

Everything Neurodiversity Master Studies List

Topics:

Neurodiversity, Empathy, Educational, Autism,

Format:

Research Articles only

Title

Abstract

Introduction (optional)

Compilation of various scientific research papers found around the web, should be easily googleable to find more info on them, for brevity just the abstract is here

Neurodiversity

The Cerebral Subject and the Challenge of Neurodiversity

The neurodiversity movement has so far been dominated by autistic people who believe their condition is not a disease to be treated and, if possible, cured, but rather a human specificity (like sex or race) that must be equally respected. Autistic self-advocates largely oppose groups of parents of autistic children and professionals searching for a cure for autism. This article discusses the positions of the pro-cure and anti-cure groups. It also addresses the emergence of autistic cultures and various issues concerning autistic identities. It shows how identity issues are frequently linked to a 'neurological self-awareness' and a rejection of psychological interpretations. It argues that the preference for cerebral explanations cannot be reduced to an aversion to psychoanalysis or psychological culture. Instead, such preference must be understood within the context of the diffusion of neuroscientific claims beyond the laboratory and their penetration in different domains of life in contemporary biomedicalized societies. Within this framework, neuroscientific theories, practices, technologies and therapies are influencing the ways we think about ourselves and relate to others, favoring forms of neurological or cerebral subjectivation. The article shows how neuroscientific claims are taken up in the formation of identities, as well as social and community networks.

Neurodiversity in higher education: a narrative synthesis

Neurodiversity is an umbrella term, including dyspraxia, dyslexia, attention deficit hyperactivity disorder, dyscalculia, autistic spectrum and Tourette syndrome. The increasing number of students with learning difficulties associated with neurodiversity entering higher education (HE) poses a shared and growing challenge internationally for teachers and institutional leaders. This narrative synthesis draws together a corpus of international literature on how neurodiverse students experience higher education and the ways in which higher education institutions respond to the cluster of neurodiverse conditions. A systematic review was carried out to search, retrieve, appraise and synthesize the available evidence to provide an original contribution to the literature and significant insights of worth to higher education internationally. An inclusive approach to data extraction was used to ensure that all the relevant studies were included. All stages of the review process, including the initial search, screening, sample selection and analysis, are described. Three main themes and 11 subthemes were identified. Although the majority of publications focus on either dyslexia, autistic spectrum disorder, or ADHD, some common themes are evident in student experience across learning difficulties associated with neurodiversity. Although support services and technologies are available to meet students' specific needs, there is an apparent dislocation between the two. Fear of stigmatization and labelling worsens the divide between what is needed and what is available to ensure neurodiverse students' success in higher education, where good intentions are evidently not enough.

Empathy

On the ontological status of autism: the 'double empathy problem'
Damia EM Milton | 16 Aug 2012

In recent decades there has been much debate over the ontological status of autism and other neurological 'disorders', diagnosed by behavioural indicators, and theorised primarily within the field of cognitive neuroscience and psychological paradigms. Such cognitive-behavioural discourses abstain from acknowledging the universal issue of relationality and interaction in the formation of a contested and constantly reconstructed social reality, produced through the agency of its 'actors'. The nature of these contested interactions will be explored in this current issues piece through the use of the term the 'double empathy problem', and how such a rendition produces a critique of autism being defined as a deficit in 'theory of mind', re-framing such issues as a question of reciprocity and mutuality. In keeping with other autistic self-advocates, this piece will refer to 'autistic people', and 'those who identify as on the autism spectrum', rather than 'people with autism'.

Autism and the double empathy problem: Implications for development and mental health

This article proposes a link between autistic people being misperceived by the neurotypical majority and their being at risk of poor mental health and well-being. We present a transactional account of development in which the misperceptions (and consequent behaviour) of the neurotypical majority influences the perceptions and behaviour of autistic people such that they become increasingly separate and indeed isolated from mainstream society. This jeopardizes their mental health and prevents autistic people from developing to full potential. The situation is not only problematical for the development of autistic people but is also to the detriment of wider society, in so far as autistic people are effectively prevented from contributing fully. This account assumes that some (not necessarily all) autistic people yearn to be included, to be productive and to be useful. It thus directly opposes accounts that view autism as an extreme case of diminished social motivation.

Autism and Intolerance of uncertainty: An ill-fitting pair

We applaud the efforts by Stark and colleagues [1] to chart how a predictive processing account of autism may lead to autistic anxiety. We wholeheartedly agree that this is a productive route to shed light on a real problem in autism and that this kind of dialogue is much needed in a field that has been plagued by dogged misconceptions, with sometimes harmful consequences, for autistic people. Stark and colleagues provide an example of how lived autistic experiences of, for example anxiety, can be scientifically validated by sound theories about a different cognitive (predictive) processing profile. At the same time, it illustrates how new misconceptions could take hold if old concepts like 'intolerance of uncertainty' aren't sufficiently

scrutinized with state-of-the-art theoretical tools (c.q. predictive processing in autism). To preempt future misconceptions, we clarify the concept of 'intolerance of uncertainty' here and show that it does not fit well within a predictive processing framework. Intolerance of uncertainty is a personality construct that emerged in the nineties [2] to indicate the emotional (over)reaction people may experience when confronted with unpredictable situations. Based on a self-report scale, it is used in a similar sense to allergic or digestive (over)reactions. For example, in lactose intolerance the same amount of milk may create an extreme physiological (immune) reaction in some, but not in other individuals. But the parallel already breaks down here. Psychological stimuli are fundamentally different from allergens. One cannot isolate stimulus 'uncertainty' like one can isolate an allergen. Indeed, the lesson from predictive processing is that uncertainty is a subjective and a contextual variable. It is subjective because each of us has built different expectations (priors) against which prediction errors are generated.

[Autism and intolerance of uncertainty: An ill-fitting pair](#)

The double empathy problem, camouflage, and the value of expertise from experience

The target article by Jaswal & Akhtar (J&A) is extremely welcome, and in our commentary we offer support along with suggestions on how the account should be elaborated even further with reference to the "double empathy problem" (Milton 2012), while highlighting the potentially negative consequences for the mental health of autistic people when they are misunderstood by others. We also comment on the value of participatory research addressing social motivation in autism.

The double empathy problem (Milton 2012) recognizes that autistic people have difficulty connecting with others; but instead of explaining this as a problem residing in the autistic individual, the account locates the problem more at the level of society. It supposes that just as autistic people have difficulty understanding neurotypical people, so do

neurotypical people have difficulty understanding autistic people, perhaps because autistic and neurotypical people have rather different perceptions and experiences. J&A note that some researchers misconstrue social motivation as residing within an individual, when it is more appropriately understood as arising from a dynamic interaction between the individual and how others perceive and react to them. The upshot is that difficulty with social connectedness and even social aversion are not so much features of autism but consequences of being autistic. After feeling socially excluded, autistic people will find social situations - at least those involving neurotypical others - to be unrewarding and even aversive. The transactional perspective on development (Sameroff 1975) recognizes that how one grows socially and emotionally depends not just on an immutable aspect of the individual's constitution but also on how the behaviour of others shapes how you behave, which in turn shapes how others behave towards you, which shapes how you behave towards them, and so on. Autistic people might be just as socially motivated as neurotypical people, but this motivation might be...

Educational

Exercise seen as priming pump for students academic strides

Dr. Ratey is the author of *Spark: The Revolutionary New Science of Education and the Brain*, a book published last month by Little, Brown and Co. It draws together emerging findings from neuroscientific, biomedical, and educational research that correlate exercise with a wide range of brain-related benefits—improving attention, reducing stress and anxiety, and staving off cognitive decline in old age, for example. The interest in documenting a link between exercise and learning in

children and adolescents comes as trends in physical activity seem to point in the opposite direction.

Autism

Concepts of autism: A review of research

Suggests that infantile autism has nothing to do with schizophrenia, and is not primarily a disorder of social relationships. Mental subnormality is not sufficient to account for autism and it is unlikely that psychogenic or faulty conditioning mechanisms are primary factors in etiology. However, they may be important in the development of secondary handicaps. The importance of genetic factors remains unknown. The role of "brain damage" in the genesis of autism is also uncertain, but organic brain abnormalities are a primary influence in some cases. The concept of "brain damage" is too general to be of help in understanding the genesis of autism. The determination of the relevance of abnormalities in physiological arousal awaits further research. The most promising hypothesis concerning the nature of autism is that which places the primary defect in terms of a language or coding problem. It is suggested that many manifestations of autism are explicable in terms of cognitive and perceptual defects. (115 ref.) (PsycINFO Database Record (c) 2016 APA, all rights reserved)

Unemployment Trajectories and the Early Risk of Disability Pension among Young people with and without Autism Spectrum Disorder: A nationwide study in Sweden

Depression and anxiety are associated with unemployment and disability pension, while autism spectrum disorder (ASD) is less studied. We aimed to first identify unemployment trajectories among young adults with and without ASD, and then to examine their social determinants. Finally, we used the trajectories as determinants for subsequent disability pension. We used a population-based cohort, including 814 people who were 19–35 years old, not on disability pension, and who had their ASD diagnosis between 2001 and 2009. A matched reference population included 22,013 people with no record of mental disorders. Unemployment follow-up was the inclusion year and four years after. Disability pension follow-up started after the unemployment follow-up and continued through 2013. We identified three distinctive trajectories of unemployment during the follow-up:

(1) low, then sharply increasing (9%,) (2) low (reference, 67%), and (3) high then slowly decreasing (24%). People with ASD had higher odds of belonging to the trajectory groups 1 (OR 2.53, 95% CI 2.02–3.18) and 3 (OR 3.60, 95% CI 3.08–4.19). However, the mean number of unemployment days was relatively low in all groups. A disability pension was a rare event in the cohort, although memberships to groups 1 and 3 were associated with the risk of a future disability pension. More knowledge is needed about factors facilitating participation in paid employment among people with ASD. [View Full-Text](#)

Employment and Living with Autism: Personal, Social and Economic Impact

Individuals with autism are often faced with significant barriers to entering the workforce, irrespective of their individual level of functioning or capabilities. Research suggests that even in the developed countries adults with autism experience higher rates of unemployment than almost all other disability groups. These findings are concerning if we have in mind the known positive effects of employment on the individual, the family system, and as a means of offsetting the economic costs of autism. Furthermore, unemployment can have devastating impacts on the mental and physical health of the unemployed individual. Despite the importance of improving employment outcomes for individuals with autism, there is a marked lack of research regarding employment supports or interventions for adults with autism. In this chapter we first review the existing literature with regard to what we know about employment and employment programs in individuals with autism. Next we draw attention to the high rate of co-morbid disorders in adults with autism, in particular depression and suicidal ideation, anxiety and the potential impact of sleep disorders. Consistent with the theme of this book, personal narratives are provided in the form of case studies from people affected by autism. Our first case study describes the life of a young man who participates in supported employment and who is actively engaged with his community. We then describe an innovative employment program operating in Australia that has been effective in providing meaningful employment opportunities in the information technology sector to adults with autism. The benefits of employment for the individual and the family unit are then set in the broader context of the net economic gains for society. For a successful transition into employment the economic gains and productivity improvement over the lifetime of the individual are positive and significant, far outweighing the costs of the intervention.

Challenges for females with high functioning autism in the workplace: a systemic review

Purpose: Individuals with High Functioning Autism (HFA) experience high levels of underemployment and unemployment, resulting in negative economic, social, and health outcomes. Given what is known about labor market participation difficulties experienced by women generally, and the paucity of research concerning women with HFA, this systematic review synthesized what is known about the labor market experiences of women with HFA.

Method: A systematic review of the literature concerning adult females with HFA in relation to the workplace yielded 1947 results; 11 met inclusion criteria being based on original data, but not necessarily focusing solely on women.

Results: The total number participants with HFA across all studies was 731 ($M = 66.45$, $SD = 95.44$, $Mdn = 18.00$) aged between 18 and 70 years ($M = 34.38$, $SD = 7.71$); females represented 38% ($n = 279$) of those sampled. The principal challenges reported for individuals with HFA at work were communication, social interaction, and stress, together with negative mental and physical health.

Conclusion: These results should be interpreted with caution. Of the studies found, 73% were qualitative and based on small samples. Only one paper differentiated female data in analyses. These factors combined suggest large-scale mixed method research focused on females with HFA is required to gain an accurate insight into the challenges faced in the workplace, to in turn inform intervention and support. However, implications for rehabilitation based on what is known are discussed.

- Implication for Rehabilitation
- Unemployment and underemployment of persons with High Functioning Autism (HFA) poses social, health and economic issues for both individuals and the wider community.
- Those with HFA have the intellectual capacity to make a substantial contribution to the workplace.
- Based on what is known, some of the challenges for females with HFA might be similar to those experienced by men with HFA, however it is possible that there are gender-based differences (in both type and severity of challenges) that require attention.

Predictors of employment status among adults with Autism Spectrum Disorder

BACKGROUND: In the United States, adults with Autism Spectrum Disorder (ASD) experience high rates of unemployment and underemployment in relation to adults with other disabilities and the general population. Yet there is little research examining their employment experiences and the predictors of employment status.

OBJECTIVE: The purpose of this study was to examine the employment characteristics and histories of both employed and unemployed adults with ASD, and the factors that contributed to their employment status.

METHODS: This cross-sectional study used an online survey and the Short Effort Reward Imbalance (ERI) Scale to gather data. Multivariate logistic regression analyses were used to examine predictors of employment status and self-reported health.

RESULTS: Of the 254 adults with ASD who participated in this study, 61.42% were employed and 38.58% were unemployed. Over half of the participants reported job imbalance on the Short ERI Scale and the vast majority did not receive any job assistance. Participants who disclosed their ASD diagnosis to their employer were more than three times as likely to be employed than those who did not disclose. Education level was also a significant predictor of employment status.

CONCLUSIONS: This study suggests disability disclosure and education level are factors that contribute to employment status.

Introduction

In the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5), Autism Spectrum Disorder (ASD) is a new diagnostic classification that subsumes most individuals previously diagnosed with one of four pervasive developmental disorders: Asperger's disorder, autistic disorder, childhood disintegrative disorder, and

pervasive developmental disorder not otherwise specified [1]. The presentation of ASD differs from person to person in severity and combination of symptoms and comorbidity. ASD is hallmarked by communication deficits across multiple contexts and restricted, repetitive patterns of behavior, interests, or activities [2]. Furthermore, people with ASD often struggle with misreading nonverbal interactions, building age appropriate friendships, and adapting to changes in their environment [1]. Like areas of difficulties, the strengths associated with ASD are specific to the person; however, numerous commonalities exist [3]. For instance, many individuals with ASD exhibit detailed thinking, expansive long-term memories, comfort with rules and guidelines, and an affinity for analyzing complex patterns [3].

The symptoms of ASD fall on a continuum, with some individuals showing mild symptoms, while others have more severe symptoms and require extensive support [1]. In the current study, we delimited our sample to individuals on the mild end of the spectrum who were previously diagnosed with Asperger's disorder (AD). It should be noted that AD is characterized by typical or above average intelligence [4] and the same communication deficits associated with ASD. In the literature, AD is often referred to as a non-obvious or hidden disability, because individuals with AD may not appear obviously different, but also don't quite fit in [5]. Frith [6] noted with high intellectual abilities and good environmental supports, the symptoms of AD may go unnoticed by others during short casual conversations; however, when the contextual social skill requirements become overwhelming, the individual with AD will fail to adapt to the new social challenge. Because AD is subsumed under the diagnostic criteria for ASD, we will refer to our study participants as adults with ASD throughout this paper.

In the United States, the prevalence of ASD has increased over the past decade from 1 in 150 children in 2000, to 1 in 68 children in 2010 [7]. For most children who receive an ASD diagnosis, it is a lifelong developmental disorder that continues into adulthood [8]. In their analysis of the age of participants with ASD in 146 intervention research studies, Edwards et al. [9] found the majority of research efforts had focused on young children, with relatively little attention given to adults. While the authors note these findings may be justified given the documented value of early interventions and the rising incidence of ASD [9], Shattuck et al. [10] found as the ASD population ages, they require continued assistance and training to function in their daily lives. An area of particular concern cited throughout the adult ASD literature, is employment [11- 15].

1.1 State of employment

Despite having the ability and desire to work [12], it is estimated that approximately half of adults with ASD are unemployed [16, 17], which is significantly higher than the national unemployment rate (5.0% in November 2015) [18]. Additionally, comparing data from wave four of the national longitudinal transition study (NLTS2) to survey data on young adults with ASD, Shattuck et al. [17] found the employment rate of adults with ASD to be significantly lower than adults with mental retardation, learning disabilities, and speech impairments.

1.2 Barriers to obtaining employment

Personal factors and symptoms associated with ASD have been found to adversely impact employment. In a systematic literature review

examining the predictors of work participation in individuals with ASD, Holwerda et al. [19] found limited cognitive ability to be the only significant predictor to hinder employment across fifteen studies. Although the findings were mixed, eight other factors were found to hinder employment in several studies: (1) severity of the disorder, (2) comorbidity with psychiatric disorders, oppositional personality or epilepsy, (3) gender with females being more likely to have poor outcomes in two out of three studies, (4) lower speech and language abilities, (5) the presence of maladaptive behaviors, (6) the presence of social impairments and lack of empathy, (7) lack of drive, and (8) prior institutionalization (i.e., hospitalization) [19].

Organization and interactional difficulties are also known to impact employment. In their interviews with eighteen adults representing a wide range of the ASD spectrum, Muller et al. [20] found several aspects of the job seeking process to be problematic. This included organizing the job process as a whole, with a number of adults describing difficulties knowing how to look for a job, initiating job contact, and following-up once contact was made [20]. Participants also reported struggling with developing succinct resumes that included pertinent experiences and skills, knowing what type of information to provide on the job application, and how much detail to give during the interview [20]. In their interviews with six adults on the mild end of the ASD spectrum (i.e., AD), Hurlbutt and Chalmers [13] also found the interview process to be an area of difficulty, with one participant reporting the need to practice how to say things during the interview (i.e., delivering social niceties) [13]. In addition to these barriers, frequent job terminations and long periods of unemployment between jobs are noted in the literature [13,

20], creating a checkered work history that is difficult to account for during the job hiring process [20].

1.3 Facilitators to obtaining employment

Studies suggest external supports and some personal factors can facilitate employment. In their systematic review, Holwerda et al. [19], found two factors facilitated employment: (1) education, and (2) family support. In a more recent study using the RSA911 database for 2008, Migliore et al. [21] examined the predictors of employment for young adults (aged 16 to 26 years) with ASD who had received vocational rehabilitation (VR) services, finding the odds of employment were the highest for participants who had received job placement services. Roux et al. [16] also examined the employment experiences of young adults (aged 21 to 25 years) with ASD; however, their sample had not received VR services. They found participants were more likely to find paid employment if they were: (1) older, (2) from a higher income household, and (3) had higher functional skills.

1.4 Underemployment

For adults with ASD who are able to obtain employment, underemployment is common. People may be considered underemployed if they involuntarily work less than full-time, work full-time but don't receive a livable wage, when their job does not afford the opportunity to use their skills, and when their job provides less status than expected on the basis of their background [22]. Several studies have found adults with ASD are typically employed part-time, working less than thirty hours per week on average [21, 23, 24]. However, whether or not these participants chose to work less than full-time is unknown.

Muller et al. [20] found several of their participants with ASD had prepared themselves for professional careers by completing graduate level coursework, yet found themselves working in food-services or low-level administrative or customer service positions for which they were over-qualified. Hurlbutt and Chalmers [13] reported similar experiences of underemployment. The participants with ASD in their study, for the most part, were not able to find jobs in the fields they had been trained in [13]. Moreover, several of the participants described only being able to obtain "menial" or entry-level jobs, such as renting out beach umbrellas and cleaning cat cages (p. 214).

Findings of underemployment are also highlighted in larger scale studies. In their analysis of data from wave five of the National Longitudinal Transition Study (NLST2), Roux et al. [16] found most of the employed adults with ASD made significantly less money than adults with other disabilities and worked in jobs that could largely be considered entry-level (e.g., administrative support, transportation and materials moving, production work involving assembly, food preparation, and grounds cleaning and maintenance). Taking a different tack, studying a sample of high functioning adults with ASD in Australia, Baldwin, Costley, and Warren [23] examined the match between their participants' highest education level and the education level required of their job. They found almost half (45%) of the employed adults with ASD in their study were working in jobs for which they were overqualified.

1.5 Difficulties on the Job

Hurlbutt and Chalmers [13] found a number of their participants attributed their job difficulties to the social demands of the work environment, rather than the job itself. One interviewee reported

that the most important rule of work was to get along with others because, "jobs usually are 80% social (conversation, lunch, breaks, chit-chat) and 20% work" (p. 219). Other interviewees reported numerous social struggles, which included being too blunt, obsessing over the meaning of something a co-worker said, and not knowing how many questions to ask when they needed clarification from their boss. Muller et al. [20] also found the inability to master the social demands of the workplace to be the most frequently mentioned obstacle to vocational success. While some adults with ASD were able to tolerate being socially different, the majority reported that their social deficits led to isolation and alienation in the workplace [20].

Continuous vocational failures have both negative financial and emotional effects on adults with ASD. When describing their inability to obtain work and frequent job terminations, a number of adults with ASD have reported feelings of depression, low self-esteem, and frustration [20]. When asked what they needed for positive employment outcomes, adults with ASD identified finding the appropriate job match with the help from a VR counselor or a job coach was essential because they could provide individualized ASD specific support on the job [20].

Disclosure was also reported to be beneficial because it allowed for job accommodations under the Americans with Disabilities Act [13]. However, there is still stigma attached to disclosure [25], and fear that it will not only prevent hiring, but also lead to the employer finding an excuse to terminate [13]. For those who choose to disclose their disability, other barriers related to ASD may prevent successful disclosure. Initially, adults with ASD may struggle with deciding whom to disclose their disability to within the workplace

[26]. Furthermore, the act of disclosing often requires a complex, emotional, and socially demanding conversation that may be particularly difficult, given the communication deficits and social anxieties often experienced by individuals with ASD [27].

1.6 Purpose

The existing ASD employment literature is rich with evidence from qualitative studies that capture the lived experiences of adults with ASD in their own words and several larger scale studies focusing on young adults' post secondary transition and adults receiving VR services. Due to the research emphasis on adults receiving services, Chen et al. [28] recommend further study of the employment outcomes of adults with ASD outside of the service system. Furthermore, they recommend using reliable outcome measures to examine aspects of employment, such as job satisfaction [28].

The purpose of this study was to examine the employment characteristics and histories of both employed and unemployed adults with ASD, and the factors contributing to employment status. To fill the proposed research gaps, this study included a general population of adults with ASD, receiving various levels of job support. This study also adds to the literature by examining the effect of disability disclosure on employment status and by using the Short Effort Reward Imbalance (ERI) Scale [29] to examine the participants' perceived job imbalance at work.

The model of ERI is based upon the premise that the beneficial effects of work are contingent upon a balance between efforts (demands and obligations) and rewards (money, esteem, and status control) [30]. According to the model, an imbalance, or lack of

reciprocity between costs and gains (i.e., high effort/low reward conditions at work) contributes to a state of sustained emotional distress, which in turn is thought to activate the autonomic nervous system and contribute to adverse physical and psychological health effects [30, 31]. Additionally, individuals who display excessive work related commitment and a high need for approval (over-commitment), are thought to be at an increased risk for strain [31]. A review of forty-five empirical studies supports that effort reward imbalance in the workplace is associated with increased risk of cardiovascular disease, increased smoking and alcohol consumption, and high emotional exhaustion or burnout [32].

Because adults with ASD spend significant effort trying to understand and fit into the social milieu of their jobs (high effort), and their work is often low reward (i.e., part-time, low paying, and entry-level), we hypothesized they would experience a high rate work imbalance on the Short ERI Scale [29]. The relationship between job imbalance and self-reported health was also examined.

2Methods

In this cross-sectional study, we used multivariate logistic regressions to test the relationship between predictor variables, employment outcomes, and self-rated health of adults with ASD living in the United States. Data were gathered from the ASD Employment Questionnaire (ASDEQ), developed by the authors of this study, and the Short ERI Scale [29]. The web link to the online ASDEQ, which also contained the Short ERI Scale [29], was sent to agencies serving adults listed on the Autism Speaks Resource Guide. Our advertisement specified that we were looking for adults previously diagnosed with AD. The sample was self-selecting, with adults responding to recruitment notices issued by participating agencies through emails,

flyer postings, and their websites. Data were gathered from June 2013 through June 2014.

2.1 Sample

To be included in this study, participants were required to meet the following criteria: (a) be 18 years of age or older, and (b) have a previous diagnosis of Asperger's disorder (AD). Participants who did not identify having a diagnosis of AD, who did not complete at least 80% of the questionnaire, and were unemployed due to retirement or enrollment in higher education, were excluded from data analysis. The SUNY Downstate Medical Center Internal Review Board approved this study.

Because the ASDEQ relied on self-report, the authors of the study had no way of verifying participant diagnosis or intellectual ability. To ensure the integrity of the sample, we asked participants if they had been diagnosed with AD. After analyzing participant demographics, we felt their education level (86.45% had some level of post-secondary education) was a strong indicator that the participants should be considered high functioning.

Employment status is related to sleep problems in adults with autism spectrum disorder and no comorbid intellectual impairment

Both sleep problems and unemployment are common in adults with autism spectrum disorder; however, little research has explored this relationship in this population. This study aimed to explore factors that may be associated with the presence of an International Classification of Sleep Disorders-Third Edition defined sleep disorder in adults with autism spectrum disorder (IQ > 80). A total of 36 adults with autism spectrum disorder and 36 controls were included in the study. Participants completed a 14-day actigraphy assessment and questionnaire battery. Overall, 20 adults with autism

spectrum disorder met the International Classification of Sleep Disorders-Third Edition criteria for insomnia and/or a circadian rhythm sleep-wake disorder, while only 4 controls met criteria for these disorders. Adults with autism spectrum disorder and an International Classification of Sleep Disorders-Third Edition sleep disorder had higher scores on the Pittsburgh Sleep Quality Index and were more likely to be unemployed compared to adults with autism spectrum disorder and no sleep disorder. The findings demonstrate, for the first time, that sleep problems are associated with unemployment in adults with autism spectrum disorder. Further research exploring the direction of this effect is required; sleep problems that have developed during adolescence make attainment of employment for those with autism spectrum disorder difficult, or unemployment results in less restrictions required for optimal and appropriate sleep timing.

Recognition, referral, diagnosis, and management of adults with autism: summary of NICE guidance

Autism is a lifelong condition characterised by difficulties in social interaction and communication and by rigid or repetitive behaviours; it affects about 1.1% of adults.¹ Although some people's autism is diagnosed in childhood, for every three known cases, there are two individuals without a diagnosis who might need assessment, support, and interventions for autism at some point in their lives.² Four out of five adults with autism find that obtaining a diagnosis in adulthood is difficult or not possible,³ and many who have all the core symptoms do not receive a formal diagnosis.⁴ Particular problems arise in identifying high functioning autism (Asperger's syndrome), which may not be recognised until adulthood⁵ or may be misdiagnosed as depression, personality disorder, or a psychotic illness. Inadequate identification and assessment of adults with autism not only leads to inadequate care but can also result in inadequate recognition and treatment of coexisting mental and physical health problems. Whereas care for children and young people is relatively well coordinated⁶ this is often not the case for adults. Falling between and being passed around services is a particular problem for adults with autism who have an IQ over 70 and do not have severe and enduring mental illness, as they may be excluded from both learning disabilities and mental health services.³ Social and economic exclusion affects a large proportion of adults with autism. Unemployment or underemployment is a considerable problem for adults with autism, including the 44% of those who do not have a learning disability,⁷ with almost 90% of this group unemployed.⁸

This article summarises the most recent recommendations from the National Institute for Health and Clinical Excellence (NICE) on autism in adults.⁹

Education and employment status of adults with autism spectrum disorders in Germany - a cross sectional-survey

Background

Adults with autism spectrum disorders (ASD) experience challenges in participating in the labour market and struggle to achieve and maintain appropriate professional positions, possibly due to impairments of communication and social interaction. Studies have shown high rates of unemployment as well as evidence of inadequate employment. As knowledge on the participation in the German labour market is scarce, the aim of our study was to examine employment status, type of occupation and inadequate employment in a sample of clinically mostly late-diagnosed and most likely not intellectually disabled adults with ASD in Germany.

Methods

We conducted a cross-sectional-survey in clinically mostly late-diagnosed adults with ASD. Employment status, type of occupation, and the level of formal education and training were examined through a postal questionnaire. Inadequate employment regarding participants' current and longest practised occupation was assessed by transforming participants' information into skill levels of the "Classification of Occupations 2010" of the German Federal Employment Agency, and comparing these with participants' level of formal education and training.

Results

The response rate was 43.2% (N = 185 of N = 428 potential participants). 94.6% were first-time diagnosed when being 18 years of age or older. 56.8% held a general university entrance-level qualification and 24.9% had obtained a Masters' or diploma degree as their highest vocational qualification. 94.1% had been employed at some time. Of these, 68.4% reported being currently employed, 13.5% being currently unemployed and 17.0% being retired for health reasons. Regarding the longest-practised and the current occupation, the highest proportion of participants was found in the occupational area "health and social sector, teaching and education" (22.4% and 23.3%, respectively). With respect to inadequate employment, 22.1% were found to be overeducated in relation to their longest-practised occupation and 31.3% in relation to their current occupation. This is

significantly higher than the percentage of overeducation in the general population.

Conclusions

Despite largely high formal qualifications, the clinically mostly late-diagnosed adults with ASD represented in our sample are disadvantaged regarding their participation in the German labour market, especially with respect to rates of unemployment, early retirement and overeducation. Employment support programs should be developed to improve employment outcomes.

Sex differences in employment and supports for adults with autism spectrum disorder

This study explored sex differences in employment, reasons for unemployment, benefits, and supports among a large, international sample of adults with autism spectrum disorder. The sample included 443 adults with autism spectrum disorder (60% female; 74% residing in the United States) who consented to be part of an autism research registry and completed an Internet survey. Outcome variables included current employment status, number of hours working, number of jobs in the past 5 years, reasons for unemployment, as well as the number of benefits received and the amount of financial support currently being received from families of origin. Using multiple regression models, we found that males and females were working at similar rates. Females were more likely than males to say that their unemployment was a result of choosing to withdraw from the labor market. Similar percentages of males and females reported receiving some form of benefits or family support, but of those receiving benefits/family support, males received more than females. These results are consistent with other studies finding subtle, but potentially important sex differences in life-course outcomes of individuals with autism spectrum disorder.

[Well Educated Unemployed--On Education, Employment and Comorbidities in Adults with High-Functioning Autism Spectrum Disorders in Germany].

Background

Based on clinical experience there is a discrepancy between the educational records and vocational performance in patients with high functioning autism spectrum disorder (ASD).

Method

In order to assess psychosocial and vocational specificities of adult ASD patients we analyzed the demographic and hospital data of consecutively diagnosed patients employing descriptive statistics.

Results

We were able to include 255 patients into our sample who were consecutively diagnosed between October 2009 and October 2011. The gender ratio was 162:93 in favor of male patients. The educational records of our patient sample was comparatively good [50 % highest level of German schooling system (allgemeine Hochschulreife), 39 % university degree], however, the vocational records were poor with 58 % of our patients being unemployed. The psychiatric comorbidity was high, 57 % of the patients suffered from depression.

Conclusion

There is a high need for special support programs for adult high functioning ASD patients focusing on adaptive vocational skills to avoid unemployment and secondary psychiatric problems.

Meeting the vocational support needs of individuals with Asperger Syndrome and other autism spectrum disabilities

The purpose of this pilot study was to seek consumer perspectives on strategies for improving vocational placement and job retention services for individuals with Asperger Syndrome and other autism spectrum disabilities (ASDs). For this purpose, 18 adults with ASDs were individually interviewed about their experiences within the workplace. Participants were asked to (a) describe positive and negative aspects of their vocational experiences, (b) identify major obstacles to successful employment, and (c) recommend appropriate vocational supports to be provided by vocational rehabilitation counselors, employers and co-workers. Qualitative analyses of the interview transcripts revealed a number of common experiences and concerns which suggest the needs of individuals with ASDs should be recognized as different from others with more generalized developmental disabilities and/or mental retardation.

Toward the development of a supported employment program for individuals with high-functioning autism in Germany

Human-human interactions are of central relevance for the success in professional and occupational environments, which also substantially influence quality of life. This is especially true in the case of individuals with high-functioning autism (HFA), who experience deficits in social cognition that often lead to social exclusion and unemployment. Despite good education and high motivation, individuals with HFA do not reach employment rates that are substantially higher than 50 %. This is an alarmingly high rate of unemployment considering that the United Nations have recently emphasized the inclusion of handicapped persons as a mandatory human right. To date, the specific needs of autistic persons with respect to their working

environment are largely unexplored. It remains moreover an open question how support systems and activities, including newly developed communication devices for professional environments of individuals with HFA, should look like. The German health and social care systems are not adequately prepared for the proper support of this population. This leads us to suggest that supported employment programs should be developed for adults with HFA that specifically address their needs and requirements. Such programs should comprise (1) the adequate assessment of HFA, including a neuropsychological profile and an individual matching of persons' preferences with requirements of the working place, (2) on-the-job coaching activities that include systematic communication and interaction training, and (3) instruction of non-autistic peers, including colleagues and supervisors, about weaknesses and strengths of HFA.

Beyond Adaptations and Accommodations: Management Practice that Matters as the Key to Retention of Employees with Autism (Part 1)

United Nations declares that employment is a basic human right. Numerous public policies reference the devastating impact of unemployment on health and social inclusion and seek to promote the economic participation of people-with-disabilities. Some researchers reckon high levels of economic marginalisation are experienced by people with a disability in Australia, in comparison with other OECD countries. In the literature, 80% unemployment rates are reported among working-age people-with-autism spectrum disorder (ASD). This is a critical area of concern that is currently under-researched and poorly addressed. "ASD-ness" (ASD behavioural characteristics) can be regarded as personal differences rather than disorders. Acknowledged experts such as Drucker and Clifton & Harter argue that individuals gain more when they build on their talents rather than focusing on improving weaknesses. The authors, therefore, take an ASD-ness-strengths-based approach philosophy which, in a nutshell, regards ASD-ness as a source of employment strengths and autistic behavioural challenges as personal differences not deficits.

Hiring Agents' Beliefs: A Barrier to Employment of Autistics

Capable, qualified, and working-age (18-65) autistic adults experienced an 83% unemployment rate in the United States in 2017 resulting in extreme poverty and severely decreased quality of life. Research dating from 1957 to 2016 inferred hiring agents' beliefs were the cause. In this multiple regression study, the nature of the relationship between hiring agents' beliefs and their selection of qualified autistic candidates was explored through Ajzen's theory of planned behavior to determine what hiring agent's beliefs, if any, influence the selection of qualified autistic candidates to fill open positions. I used the Hiring Agent Survey Regarding Selection of Qualified Autistic Candidates to anonymously gather data from hiring agents throughout the contiguous United States. Known values of the independent variable, the beliefs influencing hiring agents, were summed and clustered against the TPB-predicted, percentage-based, continuous-level dependent variable, which was hiring agents' selection of qualified autistic candidates. This statistically significant regression analysis, $F(45, 73) = 36.067, p < .001, \text{adj. } R^2 = .930$, predicted the degree to which each control, normative, and behavioral belief influenced hiring agents' selection. Hiring agents' desire for mandated comprehensive organizational diversity, along with their negative stereotypical associations and fear of embarrassment, signify a need for substantive policy and strategic interventions. Results of such aggressive diversity initiatives could considerably improve the nation's socioeconomic health and substantively increase autistics' quality of life.

Implications of Employment Changes Caused by COVID-19 on Mental Health and Work-Related Psychological Need Satisfaction of Autistic Employees: A Mixed-Methods Longitudinal Study

This mixed-methods study examined longitudinal data, assessing Israeli autistic adults' employment-related changes, resulting from the COVID-19 pandemic. In the quantitative phase, 23 participants answered a survey before and during COVID-19, assessing work-status, mental health, and work-related psychological need satisfaction. The qualitative phase included interviews with ten employed participants. Results indicate a significant decrease in mental health of participants who lost their jobs during COVID-19, while participants who continued to physically attend work, maintained pre-COVID-19 levels on all assessed variables. Participants who transitioned to remote-work from home, showed a marginally significant deterioration in mental health and a significant decrease in satisfaction of work-related psychological needs for competence and autonomy.

Qualitative accounts supplement these findings and portray advantages and disadvantages of remote-work.

How could Ireland improve their Autism Unemployment Rate?: An Analysis of how Specialist Supported Employment Programmes, Autism Recruitment Consultancies and Government Legislation Worldwide are addressing Employment Challenges for People on the Autism Spectrum.

This research is based on supported employment programmes that are focused solely on people with autism (also known as autism spectrum disorder or ASD) and what these programmes are doing to support them. I will be discussing in this section what autism is and how certain characteristics of autism can cause struggles if they are unsupported in the workplace. As part of this literature review, I am going to identify problems that are evident in Ireland around the issue of high unemployment in people with autism spectrum disorder. The main area of focus in this paper will be examining the reasons of the high level of unemployment in the autism community and how supported employment programs are addressing this issue. The methodology section which will be made up of philosophical assumptions based on opinions, aims and objectives on the topic of employment programmes and information on the research question. The analysis and finding section will include a discussion on government policies within Ireland and abroad.

Autism in the Workplace: Assessing the Transition Needs of Young Adults with Autism Spectrum Disorder

Over the next decade, close to half a million people with Autism Spectrum Disorder (ASD) will reach adulthood. Research suggests that the career and life outcomes for young adults with ASD are poor as compared with those of the general population. Nevertheless, there is relatively little research on the work experiences of young adults with ASD that focuses on their career aspirations, preparation for work, career experiences, and the barriers associated with their transition into the world of work. Given the large numbers of young adults with ASD who are exiting secondary school and vocational training programs, it is imperative to understand the issues associated with their transition into the world of work. The purpose of this study, which utilizes a survey questionnaire and focus group, is to assess the transition needs and experiences of young adults with ASD as they prepare to enter the workplace. The results indicate that young adults with ASD face significant transition barriers when navigating the world of work and have certain transition needs.

Policy implications for the transition needs identified are presented.

Job loss predicts worsening depressive symptoms for young adults with autism: A COVID-19 natural experiment

Adults with autism spectrum disorder (ASD) experience high rates of both unemployment and depression. Though job loss predicts increased risk of depression in the general population, studies have yet to directly examine this relationship among individuals with ASD. With the backdrop of rising unemployment due to COVID-19, we used a longitudinal design to examine whether employment changes predicted increasing depressive symptoms among young adults with ASD. Online surveys were collected from young adults with ASD at two times: just before widespread social distancing measures were adopted in the United States, and again 10 weeks later. Both time points included measurement of depressive symptoms (Beck Depression Inventory-2). At Time 2, COVID-related employment changes and the perceived impact of those changes on well-being were collected. Of the young adults who were employed at Time 1 ($n = 144$), over one-third (37.5%) reported employment changes during the first 2 months of COVID-19. Most of this change was job loss or reductions in hours or pay ("job loss/reduction"). Controlling for Time 1 depressive symptoms, young adults who experienced job loss/reduction had significantly higher depressive symptoms at Time 2 than those without an employment change. Individuals' perceived impact of employment change also predicted depressive symptoms. These findings suggest that losing a job or experiencing reductions in hours or pay leads to worsening depressive symptoms among adults with ASD. Better supporting autistic adults in the workplace may not only decrease the likelihood of job loss, but also combat the exceedingly high rates of depression in this group.

Applying a public health approach to autism research: A framework for action

Most published autism research, and the funding that supports it, remains focused on basic and clinical science. However, the public health impact of autism drives a compelling argument for utilizing a public health approach to autism research. Fundamental to the public health perspective is a focus on health determinants to improve quality of life and to reduce the potential for adverse outcomes across the general population, including in vulnerable subgroups. While the public health research process can be conceptualized as a linear, 3-stage path consisting of discovery - testing -

translation/dissemination/implementation, in this paper we propose an integrated, cyclical research framework to advance autism public health objectives in a more comprehensive manner. This involves discovery of primary, secondary and tertiary determinants of health in autism; and use of this evidence base to develop and test detection, intervention, and dissemination strategies and the means to implement them in 'real world' settings. The proposed framework serves to facilitate identification of knowledge gaps, translational barriers, and shortfalls in implementation; guides an iterative research cycle; facilitates purposeful integration of stakeholders and interdisciplinary researchers; and may yield more efficient achievement of improved health and well-being among persons on the autism spectrum at the population-level.

Combining voice and language features improves automated autism detection

Variability in expressive and receptive language, difficulty with pragmatic language, and prosodic difficulties are all features of autism spectrum disorder (ASD). Quantifying language and voice characteristics is an important step for measuring outcomes for autistic people, yet clinical measurement is cumbersome and costly. Using natural language processing (NLP) methods and a harmonic model of speech, we analyzed language transcripts and audio recordings to automatically classify individuals as ASD or non-ASD. One-hundred fifty-eight participants (88 ASD, 70 non-ASD) ages 7 to 17 were evaluated with the autism diagnostic observation schedule (ADOS-2), module 3. The ADOS-2 was transcribed following modified SALT guidelines. Seven automated language measures (ALMs) and 10 automated voice measures (AVMs) for each participant were generated from the transcripts and audio of one ADOS-2 task. The measures were analyzed using support vector machine (SVM; a binary classifier) and receiver operating characteristic (ROC). The AVM model resulted in an ROC area under the curve (AUC) of 0.7800, the ALM model an AUC of 0.8748, and the combined model a significantly improved AUC of 0.9205. The ALM model better detected ASD participants who were younger and had lower language skills and shorter activity time. ASD participants detected by the AVM model had better language profiles than those detected by the language model. In combination, automated measurement of language and voice characteristics successfully differentiated children with and without autism. This methodology could help design robust outcome measures for future research.

A mixed methods evaluation of the acceptability of therapy using LEGO® bricks (LEGO® based therapy) in mainstream primary and secondary education

Many autistic children and young people need extra support with social skills. Social skills programmes, such as LEGO® based therapy (LBT), are commonly used to help with these difficulties. The aim of this study was to examine the acceptability of LBT using qualitative interviews and questionnaires with facilitators and parents/guardians on behalf of autistic children and young people. Acceptability was measured in line with constructs of the Theoretical Framework of Acceptability. Questionnaires were analyzed descriptively and between group comparisons were undertaken using the Mann-Whitney U Test. Telephone interviews were undertaken with a sub-sample of facilitators. All interviews were recorded, transcribed verbatim, and framework analysis was performed by two researchers supported by NVivo. The questionnaire response rate was 80% for facilitators and 77% for parents/guardians. Overall acceptability, measured on a 1-5 (minimum-maximum) scale, was high for both facilitators and parents/guardians with a median (range) of 5 (4-5) and 4 (3-5), respectively. Facilitators rated the acceptability of the programme significantly higher overall than parents ($p < 0.001$). Facilitators reported that participants and wider school staff viewed the programme positively. They observed improvements in communication and social skills during the sessions. Potential barriers to programme delivery, such as resources and staff schedules, were identified but facilitators reported that these challenges did not outweigh the benefits. There is increasing emphasis on the role of schools in seeking to improve social outcomes for autistic children therefore this high degree of acceptability makes this an attractive school-based programme for schools, autistic children and their families.

Measuring the prediction of observed actions using an occlusion paradigm: Comparing autistic and non-autistic adults

Action prediction involves observing and predicting the actions of others and plays an important role in social cognition and interacting with others. It is thought to use simulation, whereby the observers use their own motor system to predict the observed actions. As individuals diagnosed with autism are characterized by difficulties understanding the actions of others and motor coordination issues, it is possible that action prediction ability is altered in this population. This study compared action prediction ability between 20 autistic and 22 non-autistic adults using an

occlusion paradigm. Participants watched different videos of a female actor carrying out everyday actions. During each video, the action was transiently occluded by a gray rectangle for 1000 ms. During occlusions, the video was allowed to continue as normal or was moved forward (i.e., appearing to continue too far ahead) or moved backwards (i.e., appearing to continue too far behind). Participants were asked to indicate after each occlusion whether the action continued with the correct timing or was too far ahead/behind. Autistic individuals were less accurate than non-autistic individuals, particularly when the video was too far behind. A trend analysis suggested that autistic participants were more likely to judge too far behind occlusions as being in time. These preliminary results suggest that prediction ability may be altered in autistic adults, potentially due to slower simulation or a delayed onset of these processes.

Autism and the criminal justice system: An analysis of 93 cases

We investigate whether autistic people's vulnerability is taken into account at each stage of the criminal justice system (CJS). Defense lawyers from 12 nations were included in the study although the sample was predominantly from the UK. Lawyers completed an online survey regarding one case in which they had defended an autistic client between January 2015 and January 2020; and on one case in which they had defended a nonautistic client charged with a similar offense, to provide a comparison group. Ninety-three lawyers (85% in the UK) reported on one autistic case, and 53 also reported on one nonautistic case. 75% of autistic clients were not given reasonable adjustments during the process. Only 43% were offered an appropriate adult during police investigations, even though they had an existing diagnosis of autism. 59% of prosecution barristers and 46% of judges said or did something during the trial that made the lawyers concerned that they did not have an adequate understanding of autism. Lawyers were 7.58 times more likely to be concerned about their autistic client's effective participation in court and were 3.83 times more likely to be concerned that their autistic clients would engage in self-harm, compared with their nonautistic clients. There is a failure to identify and address autistic peoples' disability within the CJS. There is a need for mandatory autism training for police officers and the judiciary, with a focus on identifying autism and understanding the needs of autistic people so that reasonable adjustments are offered in all cases.

Attribution of intentions in autism spectrum disorder: A study of event-related potentials

Autism spectrum disorder (ASD) is characterized by social cognition deficits, including difficulties inferring the intentions of others. Although deficits in attribution of intentions (AI) have been consistently replicated in ASD, their exact nature remains unexplored. Here we registered the electrophysiological correlates of a nonverbal social cognition task to investigate AI in autistic adults. Twenty-one male autistic adults and 30 male neurotypical volunteers performed a comic strips task depicting either intentional action (AI) or physical causality with or without human characters, while their electroencephalographic signal was recorded. Compared to neurotypical volunteers, autistic participants were significantly less accurate in correctly identifying congruence in the AI condition, but not in the physical causality conditions. In the AI condition a bilateral posterior positive event-related potential (ERP) occurred 200-400 ms post-stimulus (the ERP intention effect) in both groups. This waveform comprised a P200 and a P300 component, with the P200 component being larger for the AI condition in neurotypical volunteers but not in autistic individuals, who also showed a longer latency for this waveform. Group differences in amplitude of the ERP intention effect only became evident when we compared autistic participants to a subgroup of similarly performing neurotypical participants, suggesting that the atypical ERP waveform in ASD is an effect of group, rather than a marker of low-task performance. Together, these results suggest that the lower accuracy of the ASD group in the AI task may result from impaired early attentional processing and contextual integration of socially relevant cues.

Ameliorating the disadvantage for autistic job seekers: An initial evaluation of adapted employment interview questions

Despite possessing valuable skills, social communication differences mean that autistic people are frequently disadvantaged in job interviews. We examined how autistic and non-autistic adults compared on standard (unmodified) job interview questions, and then used these findings to develop and evaluate supportive adaptations to questions. Fifty adults (25 autistic, 25 non-autistic) took part in two mock job interviews. Interview 1 provided a baseline measure of performance when answering typical, unmodified interview questions. Employment experts (unaware of participants' autism diagnoses) rated all interviewees on question-specific performance and overall impressions and then provided feedback about how interviewees could improve and

how questions could be adapted to facilitate this. Interviewees also provided feedback about the interview process from their perspective. Adaptations to the questions were developed, with Interview 2 taking place approximately 6 months later. Results demonstrated that, in Interview 1, employment experts rated autistic interviewees less favourably than nonautistic interviewees. Ratings of both autistic and non-autistic participants' answers improved in Interview 2, but particularly for autistic interviewees (such that differences between autistic and non-autistic interviewees' performance reduced in Interview 2). Employers should be aware that adaptations to job interview questions are critical to level the playing field for autistic candidates.

Lay abstract

Despite possessing valuable skills, differences in the way that autistic people understand and respond to others in social situations mean that they are frequently disadvantaged in job interviews. We examined how autistic and non-autistic adults compared on standard (unmodified) job interview questions, and then used these findings to develop and evaluate supportive adaptations to questions. Fifty adults (25 autistic, 25 non-autistic) took part in two mock job interviews. Interview 1 provided a baseline measure of performance when answering typical, unmodified interview questions. Employment experts (unaware of participants' autism diagnoses) rated all interviewees on their responses to each question and their overall impressions of them and then provided feedback about how interviewees could improve and how questions could be adapted to facilitate this. Interviewees also provided feedback about the interview process, from their perspective. Adaptations to the questions were developed, with Interview 2 taking place approximately 6 months later. Results demonstrated that, in Interview 1, employment experts rated autistic interviewees less favourably than non-autistic interviewees. Ratings of both autistic and non-autistic participants' answers improved in Interview 2, but particularly for autistic interviewees (such that differences between autistic and non-autistic interviewees' performance reduced in Interview 2). Employers should be aware that adaptations to job interview questions are critical to level the playing field for autistic candidates.

Working Nine to Five: A Qualitative Research Study Examining the Interview Behaviors of a Young Adult Diagnosed with an Autism Spectrum Disorder

Individuals diagnosed with an autism spectrum disorder experience difficulties when communicating and displaying appropriate social body language with others. Given the verbal and non-verbal communicative nature of the interview process, this research study sought to explore the employer perspective of both the negative and positive social behavioral characteristics that impact employer hiring decisions regarding young adults diagnosed with an autism spectrum disorder. The study utilized a qualitative methodology along with content analysis and analytical induction to interpret participant observations of a six minute mock interview video of a young adult diagnosed with an autism spectrum disorder.

Prior to sharing their observations, participants were not informed that the young man in the video was diagnosed with an autism spectrum disorder. The last two questions of the survey addressed autism spectrum disorder. Unexpectedly, 67% of participants would consider hiring the young man. This did not guarantee employment, yet did provide the possibility of employment. However, the participants were able to identify positive physical social behaviors that would contribute to their hiring decision. Further research regarding the implications of employer hiring decisions in accordance with the Americans with Disabilities Act, as well as a focus on the training and development of social skills development programs and/or workshops is needed.

Neurodiversity and human resource management: Employer challenges for applicants and employees with learning disabilities.

Neurodiversity is a term that evolved from the advocacy movement on behalf of individuals with autism spectrum disorders (ASD) and has been embraced by other groups of individuals with neurologically based disabilities (e.g., learning disabilities; LDs). It suggests that these disabilities are a natural variation in brain differences and that the workplace should adapt to them. This article examines challenges for human resource management posed by such adaptations for individuals with LD. These challenges include fairness in selection, access to training and learning, and career development

activities. The implications of preparing neurodiverse employees, especially those with LDs, for increasingly technological and information-driven jobs are considered. (PsycInfo Database Record (c) 2022 APA, all rights reserved)

Neurodiversity at Work

This report seeks to identify policies and practices which ensure the integration of people with the following neurological conditions into mainstream employment:

Attention Deficit Disorders

Autism

Dyslexia

Dyspraxia.

The report, in addition, aims to ensure that the benefits of having a 'neurodiverse' workforce are fully-realised.

'Neurodiversity' refers to the diversity of the human brain and neurocognitive functioning. As such, neurodiversity encompasses individuals who are 'neurotypical' and 'neurodivergent'. Neurodivergent people have one or more of the above (and possibly other) neurological conditions. The conditions share common features, in particular, differences in how people learn and process information. Whilst a neurotypical person's brain functioning is aligned with the prevailing idea of what is considered 'normal' functioning, a neurodivergent individual's neurocognitive functioning differs from this 'norm'.¹ The neurodiversity paradigm is a specific perspective which holds that neurodiversity is a natural form of human diversity and that all styles of neurocognitive functioning are equally valid. The neurodiversity movement frames minority neurotypes such as autism as natural human variations, which are authentic forms of human diversity and self-expression rather than pathologies.

The present study adopts this broad principle in approaching the subject of

neurodiversity specifically within the context of employment. It is based on case studies of two organisations: one large employer based in the private sector and the other a medium-sized public sector employer. The aim is to provide evidence that Acas (the Advisory, Conciliation and Arbitration Service) can use to contribute to emerging debates on neurodiversity as an issue that impacts on workplace relations, and to inform the guidance that it produces for employers, including action around neurodiversity in mainstream employment. A crucial point to be noted is that the neurological conditions under consideration are spectrum conditions which have a range of associated characteristics. These are present in varying degrees and combinations in neurodivergent individuals (and in the general population). Hence, the characteristics displayed by a person with one or more neurological condition will not necessarily match another person with the same condition(s). Moreover, individuals' handling of the challenging characteristics associated with their condition will differ at points in time.

https://www.diversitymckenzie.co.uk/wp-content/uploads/2020/03/Neurodiversity_at_work_09162.pdf

Ryman Case Study | Exceptional Individuals | Improving how they recruit neurodiverse talent

Ryman is a stationery retail company with 205 outlets nationwide in the United Kingdom. The website and stores provide a wide range of stationery and office supplies for homes and businesses, with its headquarters in Crewe, Cheshire.

As well as being the nation's high street stationery specialist, many Ryman stores offer additional business services to customers. For example, copy and print services, laminating and document binding.

More than ever, workforces are struggling to recruit top talent and to retain it. At the same time, current common employment practices prevent many neurodiverse people, despite their proven ability, entry to the job market.

For our economy to move forward, we need our top companies to have access to a wider application pool and the power of a neurodiverse mind.

We partnered with Ryman to use neurodiversity as a solution to three barriers they were facing: not having access to the neurodiverse talent pool, improving turnover rates, improving recruitment practices.

<https://exceptionalindividuals.com/about-us/neurodiversity-case-studies-uk/ryman-case-study-inclusive-employer/>

'Something needs to change': Mental health experiences of young autistic adults in England

There is a high incidence and prevalence of mental health problems among young people, with several barriers to help-seeking noted in this group. High rates of mental health problems have also been reported in children and adults on the autism spectrum. Taken together, young autistic people may be a particularly vulnerable group when it comes to mental health. Yet, there has been remarkably little work on the mental health needs and experiences of young autistic adults (16-25 years). Adopting a community-based participatory research (CBPR) approach - in which academic researchers and young autistic adults collaborated in an equitable research partnership - we explored young autistic people's experiences of mental health problems and their perspectives on the support they sought, if any, for these problems. A total of 130 young autistic adults took part in the research: 109 completed an online survey and 21 took part in detailed interviews. The results highlight how young autistic people find it difficult to evaluate their mental health, experience high levels of stigma and often face severe obstacles when trying to access mental health support. The findings also demonstrate how listening to - and learning from - young autistic people is crucial in ensuring that their mental health needs are met.

Employment status is related to sleep problems in adults with autism spectrum disorder and no comorbid intellectual impairment

Both sleep problems and unemployment are common in adults with autism spectrum disorder; however, little research has explored this relationship in this population. This study aimed to explore factors that may be associated with the presence of an International Classification of Sleep Disorders-Third Edition defined sleep disorder in adults with autism spectrum disorder (IQ > 80). A total of 36 adults with autism spectrum disorder and 36 controls were included in the study. Participants completed a 14-day actigraphy assessment and questionnaire battery. Overall, 20 adults with autism spectrum disorder met the International Classification of Sleep Disorders-Third Edition criteria for insomnia and/or a circadian rhythm sleep-wake disorder, while only 4 controls met criteria for these disorders. Adults with autism spectrum disorder and an International Classification of Sleep Disorders-Third Edition sleep disorder had higher scores on the Pittsburgh Sleep Quality Index and were more likely to be unemployed compared to adults with autism spectrum disorder and no sleep disorder. The findings demonstrate, for the first time, that sleep problems are associated with unemployment in adults with autism spectrum disorder. Further research exploring the direction of this effect is required; sleep problems that have developed during adolescence make attainment of employment for those with autism spectrum disorder difficult, or unemployment results in less restrictions required for optimal and appropriate sleep timing.

Recognition, referral, diagnosis, and management of adults with autism: summary of NICE guidance

Autism is a lifelong condition characterised by difficulties in social interaction and communication and by rigid or repetitive behaviours; it affects about 1.1% of adults.¹ Although some people's autism is diagnosed in childhood, for every three known cases, there are two individuals without a diagnosis who might need assessment, support, and interventions for autism at some point in their lives.² Four out of five adults with autism find that obtaining a diagnosis in adulthood is difficult or not possible,³ and many who have all the core symptoms do not receive a formal diagnosis.⁴ Particular problems arise in identifying high functioning autism (Asperger's syndrome), which may not be recognised until adulthood⁵ or may be misdiagnosed as depression, personality disorder, or a psychotic illness. Inadequate identification and assessment of adults with autism not

only leads to inadequate care but can also result in inadequate recognition and treatment of coexisting mental and physical health problems. Whereas care for children and young people is relatively well coordinated⁶ this is often not the case for adults. Falling between and being passed around services is a particular problem for adults with autism who have an IQ over 70 and do not have severe and enduring mental illness, as they may be excluded from both learning disabilities and mental health services.³ Social and economic exclusion affects a large proportion of adults with autism. Unemployment or underemployment is a considerable problem for adults with autism, including the 44% of those who do not have a learning disability,⁷ with almost 90% of this group unemployed.⁸ This article summarises the most recent recommendations from the National Institute for Health and Clinical Excellence (NICE) on autism in adults.⁹

Education and employment status of adults with autism spectrum disorders in Germany - a cross sectional-survey

Background

Adults with autism spectrum disorders (ASD) experience challenges in participating in the labour market and struggle to achieve and maintain appropriate professional positions, possibly due to impairments of communication and social interaction. Studies have shown high rates of unemployment as well as evidence of inadequate employment. As knowledge on the participation in the German labour market is scarce, the aim of our study was to examine employment status, type of occupation and inadequate employment in a sample of clinically mostly late-diagnosed and most likely not intellectually disabled adults with ASD in Germany.

Methods

We conducted a cross-sectional-survey in clinically mostly late-diagnosed adults with ASD. Employment status, type of occupation, and the level of formal education and training were examined through a postal questionnaire. Inadequate employment regarding participants' current and longest practised occupation was assessed by transforming participants' information into skill levels of the "Classification of Occupations 2010" of the German Federal Employment Agency, and comparing these with participants' level of formal education and training.

Results

The response rate was 43.2% (N = 185 of N = 428 potential participants). 94.6% were first-time diagnosed when being 18 years of

age or older. 56.8% held a general university entrance-level qualification and 24.9% had obtained a Masters' or diploma degree as their highest vocational qualification. 94.1% had been employed at some time. Of these, 68.4% reported being currently employed, 13.5% being currently unemployed and 17.0% being retired for health reasons. Regarding the longest-practised and the current occupation, the highest proportion of participants was found in the occupational area "health and social sector, teaching and education" (22.4% and 23.3%, respectively). With respect to inadequate employment, 22.1% were found to be overeducated in relation to their longest-practised occupation and 31.3% in relation to their current occupation. This is significantly higher than the percentage of overeducation in the general population.

Conclusions

Despite largely high formal qualifications, the clinically mostly late-diagnosed adults with ASD represented in our sample are disadvantaged regarding their participation in the German labour market, especially with respect to rates of unemployment, early retirement and overeducation. Employment support programs should be developed to improve employment outcomes.

Sex differences in employment and supports for adults with autism spectrum disorder

This study explored sex differences in employment, reasons for unemployment, benefits, and supports among a large, international sample of adults with autism spectrum disorder. The sample included 443 adults with autism spectrum disorder (60% female; 74% residing in the United States) who consented to be part of an autism research registry and completed an Internet survey. Outcome variables included current employment status, number of hours working, number of jobs in the past 5 years, reasons for unemployment, as well as the number of benefits received and the amount of financial support currently being received from families of origin. Using multiple regression models, we found that males and females were working at similar rates. Females were more likely than males to say that their unemployment was a result of choosing to withdraw from the labor market. Similar percentages of males and females reported receiving some form of benefits or family support, but of those receiving benefits/family support, males received more than females. These results are consistent with other studies finding subtle, but potentially important sex differences in life-course outcomes of individuals with autism spectrum disorder.

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The purpose of this pilot study was to seek consumer perspectives on strategies for improving vocational placement and job retention services for individuals with Asperger Syndrome and other autism spectrum disabilities (ASDs). For this purpose, 18 adults with ASDs were individually interviewed about their experiences within the workplace. Participants were asked to (a) describe positive and negative aspects of their vocational experiences, (b) identify major obstacles to successful employment, and (c) recommend appropriate vocational supports to be provided by vocational rehabilitation counselors, employers and co-workers. Qualitative analyses of the interview transcripts revealed a number of common experiences and concerns which suggest the needs of individuals with ASDs should be recognized as different from others with more generalized developmental disabilities and/or mental retardation.

Toward the development of a supported employment program for individuals with high-functioning autism in Germany

Human-human interactions are of central relevance for the success in professional and occupational environments, which also substantially influence quality of life. This is especially true in the case of individuals with high-functioning autism (HFA), who experience deficits in social cognition that often lead to social exclusion and unemployment. Despite good education and high motivation, individuals with HFA do not reach employment rates that are substantially higher than 50 %. This is an alarmingly high rate of unemployment considering that the United Nations have recently emphasized the inclusion of handicapped persons as a mandatory human right. To date, the specific needs of autistic persons with respect to their working environment are largely unexplored. It remains moreover an open question how support systems and activities, including newly developed communication devices for professional environments of individuals with HFA, should look like. The German health and social care systems are not adequately prepared for the proper support of this population. This leads us to suggest that supported employment programs should be developed for adults with HFA that specifically address their needs and requirements. Such programs should comprise (1) the adequate assessment of HFA, including a neuropsychological profile and an individual matching of persons' preferences with requirements of the working place, (2) on-the-job coaching activities that include systematic communication and interaction training, and (3) instruction of non-autistic peers, including colleagues and supervisors, about weaknesses and strengths of HFA.

Beyond Adaptations and Accommodations: Management Practice that Matters as the Key to Retention of Employees with Autism (Part 1)

United Nations declares that employment is a basic human right. Numerous public policies reference the devastating impact of unemployment on health and social inclusion and seek to promote the economic participation of people-with-disabilities. Some researchers reckon high levels of economic marginalisation are experienced by people with a disability in Australia, in comparison with other OECD countries. In the literature, 80% unemployment rates are reported among working-age people-with-autism spectrum disorder

(ASD). This is a critical area of concern that is currently under-researched and poorly addressed. "ASD-ness" (ASD behavioural characteristics) can be regarded as personal differences rather than disorders. Acknowledged experts such as Drucker and Clifton & Harter argue that individuals gain more when they build on their talents rather than focusing on improving weaknesses. The authors, therefore, take an ASD-ness-strengths-based approach philosophy which, in a nutshell, regards ASD-ness as a source of employment strengths and autistic behavioural challenges as personal differences not deficits.

Hiring Agents' Beliefs: A Barrier to Employment of Autistics

Capable, qualified, and working-age (18-65) autistic adults experienced an 83% unemployment rate in the United States in 2017 resulting in extreme poverty and severely decreased quality of life. Research dating from 1957 to 2016 inferred hiring agents' beliefs were the cause. In this multiple regression study, the nature of the relationship between hiring agents' beliefs and their selection of qualified autistic candidates was explored through Ajzen's theory of planned behavior to determine what hiring agent's beliefs, if any, influence the selection of qualified autistic candidates to fill open positions. I used the Hiring Agent Survey Regarding Selection of Qualified Autistic Candidates to anonymously gather data from hiring agents throughout the contiguous United States. Known values of the independent variable, the beliefs influencing hiring agents, were summed and clustered against the TPB-predicted, percentage-based, continuous-level dependent variable, which was hiring agents' selection of qualified autistic candidates. This statistically significant regression analysis, $F(45, 73) = 36.067$, $p < .001$, adj. $R^2 = .930$, predicted the degree to which each control, normative, and behavioral belief influenced hiring agents' selection. Hiring agents' desire for mandated comprehensive organizational diversity, along with their negative stereotypical associations and fear of embarrassment, signify a need for substantive policy and strategic interventions. Results of such aggressive diversity initiatives could considerably improve the nation's socioeconomic health and substantively increase autistics' quality of life.

Implications of Employment Changes Caused by COVID-19 on Mental Health and Work-Related Psychological Need Satisfaction of Autistic Employees: A Mixed-Methods Longitudinal Study

This mixed-methods study examined longitudinal data, assessing Israeli autistic adults' employment-related changes, resulting from the COVID-19 pandemic. In the quantitative phase, 23 participants answered a survey before and during COVID-19, assessing work-status, mental health, and work-related psychological need satisfaction. The qualitative phase included interviews with ten employed participants. Results indicate a significant decrease in mental health of participants who lost their jobs during COVID-19, while participants who continued to physically attend work, maintained pre-COVID-19 levels on all assessed variables. Participants who transitioned to remote-work from home, showed a marginally significant deterioration in mental health and a significant decrease in satisfaction of work-related psychological needs for competence and autonomy. Qualitative accounts supplement these findings and portray advantages and disadvantages of remote-work.

How could Ireland improve their Autism Unemployment Rate?: An Analysis of how Specialist Supported Employment Programmes, Autism Recruitment Consultancies and Government Legislation Worldwide are addressing Employment Challenges for People on the Autism Spectrum.

This research is based on supported employment programmes that are focused solely on people with autism (also known as autism spectrum disorder or ASD) and what these programmes are doing to support them. I will be discussing in this section what autism is and how certain characteristics of autism can cause struggles if they are unsupported in the workplace. As part of this literature review, I am going to identify problems that are evident in Ireland around the issue of high unemployment in people with autism spectrum disorder. The main area of focus in this paper will be examining the reasons of the high level of unemployment in the autism community and how supported employment programs are addressing this issue. The methodology section which will be made up of philosophical assumptions based on opinions, aims and objectives on the topic of employment programmes and information on the research question. The analysis and finding section will include a discussion on government policies within Ireland and abroad.

Autism in the Workplace: Assessing the Transition Needs of Young Adults with Autism Spectrum Disorder

Over the next decade, close to half a million people with Autism Spectrum Disorder (ASD) will reach adulthood. Research suggests that the career and life outcomes for young adults with ASD are poor as compared with those of the general population. Nevertheless, there is

relatively little research on the work experiences of young adults with ASD that focuses on their career aspirations, preparation for work, career experiences, and the barriers associated with their transition into the world of work. Given the large numbers of young adults with ASD who are exiting secondary school and vocational training programs, it is imperative to understand the issues associated with their transition into the world of work. The purpose of this study, which utilizes a survey questionnaire and focus group, is to assess the transition needs and experiences of young adults with ASD as they prepare to enter the workplace. The results indicate that young adults with ASD face significant transition barriers when navigating the world of work and have certain transition needs. Policy implications for the transition needs identified are presented.

Job loss predicts worsening depressive symptoms for young adults with autism: A COVID-19 natural experiment

Adults with autism spectrum disorder (ASD) experience high rates of both unemployment and depression. Though job loss predicts increased risk of depression in the general population, studies have yet to directly examine this relationship among individuals with ASD. With the backdrop of rising unemployment due to COVID-19, we used a longitudinal design to examine whether employment changes predicted increasing depressive symptoms among young adults with ASD. Online surveys were collected from young adults with ASD at two times: just before widespread social distancing measures were adopted in the United States, and again 10 weeks later. Both time points included measurement of depressive symptoms (Beck Depression Inventory-2). At Time 2, COVID-related employment changes and the perceived impact of those changes on well-being were collected. Of the young adults who were employed at Time 1 ($n = 144$), over one-third (37.5%) reported employment changes during the first 2 months of COVID-19. Most of this change was job loss or reductions in hours or pay ("job loss/reduction"). Controlling for Time 1 depressive symptoms, young adults who experienced job loss/reduction had significantly higher depressive symptoms at Time 2 than those without an employment change. Individuals' perceived impact of employment change also predicted depressive symptoms. These findings suggest that losing a job or experiencing reductions in hours or pay leads to worsening depressive symptoms among adults with ASD. Better supporting autistic adults in the workplace may not only decrease the likelihood of job loss, but also combat the exceedingly high rates of depression in this group.

Applying a public health approach to autism research: A framework for action

Most published autism research, and the funding that supports it, remains focused on basic and clinical science. However, the public health impact of autism drives a compelling argument for utilizing a public health approach to autism research. Fundamental to the public health perspective is a focus on health determinants to improve quality of life and to reduce the potential for adverse outcomes across the general population, including in vulnerable subgroups. While the public health research process can be conceptualized as a linear, 3-stage path consisting of discovery - testing - translation/dissemination/implementation, in this paper we propose an integrated, cyclical research framework to advance autism public health objectives in a more comprehensive manner. This involves discovery of primary, secondary and tertiary determinants of health in autism; and use of this evidence base to develop and test detection, intervention, and dissemination strategies and the means to implement them in 'real world' settings. The proposed framework serves to facilitate identification of knowledge gaps, translational barriers, and shortfalls in implementation; guides an iterative research cycle; facilitates purposeful integration of stakeholders and interdisciplinary researchers; and may yield more efficient achievement of improved health and well-being among persons on the autism spectrum at the population-level.

Combining voice and language features improves automated autism detection

Variability in expressive and receptive language, difficulty with pragmatic language, and prosodic difficulties are all features of autism spectrum disorder (ASD). Quantifying language and voice characteristics is an important step for measuring outcomes for autistic people, yet clinical measurement is cumbersome and costly. Using natural language processing (NLP) methods and a harmonic model of speech, we analyzed language transcripts and audio recordings to automatically classify individuals as ASD or non-ASD. One-hundred fifty-eight participants (88 ASD, 70 non-ASD) ages 7 to 17 were evaluated with the autism diagnostic observation schedule (ADOS-2), module 3. The ADOS-2 was transcribed following modified SALT guidelines. Seven automated language measures (ALMs) and 10 automated voice measures (AVMs) for each participant were generated from the transcripts and audio of one ADOS-2 task. The measures were analyzed using support vector machine (SVM; a binary classifier) and receiver operating characteristic (ROC). The AVM model resulted in an ROC area

under the curve (AUC) of 0.7800, the ALM model an AUC of 0.8748, and the combined model a significantly improved AUC of 0.9205. The ALM model better detected ASD participants who were younger and had lower language skills and shorter activity time. ASD participants detected by the AVM model had better language profiles than those detected by the language model. In combination, automated measurement of language and voice characteristics successfully differentiated children with and without autism. This methodology could help design robust outcome measures for future research.

A mixed methods evaluation of the acceptability of therapy using LEGO® bricks (LEGO® based therapy) in mainstream primary and secondary education

Many autistic children and young people need extra support with social skills. Social skills programmes, such as LEGO® based therapy (LBT), are commonly used to help with these difficulties. The aim of this study was to examine the acceptability of LBT using qualitative interviews and questionnaires with facilitators and parents/guardians on behalf of autistic children and young people. Acceptability was measured in line with constructs of the Theoretical Framework of Acceptability. Questionnaires were analyzed descriptively and between group comparisons were undertaken using the Mann-Whitney U Test. Telephone interviews were undertaken with a sub-sample of facilitators. All interviews were recorded, transcribed verbatim, and framework analysis was performed by two researchers supported by NVivo. The questionnaire response rate was 80% for facilitators and 77% for parents/guardians. Overall acceptability, measured on a 1-5 (minimum-maximum) scale, was high for both facilitators and parents/guardians with a median (range) of 5 (4-5) and 4 (3-5), respectively. Facilitators rated the acceptability of the programme significantly higher overall than parents ($p < 0.001$). Facilitators reported that participants and wider school staff viewed the programme positively. They observed improvements in communication and social skills during the sessions. Potential barriers to programme delivery, such as resources and staff schedules, were identified but facilitators reported that these challenges did not outweigh the benefits. There is increasing emphasis on the role of schools in seeking to improve social outcomes for autistic children therefore this high degree of acceptability makes this an attractive school-based programme for schools, autistic children and their families.

Measuring the prediction of observed actions using an occlusion paradigm: Comparing autistic and non-autistic adults

Action prediction involves observing and predicting the actions of others and plays an important role in social cognition and interacting with others. It is thought to use simulation, whereby the observers use their own motor system to predict the observed actions. As individuals diagnosed with autism are characterized by difficulties understanding the actions of others and motor coordination issues, it is possible that action prediction ability is altered in this population. This study compared action prediction ability between 20 autistic and 22 non-autistic adults using an occlusion paradigm. Participants watched different videos of a female actor carrying out everyday actions. During each video, the action was transiently occluded by a gray rectangle for 1000 ms. During occlusions, the video was allowed to continue as normal or was moved forward (ie, appearing to continue too far ahead) or moved backwards (ie, appearing to continue too far behind). Participants were asked to indicate after each occlusion whether the action continued with the correct timing or was too far ahead/behind. Autistic individuals were less accurate than non-autistic individuals, particularly when the video was too far behind. A trend analysis suggested that autistic participants were more likely to judge too far behind occlusions as being in time. These preliminary results suggest that prediction ability may be altered in autistic adults, potentially due to slower simulation or a delayed onset of these processes.

Autism and the criminal justice system: An analysis of 93 cases

We investigate whether autistic people's vulnerability is taken into account at each stage of the criminal justice system (CJS). Defense lawyers from 12 nations were included in the study although the sample was predominantly from the UK. Lawyers completed an online survey regarding one case in which they had defended an autistic client between January 2015 and January 2020; and on one case in which they had defended a nonautistic client charged with a similar offense, to provide a comparison group. Ninety-three lawyers (85% in the UK) reported on one autistic case, and 53 also reported on one nonautistic case. 75% of autistic clients were not given reasonable adjustments during the process. Only 43% were offered an appropriate adult during police investigations, even though they had an existing diagnosis of autism. 59% of prosecution barristers and 46% of judges said or did something during the trial that made the lawyers concerned that they did not have an adequate understanding of autism. Lawyers were 7.58 times more likely to be concerned about their

autistic client's effective participation in court and were 3.83 times more likely to be concerned that their autistic clients would engage in self-harm, compared with their nonautistic clients. There is a failure to identify and address autistic peoples' disability within the CJS. There is a need for mandatory autism training for police officers and the judiciary, with a focus on identifying autism and understanding the needs of autistic people so that reasonable adjustments are offered in all cases.

Attribution of intentions in autism spectrum disorder: A study of event-related potentials

Autism spectrum disorder (ASD) is characterized by social cognition deficits, including difficulties inferring the intentions of others. Although deficits in attribution of intentions (AI) have been consistently replicated in ASD, their exact nature remains unexplored. Here we registered the electrophysiological correlates of a nonverbal social cognition task to investigate AI in autistic adults. Twenty-one male autistic adults and 30 male neurotypical volunteers performed a comic strips task depicting either intentional action (AI) or physical causality with or without human characters, while their electroencephalographic signal was recorded. Compared to neurotypical volunteers, autistic participants were significantly less accurate in correctly identifying congruence in the AI condition, but not in the physical causality conditions. In the AI condition a bilateral posterior positive event-related potential (ERP) occurred 200–400 ms post-stimulus (the ERP intention effect) in both groups. This waveform comprised a P200 and a P300 component, with the P200 component being larger for the AI condition in neurotypical volunteers but not in autistic individuals, who also showed a longer latency for this waveform. Group differences in amplitude of the ERP intention effect only became evident when we compared autistic participants to a subgroup of similarly performing neurotypical participants, suggesting that the atypical ERP waveform in ASD is an effect of group, rather than a marker of low-task performance. Together, these results suggest that the lower accuracy of the ASD group in the AI task may result from impaired early attentional processing and contextual integration of socially relevant cues.

ADHD

The association between attention-deficit/hyperactivity (ADHD) symptoms and self-employment

Attention-deficit/hyperactivity (ADHD) symptoms have been associated with the decision to become self-employed. Although these symptoms are generally regarded as disadvantageous, there may also be a bright side. To our knowledge, however, there has been no systematic, epidemiological evidence to support this claim. This paper examines the association between ADHD symptoms and self-employment in a population-based sample from the STAGE cohort of the Swedish Twin Registry (N = 7208). For replication, we used a sample of Dutch students who participated in the Global University Entrepreneurial Spirit Students' Survey (N = 13,112). In the Swedish sample, we found a positive association with self-employment for both general ADHD symptoms [odds ratio (OR) 1.13; 95 % confidence intervals (CI) 1.04-1.23] and hyperactivity symptoms [OR 1.19; 95 % CI 1.08-1.32], whereas no association was found for attention-deficit symptoms [OR 0.99; 95 % CI 0.89-1.10]. The positive association between hyperactivity and self-employment was replicated in the Dutch student sample [OR 1.09; 95 % CI 1.03-1.15]. Our results show that certain aspects of ADHD, in particular hyperactivity, can have a bright side, as they are positively associated with self-employment.

THE EFFECTS OF CHILDHOOD ADHD ON ADULT LABOR MARKET OUTCOMES

Although several types of mental illness, including substance abuse disorders, have been linked with poor labor market outcomes, no current research has been able to examine the effects of childhood attention deficit/hyperactivity disorder (ADHD). Because ADHD has become one of the most prevalent childhood mental conditions, it is useful to understand the full set of consequences of the illness. This article uses a longitudinal national sample, including sibling pairs, to show the important labor market outcome consequences of ADHD. The employment reduction is between 10 and 14 percentage points, the earnings reduction is approximately 33%, and the increase in social assistance is 15 points, figures that are larger than many estimates of the Black people/White people earnings gap and the gender earnings gap. A small share of the link is explained by educational attainments and co-morbid health conditions and behaviors. The results also show important differences in labor market consequences by family background and age of onset. These findings, along with similar research showing that ADHD is linked

with poor education outcomes and adult crime, suggest the importance of treating childhood ADHD to foster human capital.

Attention Deficit Hyperactivity Disorder (ADHD) and Earnings in Later-Life Self-Employment

Recent studies have shown that individuals with attention deficit hyperactivity disorder (ADHD) are relatively often engaged in self-employment. We analyze whether self-employment mediates the relationship between ADHD and earnings. To overcome endogeneity concerns in the estimation of this relationship, we use the polygenic risk score (PRS) for ADHD. In our longitudinal sample of 7,905 individuals (50–65 years old) from the Health and Retirement Study, a standard deviation increase in the PRS for ADHD increases the odds of self-employment by 32% and decreases yearly earnings by 5%. Self-employment explains (mediates) 59% of the negative relationship between the PRS for ADHD and earnings.

Employment experiences of parents of children with ASD or ADHD: an exploratory study

Parents of children with attention deficit hyperactivity disorder (ADHD) or autism spectrum disorder (ASD) are often hindered by their carer status as they seek to obtain and maintain employment opportunities. These parents can incur financial, social, and psychological distress related to their inability to commit to the demands of a typical work environment. This paper seeks to identify the course of employment for parents following a child's diagnosis. This paper also seeks to delineate factors that influence continued employment despite carer status, as well as the factors that prevent continued employment. A sample of 10 parents of children with a primary diagnosis of ASD and a sample of 10 parents of children with a primary diagnosis of ADHD were interviewed concerning their employment experiences before and after the diagnoses of their children. The interviews were analyzed using interpretive phenomenological analysis and produced several discrete themes. Participants identified a desire for normality, as well as financial motivation, as the primary factors determining continued employment. These parents also reported various barriers to employment such as lack of availability of adequate childcare, colleague and manager misunderstanding, inflexible organizational policies, and inaccessibility of opportunity. These findings offer a qualitative overview of the vocational struggles of parents of children with ADHD and ASD while implying the necessity of support and education for

this often-overlooked group of carers, as well as those who employ them.

Young Adult Educational and Vocational Outcomes of Children Diagnosed with ADHD

Decreased success at work and educational attainment by adulthood are of concern for children with ADHD given their widely documented academic difficulties; however there are few studies that have examined this empirically and even fewer that have studied predictors and individual variability of these outcomes. The current study compares young adults with and without a childhood diagnosis of ADHD on educational and occupational outcomes and the predictors of these outcomes. Participants were from the Pittsburgh ADHD Longitudinal Study (PALS), a prospective study with yearly data collection. Significant group differences were found for nearly all variables such that educational and occupational attainment was lower for adults with compared to adults without histories of childhood ADHD. Despite the mean difference, educational functioning was wide-ranging. High school academic achievement significantly predicted enrollment in post-high school education and academic and disciplinary problems mediated the relationship between childhood ADHD and post-high school education. Interestingly, ADHD diagnosis and disciplinary problems negatively predicted occupational status while enrollment in post-high school education was a positive predictor. Job loss was positively predicted by a higher rate of academic problems and diagnosis of ADHD. This study supports the need for interventions that target the child and adolescent predictors of later educational and occupational outcomes in addition to continuing treatment of ADHD in young adulthood targeting developmentally appropriate milestones, such as completing post-high school education and gaining and maintaining stable employment.

DYSLEXIA, DYSPRAXIA and ADHD in EMPLOYMENT: A View from the United Kingdom.

This article explains how dyslexia, dyspraxia and ADHD are defined in the United Kingdom (UK), where they are collectively known as specific performance difficulties or SPDs; and information is given on the ways such difficulties can be addressed in a workplace context. Recommendations are made as to how career specialists can help clients with SPDs to obtain relevant occupational assistance and

accommodations. The article also includes a case study to illustrate the work-related impact of these disabilities.

Addressing Attention-Deficit/Hyperactivity Disorder in the Workplace

Although generally considered a childhood disorder, attention-deficit/hyperactivity disorder (ADHD) can persist into adulthood and impede achievement in the workplace. Core ADHD symptoms of inattention, hyperactivity, and impulsivity can be associated with poor organization, time management, and interpersonal relationships. Employment levels, earning power, and productivity are reduced among individuals with ADHD compared with those without ADHD. Furthermore, the costs of employing individuals with ADHD are higher because of work absences and lost productivity. The primary care provider plays an integral role in managing ADHD symptoms and providing the necessary resources that will help individuals with ADHD succeed in the workplace. Pharmacotherapy can reduce ADHD symptoms and improve functioning; however, it is also important to consider how positive traits associated with ADHD, such as creative thinking, can be used in the workplace. Workplace accommodations and behavioral therapies, such as coaching, can also enhance time management and organizational skills. This review describes how ADHD symptoms affect workplace behaviors, the effect of ADHD on employment and workplace performance, and the management of ADHD in working adults.

MOTHERS OF CHILDREN WITH ADHD: DOES EMPLOYMENT HELP?

The current study examined the experiences of a sample of mothers of children with ADHD. Differences between the single and partnered, employed, and unemployed women on the variables of interest were investigated. The contributions of maternal psychological health, employment characteristics, and the marital relationship to the prediction of parenting behaviors were explored. Moreover, the moderating role of employment characteristics on the relationship between maternal psychological health and parenting behaviors was examined. Results showed differences between the single and partnered women on employment characteristics. Maternal psychological health was found to be predictive of poor monitoring and supervision and inconsistent discipline behaviors. Last, flexibility-benefits used was found to moderate the relationship between maternal psychological health and poor monitoring and supervision behaviors. Implications for clinical work and future research directions are discussed.

ADHD and later-life labor market outcomes in the United States

This study analyzes the relation between attention-deficit hyperactivity disorder (ADHD) and later-life labor market outcomes in the United States and whether these relationships are mediated by educational attainment. To overcome endogeneity concerns in the estimation of these relationships, we exploit the polygenic risk score (PRS) for ADHD in a cohort where the diagnosis of and treatment for ADHD were generally not available. We find that an increase in the PRS for ADHD reduces the likelihood of employment, individual income, and household wealth. Moreover, it increases the likelihood of receiving social security disability benefits, unemployment or worker compensation, and other governmental transfers. We provide evidence that educational attainment mediates these relationships to a considerable extent (14–58%).

Entrepreneurial Tendencies Among People with ADHD

This paper studies the impact of people having attention deficit hyperactivity disorder (ADHD) on their predisposition toward entrepreneurship. Our findings suggest that ADHD sufferers have a significantly higher marginal probability of being entrepreneurs, while ADHD does not affect the likelihood of being a wage earner or being unemployed. Moreover, people with ADHD exhibit significantly higher values in the entrepreneurial tendency measures relative to others. By exploring the determinants of entrepreneurial tendencies, we find that ADHD affection has a positive impact on many entrepreneurial characteristics. Furthermore, we find that the significance of the ADHD variable maintains in the presence of entrepreneurship and demographic controls. Overall, these findings highlight the importance of the ADHD community as a rich source of entrepreneurs.

ADDRESSING NEURODIVERSE EMPLOYMENT NEEDS: Working with Autism Spectrum Disorder I, NVLD, ADHD, Learning and Mood Disordered Clients.

Clients with challenges such as autism, NVLD, ADHD, learning and mood disorders often require skills remediation to enter the workplace, yet few specialized programs exist to help these individuals, and little professional training is available to career professionals to work with these clients; thus, up to 80 per cent of clients cannot maintain employment (BLS, 2015). This article describes a program specifically developed to prepare these neurodiverse clients with the skills they need to acquire and retain employment.

Psychopharmacological Treatment of ADHD in Adults Aged 50+: An Empirical Study

Objective: To study pharmacotherapy in adults aged 50+ with ADHD. **Method:** A survey was administered to adults with ADHD (≥ 50 years old). Participants on medication for ADHD were compared with those not on medications. **Results:** Mean age of participants was 55.8 years, and mean age when diagnosed with ADHD was 50.3 years. Ninety-five participants (63.8%) reported current psychopharmacological treatment for ADHD, 36 (24.2%) had stopped psychopharmacological treatment, and 18 (12.0%) were psychopharmacological treatment naive for ADHD. Those currently being treated psychopharmacologically for ADHD reported significantly improved attention relative to the two nonmedicated groups ($p < .01$). Among examined sample characteristics (including current psychopharmacological treatment for ADHD), employment was associated with a better outcome (odds ratio = 3.3, $p = .006$). **Conclusion:** The majority of adults aged 50+ with ADHD reported regular pharmacotherapy for ADHD. Participants currently receiving psychopharmacological treatment for ADHD reported better attention than those not receiving pharmacotherapy. Employment was associated with more favorable outcomes.

Measuring autistic traits in the general population: a systematic review of the Autism-Spectrum Quotient (AQ) in a nonclinical population sample of 6,900 typical adult males and females

The Autism-Spectrum Quotient (AQ) is a self-report measure of autistic traits. It is frequently cited in diverse fields and has been administered to adults of at least average intelligence with autism and to nonclinical controls, as well as to clinical control groups such as those with schizophrenia, prosopagnosia, anorexia, and depression. However, there has been no empirical systematic review of the AQ since its inception in 2001. The present study reports a comprehensive systematic review of the literature to estimate a reliable mean AQ score in individuals without a diagnosis of an autism spectrum condition (ASC), in order to establish a reference norm for future studies.

A systematic search of computerized databases was performed to identify studies that administered the AQ to nonclinical participant samples representing the adult male and female general population. Inclusion was based on a set of formalized criteria that evaluated the quality of the study, the usage of the AQ, and the population being assessed.

After selection, 73 articles, detailing 6,934 nonclinical participants, as well as 1,963 matched clinical cases of ASC (from available cohorts within each individual study), were analyzed. Mean AQ score for the nonclinical population was 16.94 (95% CI 11.6, 20.0), while mean AQ score for the clinical population with ASC was found to be 35.19 (95% CI 27.6, 41.1). In addition, in the nonclinical population, a sex difference in autistic traits was found, although no sex difference in AQ score was seen in the clinical ASC population.

These findings have implications for the study of autistic traits in the general population. Here, we confirm previous norms with more rigorous data and for the first time establish average AQ scores based on a systematic review, for populations of adult males and females with and without ASC. Finally, we advise future researchers to avoid risk of bias by carefully considering the recruitment strategy for both clinical and nonclinical groups and to demonstrate transparency by reporting recruitment methods for all participants.

The TEACCH program for children and adults with autism: A meta-analysis of intervention studies

The intervention program for autism known as Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH) is considered an emerging practice for autism. In the present study we used state-of-the-art meta-analytical procedures to examine the pooled clinical effects of TEACCH in a variety of outcomes. A total of 13 studies were selected for meta-analysis totaling 172 individuals with autism exposed to TEACCH. Standardized measures of perceptual, motor, adaptive, verbal and cognitive skills were identified as treatment outcomes. We used inverse-variance weighted random effects meta-analysis supplemented with quality assessment, sensitivity analysis, meta-regression, and heterogeneity and publication bias tests. The results suggested that TEACCH effects on perceptual, motor, verbal and cognitive skills were of small magnitude in the meta-analyzed studies. Effects over adaptive behavioral repertoires including communication, activities of daily living, and motor functioning were within the negligible to small range. There were moderate to large gains in social behavior and maladaptive behavior. The effects of the TEACCH program were not moderated by aspects of the intervention such as duration (total weeks), intensity (hours per week), and setting (home-based vs. center-based). While the present meta-analysis provided limited support for the TEACCH program as a comprehensive intervention, our

results should be considered exploratory owing to the limited pool of studies available.

Selection bias on intellectual ability in autism research: a cross-sectional review and meta-analysis

Current global estimates suggest the proportion of the population with autism spectrum disorder (ASD) who have intellectual disability (ID) is approximately 50%. Our objective was to ascertain the existence of selection bias due to under-inclusion of populations with ID across all fields of autism research. A sub-goal was to evaluate inconsistencies in reporting of findings.

Meta-analysis estimated 94% of all participants identified as being on the autism spectrum in the studies reviewed did not have ID (95% CI 0.91-0.97). Eight out of ten studies demonstrated selection bias against participants with ID. The reporting of participant characteristics was generally poor: information about participants' intellectual ability was absent in 38% of studies (n = 114). Where there was selection bias on ID, only 31% of studies mentioned lack of generalisability as a limitation.