension (Shah et al., 2016) and is vital for socio-emotional function (Murphy et al., 2017). Atypical interoception is common among autistic adults (DuBois et al., 2017) and can contribute to poor self-regulation, poor physical and mental health (Shah et al., 2016),

sensory symptoms (Murphy et al., 2017) and autistic burnout (Mantzalas et al., 2021; Pearson & Rose, 2021). Interoception difficulties occur throughout the lifespan, often spiking during adolescence and older-adulthood alongside developmental changes (e.g., puberty and menopause; Murphy et al., 2017). This is similar to the pattern observed for autistic burnout, suggesting that autistic individuals with alexithymia and/or interoception difficulties may be more vulnerable to autistic burnout.

Extant research suggests that self-awareness can improve after autistic burnout (compared to individuals’ pre-burnout levels) as people learn to recognize triggers, develop and implement protective coping strategies, including self-care, planning, energy management, and boundary setting to prevent recurrence (Higgins et al., 2021; Mantzalas et al., 2021; Raymaker et al., 2020).

Social support

Social support is defined as “an exchange of resources between at least two individuals perceived by the provider or the recipient to be intended to enhance the wellbeing of the recipient” (Shumaker & Brownell, 1984, p. 13). Social support is provided by a network of family, friends, or others who individuals can turn to during times of stress or crisis. Good social support can have a positive impact on the self-esteem, independence, mental health, and wellbeing of autistic adults (Baldwin & Costley, 2016; Zener, 2019). Examples include understanding autistic peoples’ traits and sensitivities and accommodating for communication, sensory and social needs at home, school, or work (Hayward et al., 2019; Zener, 2019). Research shows a link between poor social support and both depression and suicidal ideation in autistic adults (Hedley et al., 2018). A lack of appropriate support and barriers to support have been identified as risk factors for autistic burnout (Higgins et al., 2021; Raymaker et al., 2020).

Consistent with COR theory, the proposed CMAB recognizes that, while social support is a protective resource, it can also contribute to personal demands. For example, support networks may get tired of helping and become unwilling to help during chronic stress (Hobfoll & Freedy, 2017). Well-meaning support that is incompatible with the needs of autistic adults can also prolong or worsen episodes of autistic burnout (Higgins et al., 2021). Furthermore, if autistic individuals cannot offer reciprocal support due to overload, relationships may become strained, narrowing future sources of support.

Mental strain

Depression, anxiety, and stress

Studies show that approximately 70% of autistic people experience a co-occurring mental health condition such

as depression or anxiety throughout the lifespan (APA, 2013; Au-Yeung et al., 2019; Hofvander et al., 2009), with heightened risk during key developmental milestones (e.g., adolescence; Lai et al., 2019). Indeed, autistic adults often report that their first experience of autistic burnout occurred during the transition to high school or adulthood. Early findings indicate that co-occurring conditions may represent a risk factor for autistic burnout and exacerbate existing conditions (Mantzas et al., 2021; Raymaker et al., 2020). In addition, stressful life events such as bullying, victimization (Streckovic et al., 2014), unemployment, and discrimination (Milovanov et al., 2013) contribute to mental strain among autistic people during childhood and adulthood (Berg et al., 2016; Fuld, 2018; Milovanov et al., 2013). Stressful life events can also contribute to autistic burnout, with heightened risk when individuals cannot relieve stress, or when requests for support are dismissed or disbelieved (Raymaker et al., 2020).

Similarities between (workplace) burnout and depression have fueled debate about whether the two are distinct constructs, or different points along a depression “spectrum.” Bianchi et al. (2014, 2015) posit that common symptoms (e.g., exhaustion, difficulties concentrating) and methodological flaws in the structure and measurement of burnout support the argument that burnout is a form of atypical depression. However, a later systematic review and meta-analysis which examined the relationship between burnout, depression and anxiety concluded that the three conditions are distinct and robust constructs (Koutsimani et al., 2019). In a qualitative investigation, participants with lived experience of both burnout and depression described clear differences between the two, such as more debilitating exhaustion during burnout than depression, and the ability to enjoy non-work activities during burnout while they were unable to enjoy anything while depressed (Tavella & Parker, 2020). Similarly, autistic adults differentiate between depression and autistic burnout, and report that it is possible to engage in their special interests during periods of burnout (Higgins et al., 2021; Mantzas et al., 2021; Raymaker et al., 2020).

Wellbeing

Satisfaction with life

Satisfaction with life (SWL) is a component of subjective wellbeing that can impact an individual’s mental health outcomes. While heritable factors and temperament may contribute to SWL, environmental factors play a key role (Pavot & Diener, 2008). Research among autistic adults shows that social support and connectedness, social inclusion and community positively influence SWL (Casagrande et al., 2020), whereas victimization, negative life events and unemployment have a negative impact (Griffiths et al., 2019). SWL may also offset mental strain

and buffer against autistic burnout, particularly for individuals who make positive life changes after experiencing burnout (e.g., career change, setting boundaries; Higgins et al., 2021; Mantzas et al., 2021).

Community

Distinct from social support, a “community” is a group of people who share common characteristics, interests, attitudes, and identity. Connection to people with shared lived experiences can have a positive impact on wellbeing and improve self-advocacy (Haney & Cullen, 2017; Kapp, 2020). The disability rights and self-advocacy movements and widespread access to the internet have contributed to the formation of autistic communities (Bagatell, 2010), whose members connect through social media (e.g., the #ActuallyAutistic hashtag), gaming platforms, blogs, discussion forums and advocacy groups. Autistic communities (e.g., autistic parents, autistic people of color, gender-diverse autistic individuals) are a valuable source of acceptance and pride for autistic people who often face discrimination and stigma elsewhere (Bagatell, 2010). Members of autistic communities offer and receive autism-related information and advice, understanding and validation about shared lived experiences (Mantzas et al., 2021; Raymaker et al., 2020). Positive interactions with autistic peers and role models may lessen internalized oppression associated with psycho-emotional disability (Reeve, 2014). Thus, according to the CMAB, belonging to a supportive community could help mitigate the onset and impact of autistic burnout.

Autistic burnout

Exhaustion

Consistent with the broader burnout literature, exhaustion is a core feature and consequence of autistic burnout. Autistic adults have described a debilitating state of physical, mental, and emotional exhaustion that significantly impacts their ability to function. Aspects of functioning affected during autistic burnout include reduced executive functioning (e.g., planning, organization), loss of focus and concentration, difficulties producing and processing speech, and the loss of previously acquired skills, including self-care abilities (Higgins et al., 2021; Mantzas et al., 2021; Raymaker et al., 2020).

Social withdrawal

The deleterious impact of autistic burnout on energy levels can lead to withdrawal from daily activities including work, study, and socializing (Higgins et al., 2021; Mantzas et al., 2021; Raymaker et al., 2020). While avoidance coping is generally perceived to be maladaptive, or only

beneficial in the short-term (Suls & Fletcher, 1985), early findings suggest its utility may differ for autistic people experiencing burnout (Mantzas et al., 2021). Indeed, autistic adults commonly use social, sensory, and interpersonal withdrawal to prevent autistic burnout and facilitate recovery (Higgins et al., 2021; Mantzas et al., 2021; Raymaker et al., 2020). As a coping mechanism, withdrawal from stressful situations may allow the individual time to rest and recover, thereby limiting resource losses (Hobfoll & Freedy, 2017).

Additional factors

Gender

In the CMAB, it is hypothesized that gender could influence the onset of autistic burnout, possibly through the motivations for masking, which as previously discussed, is a key risk factor. Some studies suggest that autistic males are less socially motivated to mask than autistic females and feel less pressure to fit in (Milner et al., 2019; Sedgewick et al., 2016). Males also report more positive feelings associated with camouflaging compared to females (Hull et al., 2017). Societal expectations associated with the female gender role may increase the burden on autistic females through a perceived need to maintain a façade, especially if they do not enjoy stereotypical aspects of femininity such as wearing makeup and a desire for motherhood (Bargiela et al., 2016; Cage & Troxell-Whitman, 2019; Kanfischer et al., 2017).

Hobfoll (1989) acknowledges that women (in general) may be more vulnerable to stress and face more barriers to resource acquisition than men. Indeed, being autistic and female is associated with an increased risk for anxiety and depression (Uljarević et al., 2019). Unique factors associated with being female such as menstruation, menopause (Moseley et al., 2020; Steward et al., 2018), and pregnancy and childbirth (Samuel et al., 2021) may contribute to a greater risk of autistic burnout among females as these experiences are often associated with heightened sensory difficulties and anxiety, poorer executive functioning, and a reduced capacity for emotion regulation. Additionally, people on the autism spectrum are more likely to experience gender dysphoria (e.g., identify as transgender, non-binary; Cooper et al., 2021; George & Stokes, 2018); thus, it is possible that the stress of claiming or masking multiple marginalized identities (e.g., transgender, disabled) could increase the risk of autistic burnout.

Age

Age may influence vulnerability to autistic burnout at various stages throughout the lifespan. While extensive research has focused on autism in childhood, autistic advocates and researchers have highlighted the urgency

of studying autism in later life (Howlin & Taylor, 2015; Michael, 2016), particularly as autistic adults have a shorter life expectancy than adults in the general population (Hirvikoski et al., 2016). Adult milestones including post-secondary education, marriage, and parenthood can increase the mental health burden for autistic adults (Mason et al., 2019; Raymaker et al., 2020; Sterling et al., 2007). Research suggests that changes associated with developmental transitions (e.g., adolescence, early adulthood) could increase vulnerability to autistic burnout because they place additional strain on coping resources (Mantzas et al., 2021; Phung et al., 2021; Raymaker et al., 2020). Advancing age can also bring a variety of challenges including cognitive changes, bereavement, loss of social support, serious or chronic illness, and retirement. For example, emotional changes during menopause can significantly overtax the established coping resources of autistic women (Moseley et al., 2020). While such life events are universal, they may be additionally burdensome for autistic people due to changes in established routines, extra strain on coping resources, additional sensory demands, and the potential loss of support networks.

Social and environmental factors

While autistic burnout appears to be common among autistic people, it is not experienced by all, and should not be accepted as an inherent part of being autistic. Research suggests that social and environmental factors contribute significantly to the onset and recurrence of autistic burnout (Higgins et al., 2021; Mantzas et al., 2021; Raymaker et al., 2020), and was described by one autistic adult as the consequence of “being in a world that is not your world” (Higgins et al., 2021, p. 6). Environmental influences can include harmful sensory environments and a lack of family or workplace support. At a societal level, the widespread lack of autism awareness and acceptance can impact accurate and timely autism diagnosis, access to supports, underlie motivations for masking and contribute to internalized stigma (Higgins et al., 2021; Mantzas et al., 2021; Raymaker et al., 2020). While various protective strategies have been proposed here, most are person-centered. Societal change to reduce stigma, discrimination and inhospitable environments for autistic people is vital for long-term and sustained prevention and recovery from autistic burnout.

CONCLUSION

The proposed CMAB identifies risk and protective factors for autistic burnout using a theoretical framework informed by the JD-R, COR theory, S-RM, and neurodiversity paradigm, and includes measurable variables

from extant literature classified as personal demands, personal resources, mental strain, and wellbeing. In so doing, direct and indirect, testable relationships are proposed that may influence the risk of autistic burnout. While anecdotal reports and the few existing qualitative studies indicate that burnout is common among autistic people, it is not experienced by all. It is therefore important to examine risk and protective factors to identify reasons why some autistic individuals may be more vulnerable to burnout. Identifying protective and vulnerability factors forms a basis for the prevention or amelioration of autistic burnout.

To date, research has focused on the experiences of autistic adults who have indicated that autistic burnout often first occurs early in life and recurs across the lifespan, supporting the need to adopt a developmental approach in future research. This approach will be important to identify unique risk factors and preventive strategies that may help to interrupt the harmful cycle of burnout which can impede achievement and independence. The CMAB proposes the underlying mechanisms of autistic burnout, but can be adapted to investigate burnout among different groups whose demands and resources may vary greatly (e.g., autistic people with high support needs; autistic children; or older autistic women).

Having proposed the CMAB, it is important to empirically test the model to examine the hypothesized relationships. As research in the field of autistic burnout develops, the research findings will further inform the CMAB and lead to the incorporation of other relevant variables. It is anticipated that this body of research will lead to the future development of resources and supports to prevent the onset of autistic burnout and to assist autistic individuals through recovery.

ETHICS STATEMENT

Approval for this research was obtained from the La Trobe University Human Research Ethics Committee (HEC21009).

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DATA AVAILABILITY STATEMENT

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

ORCID

Jane Mantzalas  <https://orcid.org/0000-0002-9202-8961>

Amanda L. Richdale  <https://orcid.org/0000-0003-4911-7181>

Cheryl Dissanayake  <https://orcid.org/0000-0002-8771-4027>

REFERENCES

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). American Psychiatric Association.
- Ashinoff, B. K., & Abu-Akel, A. (2019). Hyperfocus: The forgotten frontier of attention. *Psychological Research Psychologische Forschung*, 85, 1–19. <https://doi.org/10.1007/s00426-019-01245-8>
- Au-Yeung, S. K., Bradley, L., Robertson, A. E., Shaw, R., Baron-Cohen, S., & Cassidy, S. (2019). Experience of mental health diagnosis and perceived misdiagnosis in autistic, possibly autistic and non-autistic adults. *Autism*, 23(6), 1508–1518. <https://doi.org/10.1177/1362361318818167>
- Bagatell, N. (2010). From cure to community: Transforming notions of autism. *Ethos*, 38(1), 33–55. <https://doi.org/10.1111/j.1548-1352.2009.01080.x>
- Bakker, A. B., Demerouti, E., & Verbeke, W. (2004). Using the job demands-resources model to predict burnout and performance. *Human Resource Management*, 43(1), 83–104. <https://doi.org/10.1002/hrm>
- Baldwin, S., & Costley, D. (2016). The experiences and needs of female adults with high-functioning autism spectrum disorder. *Autism*, 20(4), 483–495. <https://doi.org/10.1177/1362361315590805>
- Bargiela, S., Steward, R., & Mandy, W. (2016). The experiences of late-diagnosed women with autism spectrum conditions: An investigation of the female autism phenotype. *Journal of Autism and Developmental Disorders*, 46(10), 3281–3294. <https://doi.org/10.1007/s10803-016-2872-8>
- Baron-Cohen, S., Leslie, A. M., & Frith, U. (1985). Does the autistic child have a “theory of mind”? *Cognition*, 21, 37–46.
- Baron-Cohen, S., Wheelwright, S., Skinner, R., Martin, J., & Clubley, E. (2001). The autism-spectrum quotient (AQ): Evidence from Asperger syndrome/high-functioning autism, males and females, scientists and mathematicians. *Journal of Autism and Developmental Disorders*, 31(1), 5–17.
- Ben-Sasson, A., Hen, L., Fluss, R., Cermak, S. A., Engel-Yeger, B., & Gal, E. (2009). A meta-analysis of sensory modulation symptoms in individuals with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, 39, 1–11. <https://doi.org/10.1007/s10803-008-0593-3>
- Berg, K. L., Shiu, C.-S., Acharya, K., Stolbach, B. C., & Msall, M. E. (2016). Disparities in adversity among children with autism spectrum disorder: A population study. *Developmental Medicine & Child Neurology*, 58, 1124–1131. <https://doi.org/10.1111/dmcn.13161>
- Bernardin, C. J., Mason, E., Lewis, T., & Kanne, S. (2021). “You must become a chameleon to survive”: Adolescent experiences of camouflaging. *Journal of Autism and Developmental Disorders*, 51, 4422–4435. <https://doi.org/10.1007/s10803-021-04912-1>
- Berthoz, S., & Hill, E. L. (2005). The validity of using self-reports to assess emotion regulation abilities in adults with autism spectrum disorder. *European Psychiatry*, 20, 291–298.
- Bianchi, R., Schonfeld, I. S., & Laurent, E. (2014). Is burnout a depressive disorder? A reexamination with special focus on atypical depression. *International Journal of Stress Management*, 21(4), 307–324. <https://doi.org/10.1037/a0037906>
- Bianchi, R., Schonfeld, I. S., & Laurent, E. (2015). Is it time to consider the “burnout syndrome” a distinct illness? *Frontiers in Public Health*, 3, 1–3. <https://doi.org/10.3389/fpubh.2015.00158>
- Botha, M., & Frost, D. M. (2020). Extending the minority stress model to understand mental health problems experienced by the autistic population. *Society and Mental Health*, 10(1), 20–34. <https://doi.org/10.1177/2156869318804297>
- Cage, E., Di Monaco, J., & Newell, V. (2019). Understanding, attitudes and dehumanisation towards autistic people. *Autism*, 23(6), 1373–1383. <https://doi.org/10.1177/13623613188290>
- Cage, E., & Troxell-Whitman, Z. (2019). Understanding the reasons, contexts and costs of camouflaging for autistic adults. *Journal of*

- Autism and Developmental Disorders*, 49, 1899–1911. <https://doi.org/10.1007/s10803-018-03878-x>
- Casagrande, K., Frost, K. M., Bailey, K. M., & Ingersoll, B. R. (2020). Positive predictors of life satisfaction for autistic college students and their neurotypical peers. *Autism in Adulthood*, 2(2), 163–170. <https://doi.org/10.1089/aut.2019.0050>
- Cooper, K., Mandy, W., Butler, C., & Russell, A. (2021). The lived experience of gender dysphoria in autistic adults: An interpretative phenomenological analysis. *Autism*, 1-12, 136236132110391. <https://doi.org/10.1177/13623613211039113>
- Crane, L., Goddard, L., & Pring, L. (2009). Sensory processing in adults with autism spectrum disorder. *Autism*, 13(3), 215–228. <https://doi.org/10.1177/1362361309103794>
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86(3), 499–512. <https://doi.org/10.1037/0021-9010.86.3.499>
- den Houting, J. (2019). Neurodiversity: An insider's perspective [Editorial]. *Autism*, 23(2), 271–273. <https://doi.org/10.1177/1362361318820762>
- DuBois, D., Lymer, E., Gibson, B. E., Desarkar, P., & Nalder, E. (2017). Assessing sensory processing dysfunction in adults and adolescents with autism spectrum disorder: A scoping review. *Brain Sciences*, 7(108), 1–24. <https://doi.org/10.3390/brainsci7080108>
- Edey, R., Cook, J., Brewer, R., Johnson, M. H., Bird, G., & Press, C. (2016). Interaction takes two: Typical adults exhibit mind-blindness towards those with autism spectrum disorder. *Journal of Abnormal Psychology*, 125(7), 879–885. <https://doi.org/10.1037/abn0000199>
- Fuld, S. (2018). Autism spectrum disorder: The impact of stressful and traumatic life events and implications for clinical practice. *Clinical Social Work Journal*, 46, 210–219. <https://doi.org/10.1007/s10615-018-0649-6>
- George, R., & Stokes, M. A. (2018). Gender identity and sexual orientation in autism spectrum disorder. *Autism*, 22(8), 970–982. <https://doi.org/10.1177/1362361317714587>
- Gernsbacher, M. A., Stevenson, J. L., & Dern, S. (2017). Specificity, contexts, and reference groups matter when assessing autistic traits. *PLoS One*, 12(2), e0171931. <https://doi.org/10.1371/journal.pone.0171931>
- Griffiths, S., Allison, C., Kenny, R., Holt, R., Smith, P., & Baron-Cohen, S. (2019). The vulnerability experiences quotient (VEQ): A study of vulnerability, mental health and life satisfaction in autistic adults. *Autism Research*, 12, 1516–1528. <https://doi.org/10.1002/aur.2162>
- Gustafsson, H., Kentta, G., & Hassmen, P. (2011). Athlete burnout: An integrated model and future research directions. *International Review of Sport and Exercise Psychology*, 4(1), 3–24. <https://doi.org/10.1080/1750984X.2010.541927>
- Halim, A. T., Richdale, A. L., & Uljarević, M. (2018). Exploring the nature of anxiety in young adults on the autism spectrum: A qualitative study. *Research in Autism Spectrum Disorders*, 55, 25–37. <https://doi.org/10.1016/j.rasd.2018.07.006>
- Haney, J. L., & Cullen, J. A. (2017). Learning about the lived experiences of women with autism from an online community. *Journal of Social Work in Disability & Rehabilitation*, 16(1), 54–73. <https://doi.org/10.1080/1536710X.2017.1260518>
- Hayward, S. M., McVilly, K. R., & Stokes, M. A. (2019). Autism and employment: What works. *Research in Autism Spectrum Disorders*, 60, 48–58. <https://doi.org/10.1016/j.rasd.2019.01.006>
- Hedley, D., Uljarević, M., Cai, R. Y., Bury, S. M., Stokes, M. A., & Evans, D. W. (2021). Domains of the autism phenotype, cognitive control, and rumination as transdiagnostic predictors of DSM-5 suicide risk. *PLoS One*, 16(1), e0245562. <https://doi.org/10.1371/journal.pone.0245562>
- Hedley, D., Uljarević, M., Foley, K. R., Richdale, A., & Trollor, J. (2018). Risk and protective factors underlying depression and suicidal ideation in autism spectrum disorder. *Depression and Anxiety*, 35(7), 648–657. <https://doi.org/10.1002/da.22759>
- Higgins, J. M., Arnold, S. R. C., Weise, J., Smith, P., Pellicano, E., & Trollor, J. N. (2021). Defining autistic burnout through experts by lived experience: Grounded Delphi method investigating #AutisticBurnout. *Autism*, 1-14, 2356–2369. <https://doi.org/10.1177/13623613211019858>
- Hirvikoski, T., Mittendorfer-Rutz, E., Boman, M., Larsson, H., Lichtenstein, P., & Bölte, S. (2016). Premature mortality in autism spectrum disorder. *The British Journal of Psychiatry*, 208, 232–238. <https://doi.org/10.1192/bjp.bp.114.160192>
- Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, 44(3), 513–524.
- Hobfoll, S. E., & Freedy, J. (2017). Conservation of resources: A general stress theory applied to burnout. In W. B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (pp. 115–129). Routledge.
- Hofvander, B., Delorme, R., Chaste, P., Nydén, A., Wentz, E., Ståhlberg, O., Herbrecht, E., Stopin, A., Anckarsäter, H., Gillberg, C., Råstam, M., & Leboyer, M. (2009). Psychiatric and psychosocial problems in adults with normal-intelligence autism spectrum disorders. *BMC Psychiatry*, 9(35), 1–9. <https://doi.org/10.1186/1471-244X-9-35>
- Howlin, P., & Taylor, J. L. (2015). Addressing the need for high quality research on autism in adulthood [Editorial]. *Autism*, 19(7), 771–773. <https://doi.org/10.1177/1362361315595582>
- Hull, L., Petrides, K. V., Allison, C., Smith, P., Baron-Cohen, S., Lai, M. C., & Mandy, W. (2017). “Putting on my best normal”: Social camouflaging in adults with autism spectrum conditions. *Journal of Autism and Developmental Disorders*, 47, 2519–2534. <https://doi.org/10.1007/s10803-017-3166-5>
- Hurley, R. S. E., Losh, M., Parlier, M., Reznick, J. S., & Piven, J. (2007). The broad autism phenotype questionnaire. *Journal of Autism and Developmental Disorders*, 37, 1679–1690. <https://doi.org/10.1007/s10803-006-0299-3>
- Jordan, C. L., & Caldwell-Harris, C. (2012). Understanding differences in nonautistic and autism spectrum special interests through internet forums. *Intellectual and Developmental Disabilities*, 50(5), 391–402. <https://doi.org/10.1352/1934-9556-50.5.391>
- Jovevska, S., Richdale, A. L., Lawson, L. P., Uljarević, M., Arnold, S. R. C., & Trollor, J. N. (2020). Sleep quality in autism from adolescence to old age. *Autism in Adulthood*, 1-11, 152–162. <https://doi.org/10.1089/aut.2019.0034>
- Kanfiszer, L., Davies, F., & Collins, S. (2017). ‘I was just so different’: The experiences of women diagnosed with an autism spectrum disorder in adulthood in relation to gender and social relationships. *Autism*, 21, 661–669. <https://doi.org/10.1177/1362361316687987>
- Kapp, S. (2020). Introduction. In S. Kapp (Ed.), *Autistic community and the neurodiversity movement: Stories from the frontline* (pp. 1–9). Springer Nature. <https://doi.org/10.1007/978-981-13-8437-0>
- Kapp, S. K., Gillespie-Lynch, K., Sherman, L. E., & Hutman, T. (2012). Deficit, difference, or both? Autism and neurodiversity. *Developmental Psychology*, 1-13, 59–71. <https://doi.org/10.1037/a0028353>
- Kapp, S. K., Steward, R., Crane, L., Elliott, D., Elphick, C., Pellicano, E., & Russell, G. (2019). ‘People should be allowed to do what they like’: Autistic adults’ views and experiences of stimming. *Autism*, 23, 1782–1792. <https://doi.org/10.1177/1362361319829628>
- Kinnaird, E., Stewart, C., & Tchanturia, K. (2019). Investigating alexithymia in autism: A systematic review and meta-analysis. *European Psychiatry*, 55, 80–89. <https://doi.org/10.1016/j.eurpsy.2018.09.004>
- Koutsimani, P., Montgomery, A., & Georganta, K. (2019). The relationship between burnout, depression, and anxiety: A systematic review and meta-analysis. *Frontiers in Psychology*, 10, 1–19. <https://doi.org/10.3389/fpsyg.2019.00284>

- Lai, M.-C., Kasse, C., Besney, R., Bonato, S., Hull, L., Mandy, W., Szatmari, P., & Amsis, S. H. (2019). Prevalence of co-occurring mental health diagnoses in the autism population: A systematic review and meta-analysis. *Lancet Psychiatry*, *6*, 819–829. [https://doi.org/10.1016/S2215-0366\(19\)30289-5](https://doi.org/10.1016/S2215-0366(19)30289-5)
- Lane, A. E. (2020). Practitioner review: Effective management of functional difficulties associated with sensory symptoms in children and adolescents. *The Journal of Child Psychology and Psychiatry*, *61*(9), 943–958. <https://doi.org/10.1111/jcpp.13230>
- Livingston, L. A., Shah, P., & Happé, F. (2019). Compensatory strategies below the behavioural surface in autism: A qualitative study. *Lancet Psychiatry*, *6*, 766–777. [https://doi.org/10.1016/S2215-0366\(19\)30224-X](https://doi.org/10.1016/S2215-0366(19)30224-X)
- Lukmanji, S., Manji, S. A., Kadhim, S., Sauro, K. M., Wirrell, E. C., Kwon, C.-S., & Jetté, N. (2019). The co-occurrence of epilepsy and autism: A systematic review. *Epilepsy & Behavior*, *98*, 238–248. <https://doi.org/10.1016/j.yebeh.2019.07.037>
- Manor-Binyamini, I., & Schreiber-Divon, M. (2019). Repetitive behaviors: Listening to the voice of people with high-functioning autism spectrum disorder. *Research in Autism Spectrum Disorders*, *64*, 23–30. <https://doi.org/10.1016/j.rasd.2019.04.001>
- Mantzalas, J., Richdale, A. L., Adikari, A., Lowe, J., & Dissanayake, C. (2021). What is autistic burnout? A thematic analysis of posts on two online platforms. *Autism in Adulthood*, *41*(1), 52–65. <https://doi.org/10.1089/aut.2021.0021>
- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Occupational Behaviour*, *2*, 99–113.
- Mason, D., Mackintosh, J., McConachie, H., Rodgers, J., Finch, T., & Parr, J. R. (2019). Quality of life for older autistic people: The impact of mental health difficulties. *Research in Autism Spectrum Disorders*, *63*, 13–22. <https://doi.org/10.1016/j.rasd.2019.02.007>
- McDonnell, A., & Milton, D. E. M. (2014). *Going with the flow: Reconsidering 'repetitive behaviour' through the concept of 'flow states'* (pp. 37–46). *GAP, Supplement*.
- Michael, C. (2016). Why we need research about autism and ageing [Editorial]. *Autism*, *20*(5), 515–516. <https://doi.org/10.1177/1362361316647224>
- Mikolajczak, M., & Roskam, I. (2018). A theoretical and clinical framework for parental burnout: The balance between risks and resources (BR2). *Frontiers in Psychology*, *9*, 1–11. <https://doi.org/10.3389/fpsyg.2018.00886>
- Miller, D., Rees, J., & Pearson, A. (2021). “Masking is life”: Experiences of masking in autistic and nonautistic adults. *Autism in Adulthood*, *3*, 330–338. <https://doi.org/10.1089/aut.2020.0083>
- Milner, V., McIntosh, H., Colvert, E., & Happe, F. (2019). A qualitative exploration of the female experience of autism spectrum disorder (ASD). *Journal of Autism and Developmental Disorders*, *49*, 2389–2402. <https://doi.org/10.1007/s10803-019-03906-4>
- Milovanov, A., Paquette-Smith, M., Lunsy, Y., & Weiss, J. (2013). Brief report: Prevalence and impact of significant life events for adults with Asperger syndrome. *Journal on Developmental Disabilities*, *19*(2), 50–54.
- Milton, D. E. M. (2012). On the ontological status of autism: The ‘double empathy problem’. *Disability & Society*, *27*(6), 883–887. <https://doi.org/10.1080/09687599.2012.71008>
- Milton, D. E. M. (2017). Going with the flow: Autism and ‘flow states’. In *Enhancing lives – Reducing restrictive practices*. Basingstoke, UK.
- Moseley, R. L., Druce, T., & Turner-Cobb, J. M. (2020). ‘When my autism broke’: A qualitative study spotlighting autistic voices on menopause. *Autism*, *1-15*, 1423–1437. <https://doi.org/10.1177/1362361319901184>
- Mosing, M. A., Butkovic, A., & Ullén, F. (2018). Can flow experiences be protective of work-related depressive symptoms and burnout? A genetically informed approach. *Journal of Affective Disorders*, *226*, 6–11. <https://doi.org/10.1016/j.jad.2017.09.017>
- Murphy, J., Brewer, R., Catmur, C., & Bird, G. (2017). Interoception and psychopathology: A developmental neuroscience. *Developmental Cognitive Neuroscience*, *23*, 45–56. <https://doi.org/10.1016/j.dcn.2016.12.006>
- Murray, D., Lesser, M., & Lawson, W. (2005). Attention, monotropism and the diagnostic criteria for autism. *Autism*, *9*(2), 139–156. <https://doi.org/10.1177/1362361305051398>
- Oliver, M. (2013). The social model of disability: Thirty years on. *Disability & Society*, *28*(7), 1024–1026. <https://doi.org/10.1080/09687599.2013.818773>
- Pavot, W., & Diener, E. (2008). The satisfaction with life scale and the emerging construct of life satisfaction. *The Journal of Positive Psychology*, *3*(2), 137–152. <https://doi.org/10.1080/17439760701756946>
- Pearson, A., & Rose, K. (2021). A conceptual analysis of autistic masking: Understanding the narrative of stigma and the illusion of choice. *Autism in Adulthood*, *3*(1), 52–60. <https://doi.org/10.1089/aut.2020.0043>
- Pelton, M. K., & Cassidy, S. A. (2017). Are autistic traits associated with suicidality? A test of the interpersonal-psychological theory of suicide in a non-clinical young adult sample. *Autism Research*, *10*, 1891–1904. <https://doi.org/10.1002/aur.1828>
- Phung, J., Penner, M., Pirlot, C., & Welch, C. (2021). What I wish you knew: Insights on burnout, inertia, meltdown, and shutdown from autistic youth. *Frontiers in Psychology*, *12*, 1–14. <https://doi.org/10.3389/fpsyg.2021.741421>
- Rai, D., Culpin, I., Heuvelman, H., Magnusson, C. M., Carpenter, P., Jones, H. J., ... Pearson, R. M. (2018). Association of autistic traits with depression from childhood to 18 years. *JAMA Psychiatry*, *75*, 835–843. <https://doi.org/10.1001/jamapsychiatry.2018.1323>
- Raymaker, D. M., Teo, A. R., Steckler, N. A., Lentz, B., Scharer, M., Delos Santos, A., Kapp, S. K., Hunter, M., Joyce, A., & Nicolaides, C. (2020). “Having all of your internal resources exhausted beyond measure and being left with no clean-up crew”: Defining autistic burnout. *Autism in Adulthood*, *2*(2), 1–12. <https://doi.org/10.1089/aut.2019.0079>
- Reeve, D. (2014). Psycho-emotional disability and internalised oppression. In J. Swain, S. French, C. Barnes, & C. Thomas (Eds.), *Disabling barriers – Enabling environments* (3rd ed., pp. 92–98). Sage.
- Riethof, N., Bob, P., Laker, M., Zmolikova, J., Jiraskova, T., & Raboch, J. (2020). Alexithymia, traumatic stress symptoms and burnout in female healthcare professionals. *Journal of International Medical Research*, *48*(4), 1–9. <https://doi.org/10.1177/0300060519887633>
- Roberts, A. L., Koenen, K. C., Lyall, K., Robinson, E. B., & Weisskopf, M. G. (2015). Association of autistic traits in adulthood with childhood abuse, interpersonal victimization, and post-traumatic stress. *Child Abuse & Neglect*, *45*, 135–142. <https://doi.org/10.1016/j.chiabu.2015.04.010>
- Samuel, P., Yew, R. Y., Hooley, M., Hickey, M., & Stokes, M. A. (2021). Sensory challenges experienced by autistic women during pregnancy and childbirth: A systematic review. *Archives of Gynecology and Obstetrics*, *305*, 299–311. <https://doi.org/10.1007/s00404-021-06109-4>
- Sarrett, J. C. (2016). Biocertification and neurodiversity: The role and implications of self-diagnosis in autistic communities. *Neuroethics*, *9*, 23–36. <https://doi.org/10.1007/s12152-016-9247-x>
- Schaufeli, W. B., & Greenglass, E. R. (2001). Introduction to special issue on burnout and health. *Psychology and Health*, *16*, 501–510.
- Sedgewick, F., Hill, V., Yates, R., Pickering, L., & Pellicano, E. (2016). Gender differences in the social motivation and friendship experiences of autistic and non-autistic adolescents. *Journal of Autism and Developmental Disorders*, *46*, 1297–1306. <https://doi.org/10.1007/s10803-015-2669-1>
- Shah, P., Hall, R., Catmur, C., & Bird, G. (2016). Alexithymia, not autism, is associated with impaired interoception. *Cortex*, *81*, 215–220. <https://doi.org/10.1016/j.cortex.2016.03.021>
- Shumaker, S. A., & Brownell, A. (1984). Toward a theory of social support: Closing conceptual gaps. *Journal of Social Issues*, *40*(4), 11–36.

- Silberman, S. (2015). *Neurotribes: The legacy of autism and the future of neurodiversity*. Avery.
- Simpson, J., McMillan, H., & Reeve, D. (2013). Reformulating psychological difficulties in people with Parkinson's disease: The potential of a social relational approach to disability. *Parkinson's Disease, 1-8*. <https://doi.org/10.1155/2013/608562>
- Sterling, L., Dawson, G., Estes, A., & Greenson, J. (2007). Characteristics associated with presence of depressive symptoms in adults with autism spectrum disorder. *Journal of Autism and Developmental Disorders, 38*, 1011–1018. <https://doi.org/10.1007/s10803-007-0477-y>
- Steward, R., Crane, L., Roy, E. M., Remington, A., & Pellicano, E. (2018). "Life is much more difficult to manage during periods": Autistic experiences of menstruation. *Journal of Autism and Developmental Disorders, 48*, 4287–4292. <https://doi.org/10.1007/s10803-018-3664-0>
- Steward, R. L. (2015). Repetitive stereotyped behaviour or 'stimming': An online survey of 100 people on the autism spectrum. In *Paper presented at the 2015 International Meeting for Autism Research Conference*. Salt Lake City, UT. <https://insar.confex.com/insar/2015/webprogram/Paper20115.html>
- Stimpson, N. J., Hull, L., & Mandy, W. (2021). The association between autistic traits and mental well-being. *Journal of Happiness Studies, 22*, 287–304. <https://doi.org/10.1007/s10902-020-00229-5>
- Streckovic, M. A., Brunsting, N. C., & Able, H. (2014). Victimization of students with autism spectrum disorder: A review of prevalence and risk factors. *Research in Autism Spectrum Disorders, 8*, 1155–1172. <https://doi.org/10.1016/j.rasd.2014.06.004>
- Suls, J., & Fletcher, B. (1985). The relative efficacy of avoidant and nonavoidant coping strategies: A meta-analysis. *Health Psychology, 4*(3), 249–288.
- Tavassoli, T., Miller, L. J., Schoen, S. A., Nielsen, D. M., & Baron-Cohen, S. (2014). Sensory over-responsivity in adults with autism spectrum conditions. *Autism, 18*(4), 428–432. <https://doi.org/10.1177/1362361313477246>
- Tavella, G., & Parker, G. (2020). Distinguishing burnout from depression: An exploratory qualitative study. *Psychiatry Research, 291*, 113212. <https://doi.org/10.1016/j.psychres.2020.113212>
- Thomas, C. (2004). Rescuing a social relational understanding of disability. *Scandinavian Journal of Disability Research, 6*(1), 22–36.
- Uljarević, M., Hedley, D., Rose-Foley, K., Magiati, I., Cai, R. Y., Dissanayake, C., Richdale, A., & Trollor, J. (2019). Anxiety and depression from adolescence to old age in autism spectrum disorder. *Journal of Autism and Developmental Disorders, 50*, 3155–3165. <https://doi.org/10.1007/s10803-019-04084-z>
- Ullén, F., De Manzano, O., Almeida, R., Magnusson, P. K. E., Pedersen, N. L., Nakamura, J., Csíkszentmihályi, M., & Madison, G. (2012). Proneness for psychological flow in everyday life: Associations with personality and intelligence. *Personality and Individual Differences, 52*, 167–172. <https://doi.org/10.1016/j.paid.2011.10.003>
- Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2007). The role of personal resources in the job demands-resources model. *International Journal of Stress Management, 14*(2), 121–141. <https://doi.org/10.1037/1072-5245.14.2.121>
- Zener, D. (2019). Journey to diagnosis for women with autism. *Advances in Autism, 5*(1), 2–13. <https://doi.org/10.1108/AIA-10-2018-0041>

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