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Title

Shortlists of workplace support for autistic employees: a freelisting study in the UK

Running header

Workplace support for autistic employees

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Abstract

BACKGROUND: Employment prospects are poor for autistic adults, despite their abilities and desire to work.

OBJECTIVE: In this study, autistic and non-autistic employees gave shortlists of positive contributions of autistic employees, workplace difficulties and any adjustments being made to support autistic employees in the United Kingdom, UK. This aimed to provide routine and achievable good practice examples.

METHOD: An online questionnaire was completed by 98 employees, mostly from the education sector. Freelisting methodology was implemented, which is a qualitative interviewing and data analysis technique whereby participants give their answers to survey questions as lists, to identify priority answers for a particular group.

RESULTS: Consensus analysis showed that workplaces agreed on ways that autistic employees contribute positively to the workplace, including approaching workplace tasks from a different angle, attention to detail and contributing innovative and creative thinking. The main difficulties for autistic employees were noise and communication

differences relative to non-autistic peers. Despite agreed difficulties and positive contributions, autistic and non-autistic employees reported usual practice in their workplaces as there being no reasonable adjustments made.

CONCLUSIONS: Findings show the need for investment into inclusive and supportive workplaces, and call for further research into good employment practices as identified by autistic employees.

Keywords

Autism; employment; underemployment; psychosocial factors

Autistic adults have variable social, sensory and organisational abilities (American Psychiatric Association, 2013; Whelpley et al., 2020), which employers in the United Kingdom, UK, are legally obliged to understand, and provide tailored support for when needed. The Equality Act (2010) with the Autism Act (2009) describe the requirement for employers to make reasonable adjustments in the workplace to enable autistic employees to do their job successfully, free from discrimination or harassment. However, only a fifth of autistic adults in the UK are in full-time work (National Autistic Society, 2016; Office for National Statistics, 2021). Additionally, those who find work are likely to be employed in voluntary, part-time, low-paid or low-skilled roles (Baldwin et al., 2014; Frank et al., 2018; Scott et al., 2015), which is disproportionate to the education or the ambition of autistic employees (López & Keenan, 2014). Underemployment of autistic adults can contribute to personal difficulties of reduced quality of life, esteem and wellbeing (Hendricks, 2010; Solomon, 2020). Additionally, over a third of the financial costs to the UK government of providing support to autistic adults is attributed to lost employment (Knapp et al., 2009).

Though this legislation and subsequent guidance for employers are available to inform practice (National Autistic Society, 2019; 2020), the implementation of support mostly depends upon autistic employees advocating for their own workplace needs, in negotiation with their employer over what is feasible locally (Davies et al., 2022). Autistic employees have said that they are not receiving the right support in the workplace, and have described challenges to seeking and maintaining employment that include sensory processing difficulties interfering with work performance, misunderstandings with colleagues and unmet social expectations within interviews or

routine workdays (Buckley et al., 2020; Bury et al., 2020; Hedley et al., 2018; Kirchner & Dziobek, 2014; Lorenz et al., 2016; Remington & Pellicano, 2018; Wood & Happé, 2021). Limited workplace support has been associated with negative judgment from colleagues, anxiety and fatigue for autistic employees, and, for some, leaving employment (Buckley et al., 2020; Wood & Happé, 2021). The variability of workplace support is thought to be explained by the moderate understanding of autism amongst employers and moderate confidence in knowing what adjustments should be made (Buckley et al., 2020; Petty et al., 2022; Scott et al., 2015).

This study sought a summary of adjustments that are currently being made for autistic employees in workplaces in the UK. Freelisting methodology was chosen to produce a shortlist of workplace adjustments that were agreed to be the most-used and that were making a positive difference, in attempt to share evidence of achievable good practice. Freelisting is an ethnographic method used in interviews and surveys (Keddem et al., 2021; Weller & Romney, 1988). Put simply, interview questions ask participants to make a list to describe the domain of interest (such as what is women's work, Schrauf & Sanchez, 2008, or the behaviours of somebody with depression, Barg et al., 2006). Collective lists of participants produce a shared description of the domain. As an ethnographic tool, it allows participants to describe their viewpoint, using language and concepts that are relevant and meaningful to them, and is praised for being a simple and efficient way of gathering qualitative information (Fleisher & Harrington, 1998; Weller & Romney, 1988). In this study, lists of examples were sought from autistic employees and non-autistic colleagues to reach a fair representation of current practice. This adds a UK perspective to international research findings of workplace adjustments (Baldwin et al., 2014; Black et al., 2020; Dreaver et al., 2020; Lorenz et al., 2016; Scott et al., 2020).

It also adds to the growing literature presenting the first-person perspectives of autistic employees (Baldwin et al., 2014; Black et al., 2020; Buckley et al., 2020; Lorenz et al., 2016; Remington & Pellicano, 2018; Wood & Happé, 2021).

Method

Design

This study implemented a survey. An online questionnaire was developed in consultation with an autistic expert-by-experience who had relevant research experience, an occupational therapist and a clinical psychologist working in an NHS autism diagnosis and support service. This ensured that the questions had real-world relevance and were appropriately written. Questions were designed to explore current practices without making a priori assumptions, but intended to explore strengths and support possibilities alongside recognised difficulties (Pellicano & den Houting, 2022).

Participants

A total of 98 participants completed the questionnaire. The sector best represented was education (83%), followed by social care (3%) and healthcare (3%), with minimal representation from retail, finance, technology, hospitality, construction, emergency and charitable organisations. Participants held varied roles, including teaching assistant, technician, researcher, lecturer, professor, receptionist, administrator, teacher, manager, head of department, engineer and support worker. The majority of participants were part of an organisation of 250+ employees (81%). Thirty-two percent of participants had recruitment responsibilities. The majority of participants were female (70%) and White British (83%). Participants were mostly aged 45-54 years

(29%) and 25-34 years (26%). Twenty-three percent of participants reported having a colleague/s with a diagnosis of Autism Spectrum Disorder (ASD), and 14% reported being unsure whether they had autistic colleagues. Most participants had some personal experience of ASD such as having autistic friends or family members (85%). Twenty-seven percent of participants had completed some training related to ASD in the workplace. Fifteen percent of participants identified as being autistic themselves; an additional 6% said they were unsure if they were autistic.

Materials

The questionnaire designed for this study (see Appendix A) sought demographic information, followed by four freelisting questions, which asked participants to name all the items that came to mind when given the following prompts: 'Please make a list of:' (1) the ways that autistic employees can contribute positively to the workplace; (2) particular workplace difficulties that can arise for autistic employees; (3) the adjustments observed in their workplace that support autistic employees; and (4) adjustments they think make the most positive difference to autistic employees in their workplace. Questions had free-text boxes allowing participants to determine how many answers they gave, as in previous research using freelisting methodology to obtain written responses (Edvardsson et al., 2014).

In this study we define employees' understanding of autism within their workplace in attempt to understand what the priority considerations for support are.

These data formed part of a larger dataset.

Procedures

Organisations in a city in the north of the UK who had membership to an employee wellbeing scheme were approached to participate. The reason for this sampling was the intention to share examples of good practice. 58 organisations were contacted via email and asked to share the survey with all employees. Wellbeing schemes included: Disability Confident, the Employers Network for Equality and Inclusion, the Hidden Sunflower Scheme, Investors in People and the National Diversity Awards. These represented a broad range of sectors and organisation sizes, including retail, finance, technology, hospitality, education, construction, emergency, healthcare, charity and social enterprise organisations. Autistic employees were not selectively sampled but were expected to be represented as part of usual workplaces. Any employee in the organisations approached was eligible to take part.

Data Analysis

The following analyses were repeated for three groups: all participants, to give an overview of shared understanding within workplaces; employees who identified as being autistic; employees who did not identify as being autistic. This showed the relative priorities of autistic and non-autistic employees.

List items were taken for each question for each participant and given a three-letter code. This allowed for essentially similar list items across participants to be given the same code (such as ‘attention to detail’ and ‘good at attention detailed tasks’) and created a long list of every answer to the question, called unique list items. No attempt was made to group items by theme to ensure that participant meaning was not inferred ahead of the analysis. This required some subjective judgment; decisions were made as a research group, were recorded transparently for review and followed available guidance (Barg et al., 2006). A codebook documented all unique list items. To improve

the reliability of coding, each codebook was reviewed by all members of the research team in an iterative process. A sample of all list items (5%) was coded independently by two reviewers who selected an appropriate code from the codebook and ensured the code and code description were appropriate for the participant's meaning; the percentage agreement for selecting a code was 94%. Amendments were made in response to disagreements. The list datasets were written in ASCII computer language. Analysis was performed using ANTHROPAC software (Borgatti, 1996).

First, the freelist procedure calculated Smith's salience index for each item (Borgatti, 1996), which is the importance of an item, calculated using both the item's frequency and rank. Items with highest salience are mentioned more frequently and appear earlier in participant lists. Item salience scores were plotted as a scree curve, which is a line-graph showing list items ordered by highest-to-lowest salience, to determine which items represented group understanding versus individual opinion. List items plotted after the levelling-off of the curve were not included in the results tables. Due to the subjective nature of scree plots, an additional benchmark required items to be listed by 20% of participants to be considered consensus descriptions (Barg et al., 2006).

Second, recode and consensus procedures reorganised the data and performed factor analysis using a participant-by-participant correlation matrix to show agreement between participants. Consensus, or agreement, is shown by a single-factor solution. Higher agreement is shown by a higher ratio between the first and second factor, with a ratio of 3:1 indicating a consensus description of the domain (Handwerker & Borgatti, 1998). All results shown demonstrated consensus agreements. Cultural consensus analysis shows the extent to which the descriptions of the workplace were shared amongst participants (Romney et al., 1986).

Results

List Answers

The most salient list items for each question are shown in Tables 1 and 2. Responses are presented for the workplace as a whole. The relative emphasis given by autistic employees compared with responses from non-autistic employees are also shown.

Positive Workplace Contributions

A total of 90 unique list items described ways that autistic employees contribute positively to the workplace. Autistic employees gave 39 unique list items, with a mean list length of four items. Non-autistic employees gave 77 unique list items, with a mean list length of three items.

Employees described multiple positive contributions of autistic employees and agreed the following as being most salient: attention to detail, approaching workplace tasks from a different angle and contributing innovative and creative ways of thinking. Non-autistic employees placed relatively more emphasis on attention to detail as a positive contribution; autistic employees placed more emphasis on innovative and creative ways of thinking, concentration and task focus.

Workplace Difficulties

A total of 94 unique list items were produced as workplace difficulties that can arise for autistic employees. Only one item illustrated shared understanding: noise. Examples of noise given were: background sounds in the workplace, chatter, phones

ringing, fire alarms sounding, and visual noise caused by busy décor, artificial lights, non-dimmable lights and LED lights.

Autistic employees listed 47 difficulties that can arise. The mean list length was five items. Lower salience items included misunderstandings with colleagues, meetings being difficult to attend due to listening to multiple people talking together, difficulty staying on topic and difficulty speaking concisely. An expectation to socialise with colleagues around work tasks and difficulty interpreting ambiguous written information were also listed. Non-autistic employees gave 76 list items; the mean list length was four items.

This question elicited the highest response rate of all questions, generated the highest number of unique responses and the longest lists per participant, however, difficulties described were diverse, with only noise reflecting consensus. Autistic employees gave relatively more importance to communication differences. Non-autistic employees gave more emphasis to changes to routine or role.

Observed Workplace Adjustments

A total of 61 adjustments that participants had observed in their workplace to support autistic employees were listed, fewer than the number of listed items for previous questions.

Results show agreement between autistic and non-autistic employees in regard to adjustments observed in their workplaces: both groups' only consensus response was to state they were not aware of any adjustments being made. The next most salient item for autistic employees was to state there is only very little provision. Providing notice ahead of changed job expectations was the adjustment most observed, though not provided

consistently; examples included being given notice before a task needed completing or notice of change in responsibilities.

Adjustments that Make the Most Positive Difference

A total of 57 unique list items were produced as reasonable adjustments that participants think make the most positive difference to autistic employees in their workplace; however, saliency was lower for all items than for other questions and agreement was not reached on any item. Autistic employees agreed that they were not aware of any adjustments making a positive difference.

Results Summary

Workplaces agreed upon strengths of autistic employees; examples included close attention to detail, creative thinking and providing breadth of viewpoints when problem solving. Difficulties that can arise for autistic employees were more diverse, with each participant listing one additional difficulty to strength on average, and the only agreed difficulty being noisy environments. Critically, the number of adjustments observed in the workplace to support autistic colleagues were few, with autistic and non-autistic employees most often agreeing that they were not aware of any adjustments being made. When asked about adjustments that make the most positive difference, results demonstrated low collective knowledge.

Discussion

This study provides an illustration of how workplaces in the UK understand and support autistic employees in attempt to give voice to routine practice. Freelisting methodology

demonstrated the agreed positive workplace contributions and workplace difficulties for autistic employees, as well as reasonable adjustments that are being made.

The main workplace difficulty was noisy environments. There is a wealth of supporting evidence that sensory processing demands create an obstacle to employment for autistic adults, including demands caused by sounds, busyness and brightness, which can contribute to an accumulation of fatigue (Dreaver et al., 2020; Hendricks, 2010; Kirchner & Dziobek, 2014; Scott et al., 2020; Wood & Happé, 2021). Workplace difficulties reported by autistic teachers in the UK included noise, alongside an absence of suitable spaces to take breaks (Wood & Happé, 2021). We recommend reducing artificial lighting, providing dimmable and modifiable lighting, reducing background noise, choosing simple décor and providing suitable break spaces that are low stimulation. These add to previous recommendations for reducing auditory and visual noise and distractibility (Buckley et al., 2020; Dreaver et al., 2020). Workplace assessments are recommended, to include an evaluation of noise, crowding and lighting (Hillier et al. 2007).

In this study, autistic employees listed more workplace difficulties than those reported on their behalf by their colleagues. They gave relatively more importance to difficulties caused by communication differences and misunderstandings, suggested to have a negative impact on employment (Black et al., 2020; Hedley et al., 2018; Hendricks, 2010; Kirchner & Dziobek, 2014; Lorenz et al., 2016; Wood & Happé, 2021). Previously discussed examples of workplace communication difficulties include difficulty interpreting abstract or figurative concepts, difficulty reading affect and non-verbal communication and autistic colleagues communicating with honesty (Hendricks, 2010; Wood & Happé, 2021). Autistic employees said unexpected events caused them

difficulty and they asked for unambiguous task instructions and to be given notice ahead of changes to tasks and role responsibilities. Preference for structure and routine in the workplace has also been identified previously, with autistic employees asking for clarity in their role expectations (Buckley et al., 2020; Hendricks, 2010; Wood & Happé, 2021). Managers need to critically evaluate the benefits of introducing disability and diversity programmes; for example, there can be possible paradoxical benefits of reduced integration between all employees, or when employees work on separate projects (Spoor et al., 2021).

The main ways that autistic employees were said to contribute positively to the workplace closely matched previous findings (Black et al., 2020; Hendricks, 2010), including attributes that autistic students expect to help them succeed in employment (Cheriyan et al., 2021). These include close attention to detail, increased focus, increased work outputs and enjoyment of repetitive tasks (Buckley et al., 2020; Cheriyan et al., 2021; Hendricks, 2010; Wood & Happé, 2021). Autistic employees emphasised innovative and creative ways of thinking and providing breadth of viewpoints when problem solving. In this study, workplaces made up of autistic and non-autistic employees collectively agreed upon workplace strengths of autistic employees, as demonstrated with consensus analysis. They agreed that autistic employees bring multiple strengths. In contrast, a survey in the UK showed that only 16% of autistic teachers said that being autistic helped their work (Wood & Happé, 2021). This variability in reports of autistic characteristics being an asset in the workplace supports investment in a strength-based employment approach, whereby employers recognise positive capabilities of autistic employees, and enable mutually

beneficial ways of working, rather than trying only to overcome difficulties (Lorenz et al., 2016; Wong et al., 2018).

Workplaces showed relative ease in describing the needs of autistic employees in contrast to a shared inability to describe support that is being provided. The results suggest that despite understanding in the workplace, this is not translating into reasonable adjustments being put in place. These findings represent a sample of the education sector in the UK. Experiences of teachers (Wood & Happé, 2021), interns in the finance sector (Remington & Pellicano, 2018) and arts professionals (Buckley et al., 2020) in the UK have also agreed that adjustments are not being made in workplaces. A survey in Australia showed comparable findings, where the majority of autistic employees self-reported receiving no specific workplace support (Baldwin et al., 2014). It is of note that organisations recruited in the current study were part of employee wellbeing schemes and were expected to provide examples of good practice.

Failure to make reasonable adjustments in the workplace has been reported to be one of the main factors preventing autistic individuals finding and retaining employment (Buckley et al., 2020; López & Keenan, 2014; Wood & Happé, 2021), despite there being guidance available for making the workplace accessible (Black et al., 2020; Hayward et al., 2019; Hedley et al., 2018), thus remaining a pressing issue.

Support from co-workers and a generally supportive environment, with inbuilt flexibility and tolerance, has been regarded as one of the most influential factors promoting employment success of autistic colleagues (Hendricks, 2010; Dreaver et al., 2020). This is an important and influential goal, given the context of stigma and discrimination experienced and anticipated by autistic employees (Black et al., 2020; Cheriyan et al., 2021; López & Keenan, 2014; National Autistic Society, 2016).

Supportive workplaces would enable adjustments to the working environment as routine, to benefit all employers, ensuring that being autistic is not a disadvantage (Harmuth et al., 2018; Hendricks, 2010; Petty et al., 2022).

These findings provide an update on the support being implemented day-to-day in the UK. Provision is not currently aligned with recommended practice.

Implications for Policy, Research and Practice

A research priority remains to be finding examples of achievable workplace adjustments that can be implemented by employers. This is a gap that continues to exist between workplace support required by legislation and that which is implemented as routine. The fact that workplace difficulties were the most reported aspect of employment has important implications for practice, which should not be lost from the study findings despite the difficulties being individually variable and not easily represented as a shared summary. We advocate for a strength-based employment approach and individual workplace assessments, alongside the availability of flexible infrastructures that can tailor aspects of the workplace and role to individual strengths. Complementary research conducted in the UK has argued that employers must take a more active role in supporting autistic employees, taking the onus of identifying workplace adjustments off individual employees (Davies et al., 2022). However, this action needs to be informed by the personal experiences of current and prospective autistic employees. Future research might sample autistic employees specifically. This would address a particular issue relating to the source of knowledge, whereby first-hand knowledge is required to voice the expertise of what is needed, and in order for researchers and policy makers to avoid stereotyped perspectives of autism (Pellicano & den Houting, 2022). Research could offer a more detailed exploration of employee

choice to disclose their neurodivergence (Romualdez et al., 2021), their specific workplace difficulties within their personal work setting and role demands, and the support that would make the most difference to them personally. We also recommend further research into the experiences of seeking employment initially and retaining employment. Employment policy will then follow.

Limitations

Participants were primarily from large organisations in the education sector in the UK, however, this sampled a different profile of organisations and job roles than previous research. Broader sampling of organisations, smaller in size and those outside of the education sector would advance findings. The low number of autistic employees is a further limitation.

Acknowledgment

n/a

Conflict of Interest

The authors declare that they have no conflict of interest.

Ethics Statement

The study was approved by University of York ethics committee, 20126. The study was performed in accordance with the ethical standards of the 1964 Declaration of Helsinki and its later amendments.

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Informed Consent

All participants volunteered and gave written informed consent.

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Tables

Table 1. Salience information for the top list items for ways that autistic employees contribute positively to the workplace and difficulties that can arise for autistic employees

List item	Description of list item	Frequency	Listed by (%)	Average rank	Salience *Full sample (n=98)*	Salience *Autistic employees (n=15)*	Salience *Non-autistic employees (n=83)*
Ways that autistic employees contribute positively to the workplace							
Attention to detail	Being meticulous, paying close attention to detail and checking details; strengths in data-inputting.	**21**	**27**	**2.0**	**0.210**	0.154	**0.221**
Approaching workplace tasks from a different angle	Unique or different approaches, viewpoints and perspectives; beneficial when solving problems.	**16**	**21**	**1.9**	**0.160**	0.138	**0.164**
Innovative and creative ways of thinking	Different, creative, innovative and out-of-the-box thinking.	**16**	**21**	**2.1**	**0.146**	**0.229**	0.129
Enhanced task focus	Enhanced focus and ability to concentrate without getting distracted; getting absorbed in tasks.	15	19	2.2	0.142	**0.159**	0.139
Difficulties that can arise for autistic employees							
Noise	Noisy or loud environments and offices; including too much chatter or certain disrupting sounds.	**22**	**28**	**2.5**	**0.215**	**0.247**	**0.212**
Communication differences	Communication difficulties across modalities including emails, phone calls, video and text.	12	15	1.6	0.135	**0.231**	0.119
Changes to routine/role	Preference for structure and routine, with difficulties flexing from expected routines or guidelines.	14	18	2.3	0.123	Not listed	**0.149**

Table 2. Salience information for the top list items for adjustments observed in the workplace that support autistic employees

List item	Description of list item	Frequency	Listed by (%)	Average rank	Salience *Full sample (n=98)*	Salience *Autistic employees (n=15)*	Salience *Non-autistic employees (n=83)*
Adjustments observed in the workplace that support autistic employees							
Not aware of any	Participant was not aware of any reasonable adjustments being made.	**23**	**34**	**1.0**	**0.331**	**0.292**	**0.327**
Adjustments that make the most positive difference to autistic employees							
Increasing understanding around autism	Colleagues having knowledge of autism and workplace difficulties faced by autistic employees.	11	16	1.5	0.136	0.106	0.144
Not aware of any	Participants were not aware of any adjustments.	9	13	1.0	0.134	**0.273**	0.109

Appendices

Appendix A Survey Questions

What is your age in years?

18-24 / 25-34 / 35-44 / 45-54 years old / Over 55

With which gender do you identify?

Male / Female / Other (please specify) / Prefer not to say

With which ethnic group do you identify?

Asian: Bangladeshi / Asian: British / Asian: Chinese / Asian:Indian / Asian: Pakistani / Asian:Other / Black: African / Black: British / Black: Caribbean / Black:Other / White:British / White:Irish / White:Other / Mixed ethnic background / Other / Prefer not to say

What type of organisation do you work for?

Education / Social care / Healthcare / Business / Retail / Hospitality / Administration / Transport / Sales / Other

What role do you have within your organisation? E.g. volunteer, receptionist or IT consultant.

Are you responsible for recruiting people at the workplace?

Yes / No

To your knowledge, how many people does your organisation employ?

Less than 10 / 10-50 / 50-250 / 250+

Do you have a diagnosis of Autism Spectrum Disorder?

Yes / No / Unsure / Prefer not to say

Are you aware of any colleagues with a diagnosis of ASD in your current workplace?

Yes / No / Unsure

Have you completed any training related to autism in the workplace?

Yes / No / Unsure

Do you have any personal experience with autism such as friends or family members?

Yes / No / Unsure / Prefer not to say

Please remember, we will not ask for the name of your organisation or anybody you work with and we will only keep anonymised answers for the study.

Please remember we are interested in your opinions. There is no right or wrong answer.

These answers should relate solely to the workplace(s) you are currently employed at. These should be adjustments made for employees as opposed to those made for customers, students or patients. If you are unsure on any of the questions, leave them blank.

Please make a list of the ways that ASD can contribute positively to the workplace.

Please make a list of particular workplace difficulties that can arise for autistic employees.

Please make a list of the adjustments that you have observed in your workplace that support autistic employees.

Please list the adjustments that you think make the most positive difference to autistic employees in your workplace.