Gender equality and representation within and beyond the University of the Highlands and Islands

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Promoting autistic women in science: benefits for their own dedicated society

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Abstract

Autistic researchers clearly add to academic knowledge through their insightful and deep interest in specific subjects, yet they are significantly underrepresented. Further, autistic women scientists can be seen to be additionally disadvantaged when systemic discrimination against women and nonbinary STEM individuals intersects. There is, however, no professional association or learned society dedicated to supporting and promoting them, actionable by affecting policy changes. There are currently a few informal groups, but professional organisations wield power, inaccessible to informal groups, to advocate for their members. This chapter, thus, investigates and discusses why autistic women scientists form their own marginalised intersectionality and how they and everyone else could benefit if such an association existed.

Keywords: Autism, professional organisation, women, STEM, advocacy, intersectionality

Introduction

The intention of this chapter is to discuss why autistic women scientists compose their own disadvantaged group (Fig. 7.1) and, therefore, should have their own professional organisation for support. I am mature, cisgender, female[1] archaeology postgraduate student with two Masters of

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[1] In this article terms of *sex identity* are used by chromosomal assignment (*female* as XX and *male* as XY), terms of *gender identity* (*woman*, *man*) are used by an individual's self-identification. Third sex and third gender persons are for the moment included under *women* as a gender-marginalized group, while actively acknowledging this is an overly simplistic characterisation.

Science. I am also autistic.[2] I abandoned continuing both of my previous studies because of negative social-based academic experiences. When I was identified as autistic five years ago at the age of 46, I realised these negative experiences were connected to my autism and sex, and, more importantly, that I would have greatly benefited, perhaps succeeded, if there had been a professional organisation to turn to for support. Although I now receive assistance with university disability services, it is a shortfall that there is still no learned society dedicated to me and my peers. The creation of such would benefit both autistic women in STEM and the general population by an association's power to influence societal understandings and policy improvements.

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[2] Self-identification for illnesses are preferentially given in person-first language by patients—I have diabetes—as opposed to identity-first—I am diabetic. In contrast, many individuals with an ASD diagnosis do not see their autism as separated from whom they are, and prefer identity-first terms. It continues to be a debated subject (Botha et al. 2021).

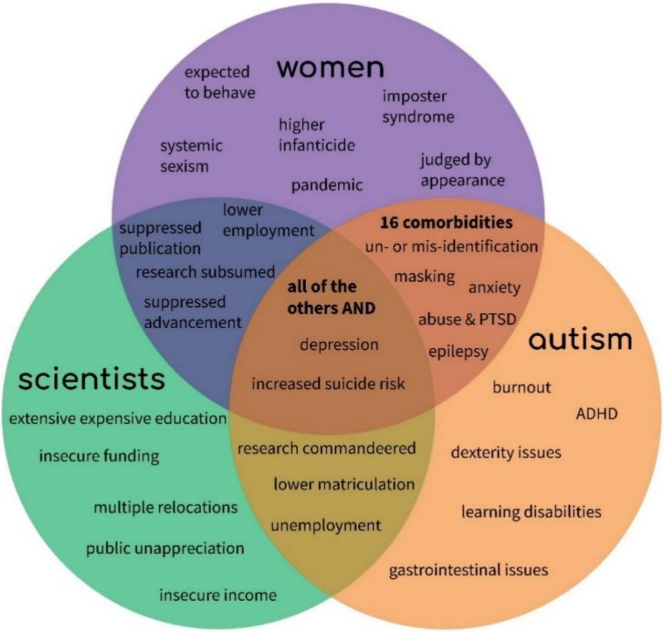

Figure 7.1:
The intersectionality of autism, womanhood and scientific interests displayed as an 'anti'-Venn diagram, rather than overlaps excluding the wider experiences they are added on top of those

First, though, what is autism? What autism *is* is an amalgam circling around 3Ds: it's a curable disease, it's a disability disorder, it's a cognitive diversity. The latest medical diagnostic regulations of the EU (ICD-11) and US (DSM-5) subsume several previous categories under Autism Spectrum Disorder (ASD). ASD is then divided into 'levels' that appear not to correspond to metadata clusters of lived experiences (Lai et al. 2013a; Silleresi et al. 2020). Asperger’s, the term often used previously for 'high-functioning' autistic academics, now under the ASD umbrella, is more accurately described as "adults without cognitive impairment [who] are able to function independently" (Lewis 2017: 2410). Many autistics themselves feel ASD is a label, rather than a way of being, and in their dialogues it is rarely used (Beardon 2017: 64; Botha et al. 2021). Here it is considered as a different cognitive processing method, arising from variable genes and experiences (Lord et al. 2020), as different from the main population—neurotypicals—as a natural variable in neurodiversity (Singer 1999).

Autism expresses as sensory, emotional and social-interaction difficulties ranging in quality and quantity across individuals (Skuse 2020). Unfortunately, these difficulties have led many neurotypicals to negatively view those whom they have been told are autistic (Sasson et al. 2017; DeBrabander et al. 2019). Not only is this an *unjust -ism* (Roark 1987: 367; Krieger 2020), it denies the advantages of these 'differences', especially the cognitive wiring crucial to autistics' scientific breakthroughs, as "information evolves through the force of alternative visions" (Camila Pang in NAS 2020a: ¶13).

Pattern-orientated neurological wiring means 'things' blatant to autistics are apparently hidden to others until communicated via words (Happé 1999). Their viewpoints bring novel outlooks unseen by neurotypicals, through "their, often intense, emotional relations to ‘natural’ things and places … with the wider more-than-human world" (Davidson and Smith 2009: 898). However, other aspects that come along for the ride with autistic wiring result in low self-esteem and/or poor communication skills. Therefore, the insights of autistics are often rejected, side-lined, subsumed or stolen (Rose 2015: 316). When adding these social issues to already oppressed STEM women, it can be imagined that there is a large body of untapped knowledge languishing, remaining unpublished.

Autistics' multiple non-normative behaviours make professional fields overwhelmingly difficult to enter into and succeed within (Hurlbutt and Chalmers 2004: 218-9; Scott et al. 2020: 870). There is a dearth of professional societies for autistic members themselves. The specialised accommodations[3] needed call for a dedicated association for autistic women in science to provide a mutually supportive environment and advocacy program. It would also provide a genuine resource for the whole scientific community to gather a more nuanced understanding of their autistic women colleagues.

Expressions of autism in women

Earlier, nigh all datasets of identifiable outward expressions were derived only from men, giving the impression of a male condition, missing the female experiences (Bargelia et al. 2016: 3282). Recently research is highlighting that the female expressions of autism are significantly different than

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[3] 'Accommodation' is a disability-services term for extra measures granted for individuals to function equally with the main population (e.g. Hurlbutt & Chalmers 2004: 220; Zener 2019b: 149).

males. Considered research is showing that the commonly-quoted ratio of autistic women to men as 1:4 is probably actually 1:2 (Loomes et al. 2017) or even 1:1.5 when women without clinical diagnoses are included (Bargelia et al. 2016: 3281, note that many autistic women avoid diagnoses purposefully).

Lai et al. (2013b; 2015) steered early approaches to diagnostically identify female autistics by characterising three areas of differences to males: neurological, genetic and societal. For example, autistic females use different neural pathways to solve, within the same time, the same exercise in object rotation as autistic males (Stevenson and Nonack 2018). Medically however, far higher comorbidities are being diagnosed amongst female autistics, 7% comparatively to male autistics and neurotypical females (Kassee et al. 2020), with a significantly different mean of sixteen conditions to male's ten (Jones et al. 2016).

Behaviourally, probably the greatest difference is the autistic females' increased worries regarding social interactions, again to both autistic males and neurotypical females (Song et al. 2020). They are significantly more concerned to socialize correctly, but analyse situations using external comparisons (they/them) rather than inclusive (us/we). Tony Attwood describes this, in an interview, as two key childhood differences,

> “one is how girls react to being different. The other is the different expectations in society for girls. In terms of how girls react, I think one of the common ways is to observe, analyse and imitate and create a mask, which delays diagnosis for decades until the wheels fall off” (James 2017: 32-33).

Thus it is not surprising that a major reason women have been under-identified is their successful imitation of neurotypical interactions, the intentional learned behaviour of camouflaging (Hull et al. 2017; Lai et al. 2017). This functions by mimicking others' behaviours, as a set of rules, to appear "hypernormal" (May 2018: 62). Even though social behaviours may be successfully mimicked, the underlying cognitive functioning, most importantly, is still autistic (Livingston and Happé 2017).

This masking is additionally enforced by Western society's demands that women behave agreeably (Lai and Szatmari 2020). Aspergirls[4] suffer more and remain unidentified because, with their ethical natures, "good girls are invisible" (Kim 2015: 20). The inflexibility of this submissive expectation is seen especially clearly through women identified as autistic late-in-life (aged 35+). Katherine May (2018: 61) describes her pre-identification abilities as, "I was a master, by then, of the surface appearance. I had watched, carefully, the way that other people behaved, I mimicked it precisely. I had all the social airs and graces – the encouraging smiles and the kind inquiries – and I could chase the lineage of each one of them back to the person I stole them from." Or more starkly by Navah Paskowitz-Asner as, "I was forced to adapt. I would have become a casualty if I hadn't" (2018: xi).

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[4] 'Aspergirls' is a term coined by Rudy Simone by the title of her 2010 book: *Aspergirls: Empowering Females with Asperger Syndrome*. The term was extended to 'Asperkids' by Jennifer Cook O'Toole with two books in 2012.

A non-vocal aspect of camouflaging is hiding stimming—comforting repetitive movements (e.g. hair twirling, knee jerking, humming) which actively reduces stress (Grogan 2015: 9; Suckle 2021: 755). The significance of having to hide these behaviours in the past is apparent when Dawn Prince-Hughes, two pages into one of the earliest memoirs of a late-in-life diagnosed woman, explains hiding her stress-induced stimming by "curling my toes over and over while I am talking to someone" (Prince-Hughes 2004: 2). Similarly, I 'flap' my toes alternately.

The need to appear normal is an overwhelming drive, but the costs of masking, burning enormous energetic resources, are associated with lower states of mental health (Hull et al. 2017), including increased suicide risk in undergraduates (Cassidy et al. 2020). Although, it should be remembered that the adoption of masking, in the first place, is as a coping mechanism (Kim 2015: 86); for Aspergirls "their social survival depends on it" (Kim 2015: 24). Camouflaging abilities, however, do a disservice both for women to be identified as autistic and for them to access and/or be offered help when they need accommodations.

Successful masking means many autistic women are not identified until well into adulthood; often through self-identification, later confirmed medically. Societal judgements are the cause of many self-identified autistic women refusing a clinical diagnosis (James 2017: 151), and there are negatives encountered with disclosure (Thompson-Hodgetts et al. 2020). But many late-in-life identified women glory in the relief of an answer to the difficulties experienced throughout their prior lives (O'Toole 2018: 11; Pellicano et al. 2020). An initial and eternal benefit for most is the knowledge that 'it’s not just me' (Bargelia et al. 2016: 3289) and undoing the beliefs of being "mad, bad or sad" (James 2017: 8; see also Arnold et al. 2020; Leedham et al. 2020), allowing positive self-identifications through 'belonging' to the autistic community (Kim 2015: 19; Campbell 2018: 30).[5] With better

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[5] LGBTQIA+ examples have similar experiences (Dale 2019; Hillier et al. 2020; Kung 2020).

characterisation we can well expect the number of women identified to increase as their constellation of presentations are better understood in the medical and educational sectors.

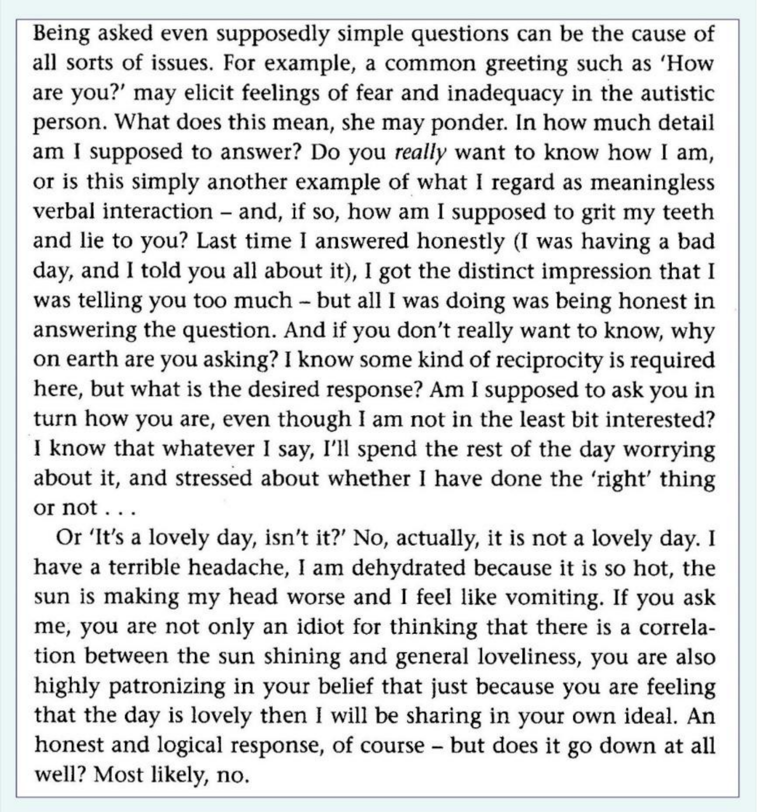
My own experience is that when I tell neurotypicals I am autistic, it leads to rapid and greater acceptance in comparison to my pre-diagnosis life when I was simply categorized and shunned as 'weird' (see also Sasson and Morrison 2019). Many autistics who have my experience are happy to abandon masking and adamantly declare they do not wish to be neurotypical but celebrated for their differential thinking (e.g. Temple Grandin in Worsham and Olson 2012: 55). "My brain is a jewel. I am in awe of the mind that I have. I and my experience of life is not inferior, and may be *superior*, to the NT [neurotypical] experience" (Muskie in Connor 2013: 8; emphasis original). As the experiences of autistic women become better described and understood, the crippling nature of successful camouflaging, not appearing to be difficult or different, can be abandoned to allow it to be seen that they have specific needs (Mandy 2019: 1880; Zener 2019a: 10).

The Venn diagram intersection that is autistic women scientists

The benefits of autistics to STEM development and advancements are beyond a doubt (Mottron 2011: 33). In addition to the autistic mind wiring by pattern associations, it also experiences lowered delusions of reality (e.g. Bertrams 2021), the cognitive dissonance of neurotypicals. Their observations are more precise without societal sways (Mottron 2011: 35; Grandin and Panek 2013: 131) because they 'see what is actually there' (Langdell 1978: 266; Silberman 2019: 10). With a decreased suggestibility to false memories (Griego et al. 2019: 1471), their novel findings are more genuine and reality-based—the core principle of the scientific method. They are also usually unerringly ethical (Purkis 2018: 135), autonomously generating good science. Their dedicated narrow focus is ideal to advanced scientific research (Beardon 2017: 78).

Clearly, their ideas should be taken seriously, and their work and achievements promoted from the outset.

However, there is a significant paucity of autistic women scientists, unequivocally magnified by the intersectionality of autism, womanhood and science (Fig. 7.2). Autistics, especially women, are overrepresented within non-matriculated school-leavers, the unemployed, and in low-skilled positions (Taylor and Mailick 2014). The main autistic emotion is fear (Grandin 2015: 9; Hanify 2016: 35-6; James 2017: 174; O'Toole 2018: 117). Autistics are remarkably dedicated and passionate about their specialties but will abandon research projects and/or academia to escape negative social environments (Attwood 2008: 294). Frequent neurotypical-autistic miscommunications and the cognitively-innate social insecurity of autistics (e.g. Fig. 7.2) can generate unendurable, unworkable environments (Harmuth et al. 2018: 36; Purkis 2018: 136-9).



Being asked even supposedly simple questions can be the cause of all sorts of issues. For example, a common greeting such as 'How are you?' may elicit feelings of fear and inadequacy in the autistic person. What does this mean, she may ponder. In how much detail am I supposed to answer? Do you *really* want to know how I am, or is this simply another example of what I regard as meaningless verbal interaction – and, if so, how am I supposed to grit my teeth and lie to you? Last time I answered honestly (I was having a bad day, and I told you all about it), I got the distinct impression that I was telling you too much – but all I was doing was being honest in answering the question. And if you don't really want to know, why on earth are you asking? I know some kind of reciprocity is required here, but what is the desired response? Am I supposed to ask you in turn how you are, even though I am not in the least bit interested? I know that whatever I say, I'll spend the rest of the day worrying about it, and stressed about whether I have done the 'right' thing or not . . .

Or 'It's a lovely day, isn't it?' No, actually, it is not a lovely day. I have a terrible headache, I am dehydrated because it is so hot, the sun is making my head worse and I feel like vomiting. If you ask me, you are not only an idiot for thinking that there is a correlation between the sun shining and general loveliness, you are also highly patronizing in your belief that just because you are feeling that the day is lovely then I will be sharing in your own ideal. An honest and logical response, of course – but does it go down at all well? Most likely, no.

Figure 7.2: Extract of Luke Beardon's Autism and Asperger Syndrome in Adults providing an example of the autistic thought process when asked, 'How are you?' (from Beardon 2017: 26; image used with permission of John Murray Press)

The paucity of STEM women is well-acknowledged (UNESCO 2017). Within archaeology[6], the latest statistics show that although 50% studentship has been reached, numbers in the profession are not equitable (Overholtzer and Jalbert 2021) and that gender harassment and sexual abuse is systemic (Voss 2021). Throughout STEM careers, women's postdoctoral employment (Stockard et al. 2021) and their publications are oppressed at all stages (Hagan et al. 2020). Further, women are statistically missing from late-career stages and on editorial boards (James et al. 2019; Rushworth et al. 2021). The pandemic is only making this situation worse (Buckee et al. 2020; Rakhmani et al. 2021), reflected in the March 2021 report that the years needed to achieve global gender equality has widened from 99.5 pre-pandemic to 135.6 years—an entire generation (WEF 2021: 40).

Women in positions of power can often struggle with imposter syndrome (Fig. 7.3) which "many women are

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[6] Modern archaeological techniques have advanced Archaeology to be a STEM subject (Schofield 2021: ¶8).

socially conditioned to feel; the idea that we should be grateful to have space on this earth and that we should, ideally, stay in our lanes and not cause too much trouble for the important people who are out there running things" (Day 2020: 115). Even though originally described by Clance and Imes in 1978, this still-understudied universal remark seems, according to Catherine Bennett (2020), only to be made by women, implying men simply do not experience this. The experience of imposter syndrome in women autistics seems equally unrecognised. Within the autistic literature only three autobiographies mention it, and only in passing (Abbott 2019: vi; Critchley and Critchley 2019: 57; Mendes and Harris 2019: 57).

Figure 7.3: UHI scientific educational experiences create word clouds seesawing between strong positive and negative states
(Image: Sourced from Prezi. ‘Being a UHI Student’. Stuart Bence and Sarah Pohlschneider, 2016. Reproduced with permissions of Sarah Pohlschneider. Available at https://prezi.com/su0ow54a2gyv/being-a-uhi-student/)

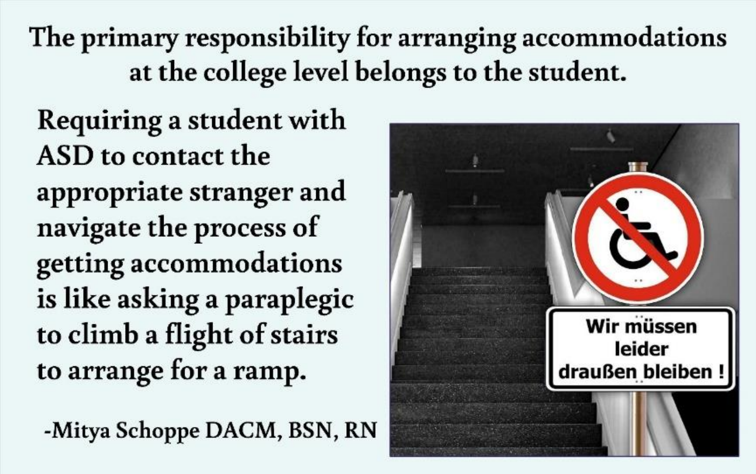
The benefits and abilities of a learned society

Everyone could be significantly assisted by a dedicated society providing support for autistic women scientists and, equally, resources for neurotypicals to understand their colleagues. It could advocate policy changes while also being a source for genuine information. Learned societies are defined as when 'communities of practice'—a group that shares experiences—advances their learnings to the next generation (Lave and Wagner 1991). They are also key to reaching academic gender equality (Potvin et al. 2018).

A learned society could provide role models, mentors and collaborators (Glaze-Crampes 2020). For autistics to approach a known autistic lowers social interaction fears; the stressors of successful normative interactions are removed—masking is unnecessary; interactions are significantly more successful than autistic-neurotypical ones (Crompton et al. 2020). This would provide a safe space for conversation and collaboration between autistic women in STEM. Aspergirls could access real-life role models and also engage in pre-HE research projects and pre- or early-career publications. Late-in-life identified autistic women would have a source to rethink their life goals, possibly changing career directions.

Another benefit of this society would be to remove the invisibility of this marginalised group. Internet searches for 'autistic women who are scientists' across multiple platforms return only Temple Grandin as formally-diagnosed, or occasionally include Michelle Dawson. All other search results do not answer this query. This invisibility is seen further with autism neurodiversity missing from academic biographies. Autism of scientific lay authors also goes unacknowledged. For example, the cover of astrophysicist Sara Seager's 2020 autobiography never mentions autism, while this subject is prominent in her interviews (e.g. Lourenco 2020, Szeps 2020). Only four of fourteen autobiographies by autistic women are scientists. In contrast to the above invisibilities, they explain how autism assisted their research and, as so, are a wonderful means of helping attitudes of acceptance and inclusion (e.g. Prince-Hughes 2004; Pang 2020).

Visibility would also encourage autistics to register themselves. Through consultations with autistics, journal articles have repeatedly recommended accommodations (Gurbuz et al. 2019; Cox et al. 2020; Peña et al. 2020). Yet, accommodations are still greatly hindered in academia (Fig. 7.4). Only a third of self-identifying disability students register their need for support, with only 3% of those actively pursuing the assistance available (Love 2017: iii; see also Lillywhite and Wolbring 2019). The frustration of engaging disability services is experienced as, "It’s like I have to make accommodations for *them*" (Rory Donnelly, pers. comm. 2021; see also Laxman et al. 2019). Increased registration would make autism prevalence more accurate, validating funding useful assistance. Likewise, many employers do not offer viable accommodations (Bury et al. 2020; Solomon 2020).



The primary responsibility for arranging accommodations at the college level belongs to the student.

Requiring a student with ASD to contact the appropriate stranger and navigate the process of getting accommodations is like asking a paraplegic to climb a flight of stairs to arrange for a ramp.

-Mitya Schoppe DACM, BSN, RN

Figure 7.4: Unfortunately we have to stay outside – acquiring support services and accommodations is on the onus of the student (Image by geralt; Pixabay / Pixabay license)

A professional group would also have the ability to act on behalf of an individual. Autistics are gullible to dominating personalities and can easily be taken advantage of (Kim 2015: 29). A professional society has the power to act as the representative for legal action. If these behaviours of injustice become recognised in the public domain their frequency will diminish. They would also provide social stories[7] for autistic women that these are not acceptable behaviours. A learned society could provide a safe space for women to discuss ‘This happened’ and ask, 'Is this normal?'. If necessary, the association could provide a protective action to be taken.

A formalised advocacy group could assist in guaranteeing genuine autism-friendly environments. By influencing policy the society's actions can reduce biases. Both lower (Mamas et al. 2021: 6) and higher (Gillespie-Lynch et al. 2015) education institutions document greater acceptance when students are actively educated about autism. While multiple universities and businesses claim to be autism-friendly, there are few certifications by outside bodies of these claims. For instance, there is only one institution, Glasgow

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[7] 'Social stories' are written or drawn "with the intention of providing information and tuition on what people in a given situation are doing, thinking or feeling, the sequence of events, the identification of significant social cues and their meaning, and the script of what to do or say; in other words, the what, when, who and why aspects of social situations. The process of constructing a social story involves identifying an occasion where the [autistic] is confused or has difficulty understanding what they are supposed to do in a social context" (Attwood 2000: 90).

Caledonian University, having earned the UK's Autism Accreditation (NAS 2020b: 1). No US certifications could be located, nor international ones. Such assertions by the society would lower stress and encourage autistics, many of whom need significant assistance in the application process (Lei et al. 2020).

An association could choose to create an endowment. Two distinct areas could be considered: funding autistic women to engage in and enhance STEM research, at all levels of career development; funding research into autistic women themselves. For the former, pre- and early-career engagements could be mentorship programs, financial support and/or scholarships. Established-career members might be funded for sabbaticals. For the latter, many autistics wish for research to have the fundamental outset of 'nothing about us without us' (Connor 2013). The few recent studies including autistics as researchers show they are not just helpful in design and execution, but crucial (Fletcher-Watson et al. 2019; Martin et al. 2019; Searle et al. 2019). The value of their inclusion and contribution remains under-appreciated (den Houting et al. 2021). The inclusion of these women in data sets benefits research by and about them (Mandy and Lai 2017; Strang et al. 2020). Professional organizations that advocate for their group assist in destroying unjust -isms (Segarra et al. 2020).

The association's advocacy could equally benefit neurotypicals as a resource to enhance working alongside autistic women in two ways. First, it could provide genuine autism information sources; there is a lot of disturbing misinformation out there. Second, it could encourage neurotypicals to learn autistic social skills (Beardon 2017: 21). There are now a few guides to help autistics comprehend the unstated social rules of neurotypicals (e.g. Simone 2010; O'Toole 2015). Byrne (2020), in particular, considers those unstated in educational settings. The reverse, however, has yet to happen. Neurotypicals need to acknowledge their version of social norms are not the only version (Milton 2012: 886), just as the Western view of reality is not the only reality (Viveiros de Castro 2004).

For instance, asking multiple questions in a row without waiting for the autistic person to comprehend what you are asking is intimidating; have a little patience (Kim 2015: 49). Finding the least dangerous answer requires time. An autistic's wiring will fire simultaneous answers, just like a search engine (Grandin 2000). Time is needed to process these, judge them against the assumed situation, and decide on the safest reply or to form a clarifying question (Fig. 2). Neurotypicals can also learn to translate autistic language (Beardon 2017: 47) for which a dictionary is very much needed. For example, similar to the example of Figure 6.2, if a neurotypical asks genuinely 'How are you doing?', the autistic's memorized social-norm answer of 'I’m fine' needs to be seen in the same light as a concussion patient's or your girlfriend's answer—ignore it and keep gently asking. Again it is important to iterate autistics will be overly compliant (Hanify 2016: 133), agreeing to just about anything to conclude a social situation (James 2017: 104-105).

From my own personal attempts, communications initiated by 'I think, uhm, that I, uhm, might possibly(?) have an idea' requires the neurotypical translation to 'I've collected and collated the data, I've run the results, I've searched the literature and the resultant publication is at least in outline format'. The overwhelming fear autistics experience means that you will be absolute in your findings before taking on the lethal task of discussing it with anyone else; "the *idea* of confrontation makes me feel as if my very existence is under threat" (James 2017: 158; emphasis added). The courage needed to approach with a novel idea inherently requires absolute certainty by the autistic in the thought and data; casually tossing out ideas will never occur. Confounding this is the unfortunate human negative response to novel information—cognitive dissonance in the form of resistance to change (Wicklund and Brehm 1976: 125). Nobody likes a change from the status quo[8], but this initial automated reaction is enough to destroy the

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[8] Autistics included! See Kim (2015: 89-94) for a classic example.

confidence of an autistic woman (pers. obs.). Neurotypical colleagues need to react appropriately at these times with dissonance reduction, i.e. keep an open mind.

Starting an autistic women in science association

The above has evaluated the benefits to all for the formation of an international professional society, since one does not yet exist. Already in existence are a few formalized groups for women autistics, such as SWAN (Scottish Women's Autism Network). However at present, there are seemingly only informal chat and Facebook groups that combine the three aspects of autism, womanhood and STEM. These cannot effectively wield the authoritative powers toward equality and enacting policy changes discussed above. Autistic women scientists are a disadvantaged group warranting formalised support.

The manner and means of starting and forming an international association will not be covered in depth here, and methods vary amongst countries. One of the major considerations to forming such a women's organization is 'Who is included?' which needs to be addressed in depth for a healthy supportive resolution. For example, the *Autistic Women's Network* has adjusted to be the *Autistic Women & Nonbinary Network*. However, even with interest increasing in the female experience, other underrepresented groups are significantly far less considered (de Leeuw et al. 2020; Giwa Onaiwu 2020). Twenty-twenty saw only low single digit publications per other marginalized identities, at most, in comparison to more than fifty for females (pers. obs.). Holmes et al. (2020) discuss how learned societies can assist in raising awareness of these further marginalized groups (see also Olzmann 2020). With this consideration in mind, it is suggested that to wield the greatest power of enacting changes, perhaps all marginalized autistic scientists should conjoin; perhaps what is needed is actually a Society for All Marginalized Autistic Scientists.[9]

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[9] SAMAS is also nicely palindromic.

With this in mind, a possible mission statement is: a learned society supporting and promoting underrepresented marginalized autistics involved in scientific endeavours by providing a welcoming, inclusive, accepting space for its autistic members while advocating and supporting their advancements in the public world.

Conclusion

Autistics' STEM contributions are undeniably significant (Beardon 2017: 114); their alternative cognitive processing has contributed global-picture realisations through precisely detailed investigations. A specific group forms their own cluster through their combination of autism, marginalized identification, and involvement in STEM. The numbers of these underrepresented scientists need increasing, supporting them within a frame of acceptance is the only way forward.

An enhanced means of supporting, engaging and promoting this group is through the creation of their own dedicated professional society, having far greater powers of advocation than informal groups. Such an association could promote tools for neurotypicals to understand, include and accommodate marginalized autistics in science, and engender a shared space of unity and understanding. A learned society can assist their autistic members in pursuing and following through on their advances in STEM, buoying the publication of an untapped wealth of knowledge.

As an endnote, a brief detour into new research shows what future accommodations might look like, with the example that stimming should be encouraged, rather than vilified in neurotypical interactions. Jospe et al. (2020: 6) have just described how hand movements "facilitate the embodiment mechanism, leading to better comprehension", showing repetitive movements (i.e. stimming) are *enhancing* understanding within social interactions. As such, neurotypicals should embrace and encourage these repetitive movements, recognizing they are improving the overall interaction's success. This is especially necessary as neurotypical-autistic interactions are known to be less productive than similar-neurotype interactions (Crompton et al. 2020). Apparently, flapping my toes is not only comforting, it's helping me to comprehend what's being communicated.

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