

This is an Open Access document downloaded from ORCA, Cardiff University's institutional repository: <https://orca.cardiff.ac.uk/id/eprint/146682/>

This is the author's version of a work that was submitted to / accepted for publication.

Citation for final published version:

Turnock, Alice, Langley, Kate and Jones, Catherine R.G. 2022. Understanding stigma in autism: a narrative review and theoretical model. *Autism in Adulthood* 4 (1) , pp. 76-91. 10.1089/aut.2021.0005

Publishers page: <https://doi.org/10.1089/aut.2021.0005>

Please note:

Changes made as a result of publishing processes such as copy-editing, formatting and page numbers may not be reflected in this version. For the definitive version of this publication, please refer to the published source. You are advised to consult the publisher's version if you wish to cite this paper.

This version is being made available in accordance with publisher policies. See <http://orca.cf.ac.uk/policies.html> for usage policies. Copyright and moral rights for publications made available in ORCA are retained by the copyright holders.



Understanding stigma in autism: A narrative review and theoretical model

Alice Turnock ¹

Kate Langley PhD²

Catherine R.G. Jones PhD^{2*}

¹ School of Medicine, Cardiff University, University Hospital of Wales, Heath Park, Cardiff, CF14
4XN, UK

²Wales Autism Research Centre, School of Psychology, Cardiff University, Park Place, Cardiff, CF10
3AT, UK

Short running title: Stigma and Autism

Keywords: Autism; Stigma; Attitudes; Neurodiversity; Discrimination; Wellbeing

***Corresponding author:**

Catherine R.G. Jones
School of Psychology
Cardiff University
Park Place
Cardiff
CF10 3AT
UK

Email: jonescr10@cardiff.ac.uk

Abstract

The experience of stigma by autistic people is relatively understudied, despite contributing to a range of poor outcomes and having an overarching impact on wellbeing. The current review of the literature synthesises research to determine what is currently known and presents a theoretical model of autism stigma. Autism stigma is primarily influenced by public and professional understanding of autism in combination with interpretation of visible autistic traits. Moderating factors include the quality and quantity of contact with autistic people, cultural factors, sex and gender, individual differences, and diagnostic disclosure. Stigma can reduce wellbeing as well as increase the presence of camouflaging behaviours, which mask autistic traits. Caregivers of autistic people can experience stigma by association, i.e. affiliate stigma, which can impact their own wellbeing. A variety of interventions and approaches to reduce stigma are discussed, including ‘autism friendly’ spaces, positive media representation, educational and psychosocial training for the public and professionals, as well as cultural and systemic shifts that foster inclusivity and recognise neurodiversity.

Introduction

The experience of stigma for minority groups is well recognised,^{1,2} with autism considered an identity-based minority.³ However, the specific experience of stigma for autistic people has been relatively understudied, with a bias towards the experiences of family members rather than autistic people themselves.⁴ The term stigma dates back to the ancient Greek practice of cutting or burning a mark into a person to brand them a slave, traitor or criminal; the mark of someone to be avoided.⁵ In modern usage, stigma is considered an attribute that is unfavourable and that seemingly discredits an individual, leaving them to be viewed as less valuable than the rest of society.^{1,5,6} Notably, this definition depends on a collective understanding of what is unfavourable, thus stigma is inherently socially constructed.¹

Stigma can be seen as an overarching term for problems of knowledge (i.e. ignorance), problems of attitudes (i.e. prejudice), and problems of behaviours (i.e. discrimination)⁷. Definitions of the interconnecting processes that contribute to or reflect stigma are varied, underlining the challenge of capturing this complex process. This review draws on Link and Phelan's seminal conceptualisation of stigma.⁸ They argue that the development of stigma derives from the culturally-driven detection and labelling of a difference (e.g. labelling people with a particular set of behavioural characteristics as autistic); which converges with other interrelated components to form stigma. The second component is the attribution of unfavourable stereotypes to the label (e.g. autistic people are unfriendly). From a social-cognitive perspective, this linking between a label and its stereotypes is key to the development of stigma, as stereotypes can implicitly affect how an individual perceives other people.⁹ The next component is the use of the label to cause a separation between 'them' and 'us' (e.g. autistic people vs. everyone else). The final component is loss of status and the experience of discrimination (e.g. not being hired or promoted because of being autistic). Status loss and discrimination can be perceived as behavioural outcomes of stigma; a consequence of being labelled, being classified as other, and being linked to undesirable characteristics. Experiencing status loss and discrimination lies at the heart of the inequality a stigmatised person faces and contributes to negative treatment at both personal and structural levels.^{7,8}

Limited knowledge and understanding has a critical role in the presence of stigmatised views as an individual is more likely to rely on reductionist labels and stereotypes, dichotomise into them vs. us, and ultimately behave in a discriminatory way. Attitudes and beliefs can be conceptualised as the deeply held cognitions that lead to the labelling, stereotyping, setting apart, and discriminating that contribute to stigma.⁸ Attitudes are often measured by directly asking people to state how much they endorse positive and negative attitudes towards autism.¹⁰ Alternatively, openness towards a fictional autistic adult or child is explored, for example, by asking participants to rate whether they would feel afraid of the autistic person.^{11,12} Stigma is traditionally measured using a measure of social distance, which is seen as a consequence of stigmatised views and conceptualised as the deliberate avoidance or exclusion of another person from social interactions.^{13,14} Stigma can be categorised into different types. Most commonly, the discussion of stigma refers to enacted or public stigma, which is the overt discrimination of stigmatised individuals.¹⁵ However, this review will also consider self-stigma, or felt stigma, which is when the stigmatised person turns the prejudice they experience onto themselves.¹⁶ This can include feeling shame in relation stigmatised characteristic(s), and fear of enacted stigma.^{16,17} Affiliate, or courtesy, stigma will also be discussed, which is stigma experienced by people associated with the stigmatised person e.g. family members (see Table 1).^{5,15}

Table 1: A summary of the definitions of stigma.

Term	Definition
Stigma	A socially constructed concept; any attribute that is seen as unfavourable and that seemingly discredits an individual, leaving them to be viewed as less valuable than the rest of society.
Public/Enacted Stigma	Discrimination or rejection experienced by a stigmatised person.
Felt/Self Stigma	The internalised prejudice experienced by a stigmatised person, including shame and fear of enacted stigma.
Affiliate/Courtesy Stigma	Stigma experienced through association with a stigmatised person (e.g. parents/caregivers and other family members).

Autistic people can experience loneliness and fewer friendships compared to neurotypical peers,¹⁸⁻²⁰ fewer friendships in adolescence compared to peers with other special educational needs,²¹ have more difficulties with education²² and employment,^{23,24} experience poor social integration,^{25,26} and face high rates of bullying²¹. These factors are associated with a reduced quality of life.²⁷ Whilst these experiences have been attributed to autistic traits, more recent thinking has also considered the impact of negative societal responses to autistic people in contributing to these outcomes.^{28,29} Reflecting this, interviews with neurotypical people have found that autism is perceived by some as violating ‘accepted societal norms’.³⁰

Autistic people encounter negative experiences in their everyday lives that likely reflect autism stigma. For example, neurotypical people are less likely to want to live in the same building as autistic people or to spend time together as friends,¹¹ and are also less likely to want an intimate relationship with an autistic person.³¹ At the extreme, autistic people can be dehumanised by neurotypical people.³² Autistic people describe autism stigma as destructive and at odds with their own conception of autism as a value-neutral category, like handedness and eye colour.³³ Accordingly, 15.4% of a

recent sample of 149 autistic adults report moderate to severe felt stigma,⁴ with experience of stigma being reported by autistic adolescents and adults across a range of qualitative accounts.³³⁻³⁵ Alongside this, there is consistent evidence that affiliate stigma is experienced by the families of autistic people.³⁶⁻⁴⁵

The breadth of psychological and social issues relevant to autism stigma and the limited synthesis of this work drew us to a narrative review. The broad remit of a narrative review enabled us to consider a wide range of pertinent issues: factors that contribute to autism stigma, the impact of stigma for autistic people and their families, and possible interventions to reduce stigma. These findings will be conceptualised in a theoretical model of autism stigma (Figure 1). The model provides an overview for researchers interested in exploring the many facets of autism stigma and supports autistic people wanting to map their own experiences onto existing evidence. Importantly, when developing the model we considered the definition of stigma broadly and also incorporated relevant research on attitudes and acceptance, which are correlates of stigma and theoretically tightly coupled.^{8,46} Our narrative approach was underpinned by a thorough PubMed review of articles on autism (autis*) paired systematically with each of the following terms stigma, attitude, understanding, knowledge. We followed up relevant citations enabling our search to snowball and reach saturation. The model has been shaped by the findings, theory, and critical analysis within the references, as well as additional areas of research flagged as important by our initial search and included as part of our snowballing strategy (e.g. neurodiversity in autism).

Factors influencing stigma in autism

As detailed in Figure 1, the variables that contribute to autism stigma are public and professional understanding of autistic traits and expressed autistic traits. As previously mentioned, understanding has an overarching effect on the development of stigma. We also include expressed autistic traits, as stigma is fundamentally driven by a culturally-driven detection and labelling of a difference.⁸ We argue that it is from this intersection of understanding and observation of autism that other components of stigma occur. Moderating factors that influence the strength or direction of the

relationship between these variables and stigma include: the quality and quantity of contact, diagnostic disclosure, culture, sex and gender, and individual differences. Note that our model only includes the direct moderating effects on enacted stigma. These moderators are likely to have direct effects on both felt and affiliate stigma, but this is beyond the scope of the review.

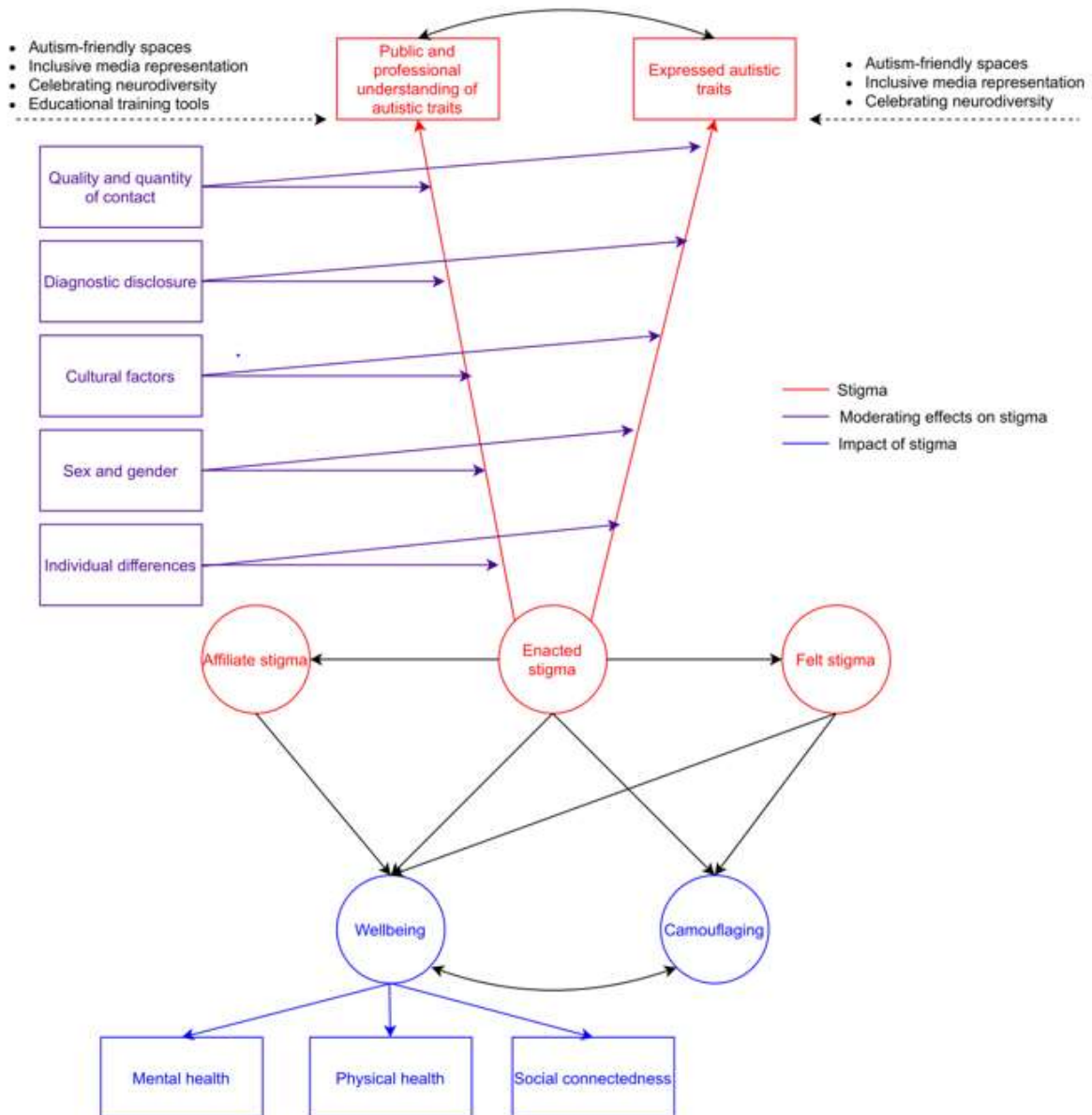


Figure 1: Theoretical model of the causes and impact of autism stigma.

Red circles indicate stigma, with Enacted stigma represented by the convergence of public and professional understanding of autism and expressed autistic traits (observed variables). Felt stigma and Affiliante stigma are experienced through Enacted stigma (black arrows). Purple rectangles indicate factors that have a moderating effect on the observed variables. Blue circles indicate the impact of stigma, including Wellbeing, measured by three observed variables, and camouflaging.

Black arrows indicate the direct effects between Enacted stigma and Wellbeing and Camouflaging, as well as the indirect effects through the effects of Affiliate and Felt stigma. The curved black double headed arrow illustrates covariance between public and professional understanding of autistic traits and expressed autistic traits, and between Wellbeing and Camouflaging. The bullet points above the dashed lines indicate interventions that may reduce stigma.

Public and professional understanding of autistic traits

When discussing understanding we are referring to a holistic conception and comprehension of autism that goes beyond factual or ‘book’ knowledge. For example, knowing that autism is diagnosed more in males would not be useful when wanting to support an autistic person struggling with sensory overload. However, studies have focussed on measures that probe knowledge, for example, discrete facts about aetiology, treatment or selected symptoms.^{13,47} Poorer public and professional knowledge of autism is often correlated with less positive attitudes⁴⁸ and more stigma,^{29,48-51} although null results also occur.⁵²⁻⁵⁶ Knowledge is also recognised by carers of autistic children as contributing towards stigmatised views.⁴⁴

Some surveys have shown encouraging levels of autism knowledge among the public.^{48,57,58} However, incorrect knowledge *is* present in the public and the impact of incorrect knowledge, even in the context of dominantly correct knowledge, is not understood. Some areas of misinformation include that autism is characterised by symptoms of other conditions,⁵⁸ that all autistic children show poor eye contact,⁵⁷ and that autistic people do not show affection or attachments.⁵⁰ Undergraduate students who incorrectly attributed unfavourable traits to autism were likely to have less positive attitudes towards autism regardless of the number of correct traits they identified.⁵³ This suggests certain misconceptions may dominate, even in the face of some correct knowledge. Another important consideration is the valence of the knowledge that is associated with autism. Eight of the ten characteristics that undergraduate students most commonly associated with autism had negative valence, with negative stereotyping likely to contribute to stigma.⁵⁹

There are also misconceptions and inadequate knowledge about autism amongst healthcare professionals.^{52,56,60-65} UK general practitioners displayed good knowledge of autism but only modest

confidence in their ability to work with autistic people,⁶⁶ which arguably highlights the limitations of factual knowledge in equipping professionals to engage effectively with autistic people. Teachers and childcare providers may also have poor knowledge and outdated beliefs about autism, particularly relating to aetiology,^{58,67-71} although teachers with more experience of autism have more knowledge.^{72,73} Some autistic pupils reported feeling stigmatised by their teachers and attributed this to being judged based on previous experiences with other autistic pupils.⁷⁴ These limitations have been partly attributed to insufficient training,^{64-66,75} with professionals with better knowledge and experiences less likely to stigmatise autistic children.^{44,49}

To fully explore the effect of autism understanding on autism stigma, fine-grained analysis is needed to disentangle what types of knowledge and understanding are most predictive of better attitudes and lower stigma. We argue that nuanced understanding, enabling someone to successfully identify an autistic person based on their pattern of behaviours, would be a better predictor than discrete facts. To this end, measuring understanding through identifying autistic people in vignettes or a video may be a more sensitive measure than fact endorsement. It would also be meaningful to extend understanding of autism to knowing how to best support autistic people. Consideration should also be given to what the autistic community think others should understand about autism. Reflecting this, a recent autism knowledge questionnaire that was co-produced by the autistic community found that the subsections around societal views and the experience of being autistic were predictors of autism attitudes in Australian adults.⁴⁸

Expressed autistic traits

Autistic people's difficulties in social communication are often physically expressed; examples include unusual patterns of eye contact, reduced facial expressions and sharing of emotions, and limited gesture use.⁷⁶ Restricted and repetitive behaviours can include motor mannerisms and unusual responses to sensory stimuli.⁷⁶ Sensory behaviours can be particularly prevalent outside the home in unfamiliar spaces,⁷⁷ and overwhelming sensory experiences can induce significant distress.⁷⁸ These visible autistic traits may lead to negative attitudes during first impression formation.^{28,79,80} When assessing first impressions using video clips, neurotypical people have perceived autistic people as

less attractive, more submissive, and more awkward than matched neurotypical counterparts.²⁸

However, first impressions were not negative when the speech transcript was presented without visual stimuli, suggesting the bias was driven by their expressive differences.²⁸

Some of these expressed differences can be particularly negatively perceived by the neurotypical population. Stereotyped or repetitive motor mannerisms, or ‘stimming’, were recognised by autistic people as being negatively judged by neurotypical people, making them feel devalued or ‘weird’.⁸¹ Autistic people have also reported that some autistic differences can be perceived as frightening to neurotypical people⁸² and that people sometimes associate autism with violent acts.³³ Relatedly, students in the US and Lebanon perceived disruptive autistic behaviours as more ‘dangerous’ than withdrawn behaviours, which prompted greater stigmatisation.¹⁴

Within our model (Figure 1), we have indicated a covariance between public and professional understanding of autistic traits and expressed autistic traits. This is because the social model of disability recognises the social construction within which autistic people exist, with poor understanding and attitudes from professionals and the public likely to affect expressed traits and possibly lead to elevated distress or discomfort for autistic people.⁸³ Similarly, the way that an autistic person behaves will inform public and professional insight into autism.

Moderating factors

The **quality and quantity of contact** that autistic and neurotypical people have with one another is an important consideration. Knowing and spending time with an autistic person is associated with more positive attitudes towards autistic adults and children.^{11,48,53,84,85} It is important to consider the distinct contributions of both the quantity and quality of contact, with both dimensions associated with more positive attitudes⁵⁴ and decreased stigma⁸⁶. However, quality of contact appears to be a more robust predictor of attitudes than quantity.^{54,86} This pattern of findings is congruent with data showing that people with autistic immediate family members have more positive attitudes,¹¹ and less stigma towards autism.^{13,29}

For neurotypical people, high quality interactions may lead to decreased anxiety and increased comfort around autistic people, which lays foundations for better understanding and consequently better attitudes towards autism.⁵⁴ Similarly, high quality interactions also support autistic people in feeling comfortable, which create better conditions for autism to be accurately understood.

Conversely, lack of understanding and unfavourable attitudes about autism from neurotypical people may lead to negative social interactions (e.g. being unwelcoming) that impact the interactions of autistic people (e.g. displaying wariness), limiting opportunities for quality social connections and potentially exacerbating stigmatised views.^{28,87} The quality of contact may be influenced by the issue

of ‘double empathy’, whereby autistic and neurotypical people are mutually challenged in their understanding of one another due to fundamental differences in how each understand the world.^{88,89}

Autism is not associated with dysmorphology therefore autistic people’s ‘typical’ appearance coupled with their unusual behaviours may elevate stigma, with autistic behaviours understood as social deviance rather than reflecting an underlying difference or difficulty.^{30,90} Therefore, although more direct comparisons are required, existing research suggests that quality of contact has more impact than quantity.

Another important consideration is whether **diagnostic disclosure** may moderate how autistic people are perceived. The attribution model of stigma proposes that if a behaviour is perceived as controllable then negative reactions to a stigmatised individual will be greater as responsibility for their actions will be assumed.⁹¹ Related to this, the label of autism leads to more favourable first impressions of autistic people presented in video clips than when this label is not provided^{80,92} There is growing evidence that diagnostic disclosure can lead to more positive attitudes,^{55,93,94} more positive affective responses,⁹⁵ greater acceptance of inappropriate social behaviours,⁹⁶ as well as reduced stigma.⁹⁷ However, these findings are not universal. For example, knowledge of diagnosis can have a negative impact on first impressions of autistic people for those with high autism stigma,⁹⁸ whilst school children and adolescents do not modify their social distancing towards a fictional autistic peer when diagnosis is disclosed.⁹⁹ A recent scoping review concluded the fear of stigma was tied to the

reluctance of autistic people to share their diagnosis,¹⁰⁰ although concerns about judgement and misunderstanding have been attributed to both disclosing and not disclosing an autism diagnosis.^{33,101} The disconnect between experimental evidence of the positive impact of diagnostic disclosure and the lived experiences of autistic people warrants further exploration. One possible source of variance is the impact of pre-existing autism knowledge or understanding on the effect of diagnostic disclosure, with findings currently mixed.^{92,95} It is also relevant that diagnostic disclosure may also mediate how autistic people express themselves. A stronger autistic identity has been linked to a more open expression of autistic behaviours in everyday life, mediated by the extent to which the autistic person is open about their diagnosis.¹⁰² Further, autistic people may choose not to share their diagnosis in certain contexts,¹⁰³ which means they may behave differently across environments.

Another possible moderator is **cultural factors**. People in the USA held less stigma towards autistic people than those in Lebanon, Japan and China. However, whilst people in China and Lebanon had a lower understanding of autism, people in Japan had a similar level of knowledge to the USA.^{50,104,105} This aligns with the idea that dominantly collectivist cultures, where group cohesion is biased over the needs of the individual, may be more susceptible to stigma due to more ready adoption of culturally-defined norms.¹⁰⁴ However, an investigation of autism stigma in college students in Lebanon and the USA found that individual characteristics (e.g., previous contacts with autistic people) exerted a stronger influence on autism stigma than the country of residence.¹⁰⁶

Cultural differences can clearly exert significant influence. In South Korea, the lay classification of ‘border children’ recognises children in mainstream schools who would be described autistic by Western-trained clinicians.¹⁰⁷ This label is partly driven by parental desire to avoid autism stigma, with the cultural importance of academic success supporting their child’s ‘normalcy’.¹⁰⁷ Parents in China have described that the cultural belief that respect for the father is related to the prospects of the son, can mean parents do not want to disclose their son’s autism.¹⁰⁸ In other countries, the conceptualisation of autism as something other than a developmental disorder can leave communities vulnerable to stigma. For example, in Vietnam, autism has been variously conceptualised as a disease,

a ‘family problem’, and karmic demerit.¹⁰⁹ In parts of Africa, autism has been attributed to supernatural phenomenon.^{110,111} These types of beliefs not only lead to significant stigma, such as autistic children being asked to leave public transport or families being unable to rent accommodation,¹¹² but can also lead to inappropriate and sometimes dangerous ‘cures’ by traditional healers.^{110,111}

Cultural differences can also be perceived within a country among minority immigrant or indigenous communities. Somalian families in the UK report high levels of stigma towards their autistic children, leading to families hiding their child and delaying seeking support because challenging behaviours are not tolerated within their communities.¹¹³⁻¹¹⁶ There is prevalent autism stigma within Black American communities from diverse socioeconomic backgrounds, particularly related to denial and shame,^{117,118} as well lower levels of autism acceptance in Asian American communities.¹¹⁹ Aboriginal and Torres Strait Island community members in Australia that have autistic family members also report a high degree of stigma.¹²⁰ The experience of shame, which has strong cultural relevance, was commonly identified and linked with a reluctance to share the diagnosis. An additional challenge for minority groups is that autism stigma, which may have community-specific manifestations, is likely to interact with other stigma, such as those relating to religion, race, and ethnicity. Indeed, the starkest accounts of stigma by the Aboriginal and Torres Strait Island communities related to interactions with non-Aboriginal people.¹²⁰ Additionally, Black American parents have reported experiencing racism, including negative assumptions about their autism knowledge and family circumstances, within the diagnostic process.¹¹⁷ More nuanced investigation is needed to better understand the impact of culture and community, both within and across countries, on the experience of stigma for autistic people and their families. This could include direct exploration of whether there are contrasting experiences of autism stigma for families and autistic individuals within and outside of different community groups, and the extent to which additional forms of ‘otherness’ may compound stigma.

Although cultural factors are more easily associated with their possible impact on public or professional perceptions and understanding, it is also true they may influence the expression of

autistic traits. Reflecting this, there is modest evidence that the severity of some autistic traits may vary across some cultures.¹²¹

It is also important to consider the moderating effects of the **sex and gender** of autistic people. Whilst sometimes used interchangeably, sex focusses on the biological differences between males and females, whereas gender refers to the socially constructed roles, behaviours and attributes that society has designated for biological males and females.¹²² There is growing interest in delineating differences in the expression of autism based on sex and gender¹²² but gender and sex norms may also affect the perceptions of autistic people by neurotypical people. One qualitative study suggested that autistic females recognised pressures to fulfil gender stereotypes, including expected social skills, and that females groups were less forgiving of social ‘faux pas’.¹²³ Similarly, in a mixed methods study, autistic girls were more likely to feel like victims in friendship groups than autistic boys and neurotypical girls and boys, and felt punished for not ‘getting it’ socially.¹²⁴ These studies predict that autistic females would experience more stigma based on greater difficulty in aligning with gender norms. From the parent perspective, mothers of autistic children may be more vulnerable to experiencing autism stigma than fathers, including avoidance, hostile staring and rude remarks from the public.¹⁵ Again, this may relate to gender stereotypes, with a higher threshold of expectation set on mothers’ parenting. Typically, studies that include gender do not consider the broader spectrum of gender presentations, including transgender and nonbinary, who are overrepresented in autistic populations,^{125,126} which is an important consideration for future research.

Consideration should also be given to wider **individual differences** beyond an autistic person’s sex or gender. Individual differences related to the expression of autism are also relevant. For example, among undergraduates, disruptive autistic behaviours lead to more stigma than withdrawn behaviours,¹⁴ whilst parents of violent or aggressive autistic children are more likely to encounter stigma.¹⁵ From a different perspective, the autism stigma experienced by families may be greater if their child’s autism is less visible compared to children with more obvious additional needs, such as intellectual disability.¹⁵

In terms of individual differences among the public, there is converging evidence that females are less likely to have stigmatised views about autism,^{13,48,119} have higher levels of acceptance of autistic people,¹¹⁹ more positive attitudes,⁴⁸ and greater willingness for social closeness with autistic people.^{13,50} Higher educational levels are also associated with higher levels of acceptance¹¹⁹ and lower levels of stigmatised views.¹²⁷ However, education level is not a predictor in all studies.^{29,48} Age is generally not predictive of autism-related attitudes and stigma.^{29,48,119,127} Other relevant individual differences predictive of lower autism stigma include openness to experience, and decreased acceptance of inequality.¹⁰⁶

The impact of stigma

The potential effect of stigma on autistic people and their families is wide ranging and has an overarching impact on wellbeing.³ Wellbeing is a multidimensional construct, with stable wellbeing occurring when individuals have the psychological, social and physical resources to meet a particular psychological, social and/or physical challenge.¹²⁸ The insidious effects of stigma may erode at some of these resources, with deleterious consequences for wellbeing. As illustrated in Figure 1, stigma can affect wellbeing by influencing a range of factors including mental health, physical health, and social connectedness.¹²⁹⁻¹³¹ In addition, we consider the impact of stigma on behaviours adopted by autistic people to camouflage their behaviours, typically driven by a desire to ‘fit in’.^{132,133}

Wellbeing

Recent research has identified that the greater awareness of stigmatised status is related to lower levels of psychological wellbeing in autistic adults.¹³⁴ The lower social standing of stigmatised minority groups is believed to lead to exposure to more stressful life events, alongside fewer resources to manage these events.³ Autistic people have reported a wide range of stressors common to minority groups, including victimisation, violence, discrimination, rejection and felt stigma^{3,35,135}, which predicted heightened psychological distress, reduced wellbeing³ and reduced quality of life.¹³⁵

Similarly, only 7% of autistic adults felt accepted as an autistic person within society, with feelings of acceptance protecting against depression.¹³⁶ These findings are particularly relevant given the high prevalence of co-occurring mental health conditions in autistic people.¹³⁷

Felt and enacted stigma can lead to reduced access to healthcare, with implications for both mental and physical health.^{138,139} For example, there is suggestion that negative attitudes at university could stop autistic students from approaching support services.⁵³ Stigma can also lead to a reluctance to disclose an autism diagnosis in healthcare settings,¹⁴⁰⁻¹⁴² as well as in the workplace,¹⁴³ despite disclosure often being necessary for appropriate care or support.^{142,143} Similarly, stigma can lead parents to resist a diagnosis for their child.¹⁴⁴ Autistic people and family members have identified stigma and negative perceptions among healthcare professionals, alongside a lack of flexibility and unwillingness to make autism-specific adjustments.¹⁴² Therefore, stigma can affect the quality and appropriateness of health and social care received, with consequences for wellbeing.

The caregivers of autistic people are also adversely affected, with affiliate stigma correlated with anxiety and depression,^{37,145} poorer physical health,⁴² lower subjective wellbeing,¹⁴⁶ and fewer working hours.³⁹ A recent theoretical framework of the relationship between autism stigma and caregiver mental health suggests that there are both changeable factors (e.g. caregiver burden, self-blame, social isolation) and non-changeable factors (e.g. culture, financial burden), which both contribute to mental ill-health and stigma.¹⁴⁵

Aside from mental and physical health, the social connectedness that someone feels to their local and wider communities is also an important dimension of wellbeing.¹⁴⁷ The stigma and misconceptions of the neurotypical majority can lead to autistic people becoming socially isolated.¹⁴⁸ A dominant perception of autistic people is that they are not interested in social relationships.¹⁴⁸ However, many autistic people have a desire for meaningful friendships and relationships but struggle to obtain them.¹⁴⁹⁻¹⁵¹ Dissatisfaction with social support¹⁹, less social contact¹⁵² and less social connectedness¹⁵³ have all been associated with the experience of loneliness for autistic people. In turn, loneliness has been associated with depression and anxiety for autistic people across multiple studies,^{131,152-154} as

well as with poorer life satisfaction and self-esteem.¹³¹ In contrast, feelings of greater social connectedness, more time spent with friends and greater levels of perceived social support have all been associated with better wellbeing among autistic college students.¹⁵⁵ However, the heterogeneity of autism means that assumptions should not be made about the desire for social connectedness. Those who want more social connectedness are arguably more likely or able to voice their social preferences, so it is easy to forget those who are more passive and retiring, including those who prefer aloneness and do not want intrusion. There should be understanding and acceptance of autistic people whatever their social style.¹⁵⁶

For family members, parents report friends asking them not to bring their autistic children to social gatherings or judging their parenting.¹⁵⁷ More generally, parents can find reactions from members of the public difficult and have reported feeling embarrassed in public when their autistic child does not behave in socially acceptable way.⁷⁸ These experiences may partly explain why the degree of affiliate stigma associates negatively with participation in community events for parents of autistic children,¹⁵⁸ as well social disconnect from family and friends.³⁹ In summary, autism stigma can have negative effects on the mental and physical health of autistic people and their families, as well as leading to reduced social connectedness. These factors all contribute to reducing wellbeing within autistic communities.

Camouflaging

Stigma may also be a driver of the behaviours that autistic people choose to present to society, with consequential impact on mental health and identity. Defined as ‘camouflaging’, some autistic people dampen down or mask their autistic traits to try and appear more neurotypical and better manage social situations.^{132,133} This relates to the concept of ‘compensation’ in autism, whereby some autistic people show more ‘typical’ social skills than their underlying social cognitive difficulties would predict.¹⁵⁹⁻¹⁶¹ Compensating for underlying difficulties and camouflaging certain behaviours is mentally taxing and may result in fatigue,^{132,160,162} poorer mental health,^{130,133,140,162-164} educational underachievement,¹⁶² and suicidality.¹⁶⁵ The drive to behave neurotypically can also delay diagnosis,

delaying not only access to support but making the autistic person vulnerable to stigma through being less well understood.^{92,95,96,157,166} Some motivations for camouflaging appear to reflect the pursuit of fulfilment, such as the desire for meaningful relationships.^{130,132,160} However, other behaviours often relate to societal norms, including fear of rejection or bullying, a pressure to conform,¹⁶⁰ and awareness of being in a 'social minority'.¹⁶⁷

Camouflaging has resonance with the concept of 'concealment', which is a way that stigmatised groups have protected themselves from discrimination.¹⁶⁸ Recently, autistic people have described the camouflaging of their autism as a direct response to concerns about experiencing stigma,^{33,169} as well as feelings of shame, which reflects felt stigma.¹³⁰ In this context, camouflaging behaviours have been described as a 'normalising artifice' in which the stigma of autism is transformed into the mask of autism.¹⁷⁰ Reflecting this, greater perception of autism stigma was associated with greater camouflaging in a sample of autistic adults, which has been interpreted through Social Identity Theory as a way of associating with the higher-status neurotypical majority.¹³⁴ However, although there is a relation between a stronger autistic identity and reduced camouflaging, some autistic people experience an inconsistency; being proud of and strongly identifying as autistic whilst also camouflaging to fit in.^{130,134,162} Better understanding of this apparent paradox could be helpful in supporting autistic people to make informed choices about the strategies they adopt to align with the neurotypical majority. In summary, there is converging evidence that camouflaging behaviours can have a deleterious effect on mental health, and they are tightly coupled with protecting the self from the negative consequences of autism stigma.

Reducing stigma

There are various approaches that may reduce the stigma experienced by autistic people and their families, although there has been relatively little research. In Figure 1 we have included examples of interventions that may bring positive change for the autistic community. For ease of illustration, we have focussed the primary impact of the interventions on contributors to enacted stigma: public and

professional understanding of autism and expressed autistic traits. However, these interventions are likely to have wider impact on, and interact with, other components of the model.

Autism friendly spaces

Autism-friendly spaces are ones in which the ‘person-environment’ fit is enhanced,¹⁷¹⁻¹⁷³ including making a space more socially comfortable (e.g. availability of a quiet room; agreed expectations about social interaction) or physically comfortable (e.g. appropriate lighting) alongside more generic adaptations such as improving the predictability of an environment. A relevant overarching approach is Universal Design, in which environments are developed as inclusive for all at their earliest conception, rather than being subsequently modified.¹⁷⁴

Autistic people have reported that socialising can be particularly difficult when neurotypical family and friends do not consider their preferences, with some activities being inaccessible due to environmental challenges.¹⁶⁷ Further, the inappropriateness of many school environments has been described as a barrier to inclusivity, including issues relating to unpredictability, sensory experiences, and social pressures.^{74,175} Adaptations to environments gives more opportunity for neurotypical and autistic people to share spaces. Although yet to be empirically tested, we argue that autism-friendly spaces can improve understanding of and attitudes towards autism by enabling autistic people to better integrate with the wider community. Further, autism-friendly spaces are less likely to invoke distress, thus enabling autistic people to be their true selves. We argue this will enhance the quality of interactions with autistic people, and consequently reduce stigma.^{54,106} Thus, although the driver of autism-friendly environments is to make spaces more comfortable for autistic people, there may be wider benefits relating to inclusivity and stigma reduction.

Increased inclusive media representation

Knowing someone with autism is associated with more positive attitudes towards autism^{11,48,53} and less stigma.^{11,13,29} This ‘knowing’ of autistic people could be partly achieved by greater and better media representation. Negative reporting of autism is correlated with negative attitudes¹⁷⁶ but the

media representation of autistic people is often negative.¹⁷⁷⁻¹⁸⁰ There has been a call for more accuracy in portrayals of autism in the media, although achieving a balanced message is difficult given the heterogeneity of autism.¹⁸¹ Positive portrayals are also beneficial for autistic people and their families.¹⁴⁴ Therefore, positive autistic role models and representation of the diversity of autistic experience is likely to improve understanding and reduce negative attitudes, ultimately reducing autism stigma. Additionally, positive media representations may support autistic people in expressing themselves and reduce the need for camouflaging.

Educational and psychosocial training tools

Another approach is to formally educate the public and professionals about autism. Online training using PowerPoint has significantly increased knowledge and decreased stigma in students.^{13,50,182,183} However, it is unknown whether these positive changes would be sustained over time, nor whether the training would translate to real-life behaviours. With respect to the impact of training on real-life, a recent study investigated the effect of an autism acceptance training video on young adult males who subsequently engaged in a conversation with an autistic social partner.¹⁸⁴ Both partners reported more interest in spending time with each other compared to dyads where the neurotypical partner had not had the training, suggesting training had a relational effect. This supports a previous study where the video had a positive effect on reducing self-reported autism stigma in undergraduates.¹⁸⁵ However, the positive effects of the video on real-life interactions did not extend to all measures of interaction quality,¹⁸⁴ and the video did not affect an implicit bias towards associating autism with stigma-related attributes.¹⁸⁵ For children, the 'Understanding Our Peers with Pablo' programme encompasses story books and animations to teach about autism and reduce autism stigma. It improved attitudes towards unfamiliar autistic peers but did not enhance attitudes towards familiar autistic peers compared to a control group.¹⁸⁶ Additionally, behavioural intentions were not improved and thus stigma still prevailed, which is consistent with previous research that has used a similar intervention with adolescents.^{187,188} Therefore, although studies addressing stigma can bring positive change, the outcome measure is an important consideration. An explicit shift in attitudes may not be a sufficient determinant of a more embedded change in implicit beliefs or behaviours.

A recent survey of neurotypical people found that knowledge of what it could be like to have autism predicated more positive attitudes towards autism.⁴⁸ First-hand experience of an autistic perspective may help neurotypical people understand that their actions may align with an autistic person when they have similar experiences,¹⁸⁹ reflecting the issue of double-empathy. Technological innovations offer opportunities for providing this perspective. ‘Auti-Sim’ is a simulation of sensory overload designed to give neurotypical people a first-person experience of challenges autistic people face.¹⁸⁹ Using the simulation increased perspective taking compared to watching a simulated experience or reading a vignette, and heightened perspective taking was associated with greater emotional concern and helping intentions. However, there was no difference in explicit attitudes towards autism. Similar approaches include videos designed to illustrate the first-hand experiences of autistic people in their everyday lives e.g. during a short walk.¹⁹⁰

Looking forwards, there may be mileage in drawing upon existing resources that target the implicit, or unconscious, bias that individuals can hold towards marginalised groups.^{191,192} Further, comprehensive programmes that include whole organisations, such as the Welsh Government’s Learning with Autism whole-school training programme¹⁹³, may engender greater attitude change due to the enhanced capacity for a cultural shift. Importantly, participatory input from autistic people in adapting an online training tool has led to the tool being more effective at changing autism knowledge, autism stigma and attitudes towards inclusion, compared to a version of the training where there was no participation.¹⁸² This therefore underlines the value of including autistic people in the development of training tools.

Neurodiversity

Arguably, autism stigma may be best reduced by a fundamental shift in the way autism is perceived by society. The neurodiversity movement celebrates autism for the differences it brings to society and for being an integral part of autistic people’s identities, similar to race, sexuality or nationality.^{29,194} The term ‘neurodiversity,’ initially adopted by members of the autistic community,¹⁹⁵ is now

recognised by many other neurodivergent groups.^{196,197} It is encapsulated within the minority model of disability, which emerged as a direct challenge to the biomedical model of disability, with its focus on pathology and cure.^{3,194,198} A central tenant of the minority model is that society's restricted conceptualisation of 'normal' creates disability.³ It has close ties with a social-developmental account of autism that argues the development and wellbeing of autistic individuals is significantly shaped by misperceptions of the neurotypical majority.⁸⁷ In essence, neurodiversity is the recognition of the range of natural diversity that is found within human development.¹⁹⁹ Adopters of neurodiversity reject the medical model of autism as 'deficit' in favour of autism as 'difference', which contributes positive diversity to society.^{29,194} Importantly, the onus on embracing neurodiversity should not be placed solely with autistic people and their families. Autistic people may feel more positive self-identification through identifying with neurodiversity but the power of neurodiversity to engender meaningful societal change depends on its wide adoption. Recently, there has been a call to members of the autism research community to engage with the tenants of neurodiversity and bring about a paradigm shift in autism research.¹⁹⁹

Having views aligned with the neurodiversity model is associated with lower stigma towards autistic people.²⁹ Autistic identification is positively related to positive self-esteem, and is related to lower levels of depression and anxiety.²⁰⁰ The neurodiversity movement aligns with the ownership many autistic people have taken of language used to describe them, with endorsement of disability- or identity-first language.^{194,201,202} Disability-first language (e.g. autistic person) is considered less stigmatising, partially because person-first language (e.g. person with autism) could imply the identity is shameful and partially because person-first language is not used in context outside of disability.^{33,202,203} However, not all autistic people or their families prefer identity-first language²⁰¹ and differences in preference should be considered. There has been a call for researchers to avoid ableist language, which carries an implicit assumption that disabled people are inferior to others,²⁰⁴ and to adopt the term 'autism spectrum condition' over the potentially more stigmatising 'autism spectrum disorder'.

It is important to note that identity with the autistic community can be ambivalent for some, with the benefit of finding a sense of belonging existing alongside internalisation of the autism stigma.^{101,170} The visibility of positive autism messages is therefore key and the embracing of neurodiversity can be seen in narratives in which autistic people call for acceptance of autistic behaviours, such as stimming.⁸¹ Other activities to support neurodiversity include events that showcase the achievements of autistic people, particularly when designed by autistic people.¹⁹⁰ The neurodiversity movement therefore has potential to improve public and professional understanding of autism, while also creating a culture where autistic people feel more able to express their true selves. It may also reduce the need to camouflage autistic behaviours, bringing co-occurring improvements in mental health.

Conclusion

Our synthesis of the literature has presented a model of autism stigma designed to promote understanding and further research of the difficulties people within the autistic community may face in finding acceptance. A truly nuanced exploration of autism stigma should take an intersectional approach, in which the wider social and cultural context and other forms of stigma can be accommodated.²⁰⁵ It is imperative that future autism sigma research includes participation from those with lived experience,^{29,199,206,207} not least because to leave the autistic community out of the research process perpetuates a ‘them’ and ‘us’ culture that reinforces stigma. Consideration must be given to including a diverse range of autistic community contributors, including those who may not typically engage with research.²⁰⁸

Importantly, we are not assigning responsibility to the autistic community for their stigma. Rather, we are reflecting theoretical understanding that the development of stigma is driven by the cultural framing of difference and the insidious effects of labelling this difference.⁸ For autism, decades of converging research support the reality of patterns of social communication differences and restricted and repetitive behaviours, which can cause challenges in everyday life. However, when we refer to a label as a ‘condition’ or ‘disorder’, we are locating the referent in the stigmatised person, rather than

recognising that the label has evolved because of its social significance and as a product of social processes.⁸ There is clearly a value to labelling, not least because it creates a shorthand for society to recognise and address an individual's needs. However, by labelling a 'difference', ostensibly to provide support, we are creating challenges for the labelled. There is no easy solution to this conundrum. An interesting counterpoint to this has been the neurodiversity movement and the reclaiming of identity by autistic people. Many autistic people are communicating that their autism 'is' them and not something separate,²⁰² which at face value is counter to approaches that advocate distancing from a stigmatised label.⁸ The neurodiversity movement may therefore support a shift in both the power and value of autism labels, with the potential to reduce autism stigma. Additionally, neurodiversity may provide a valuable framework in which to develop a novel programme to challenge and reduce felt stigma in autistic people.

Author contribution statements

CJ and AT were involved in the conceptualisation of the manuscript and wrote the original draft. CJ led on the development of the model. KL reviewed and edited drafts of the manuscript. All co-authors have reviewed and approved of the manuscript prior to submission. The manuscript has been submitted solely to this journal and is not published, in press, or submitted elsewhere.

Author disclosure statements

No competing financial interests exist.

Funding statement

There is no funding to declare.

References

1. Major B, Dovidio JF, Link BG, Calabrese SK. Stigma and its implications for health: Introduction and overview. *Stigma, discrimination, and health*. 2018;3-28.
2. Oyserman D, Swim JK. Stigma: An insider's view. *Journal of Social Issues*. 2001;57(1):1-14.
3. Botha M, Frost DM. Extending the Minority Stress Model to Understand Mental Health Problems Experienced by the Autistic Population. *Society and Mental Health*. 2020;10(1):20-34.
4. Bachmann CJ, Höfer J, Kamp-Becker I, et al. Internalised stigma in adults with autism: A German multi-center survey. *Psychiatry research*. 2019;276:94-99.
5. Goffman E. *Stigma: Notes on the management of spoiled identity*. Simon and Schuster; 1963.
6. Shtayermman O. An exploratory study of the stigma associated with a diagnosis of Asperger's syndrome: The mental health impact on the adolescents and young adults diagnosed with a disability with a social nature. *Journal of Human Behavior in the Social Environment*. 2009;19(3):298-313.
7. Thornicroft G, Rose D, Kassam A, Sartorius N. Stigma: ignorance, prejudice or discrimination? *The British Journal of Psychiatry*. 2007;190(3):192-193.
8. Link BG, Phelan JC. Conceptualizing stigma. *Annual review of Sociology*. 2001;27(1):363-385.
9. Greenwald AG, Banaji MR. Implicit social cognition: attitudes, self-esteem, and stereotypes. *Psychol Rev*. 1995;102(1):4-27.
10. Flood LN, Bulgrin A, Morgan BL. Piecing together the puzzle: Development of the societal attitudes towards autism (SATA) scale. *Journal of Research in Special Educational Needs*. 2013;13(2):121-128.
11. Nevill REA, White SW. College students' openness toward autism spectrum disorders: Improving peer acceptance. *Journal of autism and developmental disorders*. 2011;41(12):1619-1628.
12. Harnum M, Duffy J, Ferguson DA. Adults' versus children's perceptions of a child with autism or attention deficit hyperactivity disorder. *J Autism Dev Disord*. 2007;37(7):1337-1343.
13. Gillespie-Lynch K, Brooks PJ, Someki F, et al. Changing college students' conceptions of autism: An online training to increase knowledge and decrease stigma. *Journal of Autism and Developmental Disorders*. 2015;45(8):2553-2566.
14. Gillespie-Lynch K, Daou N, Obeid R, Reardon S, Khan S, Goldknopf EJ. What Contributes to Stigma Towards Autistic University Students and Students with Other Diagnoses? *J Autism Dev Disord*. 2021(51):459-475.
15. Gray DE. 'Everybody just freezes. Everybody is just embarrassed': Felt and enacted stigma among parents of children with high functioning autism. *Sociology of Health & Illness*. 2002;24(6):734-749.
16. Corrigan PW, Watson AC. Understanding the impact of stigma on people with mental illness. *World psychiatry*. 2002;1(1):16.
17. Jacoby A. Felt versus enacted stigma - a concept revisited - evidence from a study of people with epilepsy in remission. *Social Science & Medicine*. 1994;38(2):269-274.
18. Bauminger N, Kasari C. Loneliness and friendship in high-functioning children with autism. *Child development*. 2000;71(2):447-456.

19. Ee D, Hwang YI, Reppermund S, et al. Loneliness in Adults on the Autism Spectrum. *Autism in Adulthood*. 2019;1:182-193.
20. Petrina N, Carter M, Stephenson J. The nature of friendship in children with autism spectrum disorders: A systematic review. *Research in Autism Spectrum Disorders*. 2014;8(2):111-126.
21. Rowley E, Chandler S, Baird G, et al. The experience of friendship, victimization and bullying in children with an autism spectrum disorder: Associations with child characteristics and school placement. *Research in Autism Spectrum Disorders*. 2012;6(3):1126-1134.
22. Brede J, Remington A, Kenny L, Warren K, Pellicano E. Excluded from school: Autistic students' experiences of school exclusion and subsequent re-integration into school. *Autism and Developmental Language Impairments*. 2017;2:1-20.
23. Shattuck PT, Narendorf SC, Cooper B, Sterzing PR, Wagner M, Taylor JL. Postsecondary education and employment among youth with an autism spectrum disorder. *Pediatrics*. 2012;129(6):1042-1049.
24. Black MH, Mahdi S, Milbourn B, et al. Multi-informant International Perspectives on the Facilitators and Barriers to Employment for Autistic Adults. *Autism Research*. 2020.
25. Billstedt E, Gillberg C, Gillberg C. Autism after adolescence: population-based 13-to 22-year follow-up study of 120 individuals with autism diagnosed in childhood. *Journal of autism and developmental disorders*. 2005;35(3):351-360.
26. Howlin P, Goode S, Hutton J, Rutter M. Adult outcome for children with autism. *J Child Psychol Psychiatry*. 2004;45(2):212-229.
27. Tobin MC, Drager KDR, Richardson LF. A systematic review of social participation for adults with autism spectrum disorders: Support, social functioning, and quality of life. *Research in Autism Spectrum Disorders*. 2014;8(3):214-229.
28. Sasson NJ, Faso DJ, Nugent J, Lovell S, Kennedy DP, Grossman RB. Neurotypical peers are less willing to interact with those with autism based on thin slice judgments. *Scientific reports*. 2017;7:40700.
29. Gillespie-Lynch K, Kapp SK, Brooks PJ, Pickens J, Schwartzman B. Whose expertise is it? Evidence for autistic adults as critical autism experts. *Frontiers in psychology*. 2017;8:438.
30. Huws JC, Jones RSP. 'They just seem to live their lives in their own little world': Lay perceptions of autism. *Disability & Society*. 2010;25(3):331-344.
31. Jensen CM, Martens CS, Nikolajsen ND, et al. What do the general population know, believe and feel about individuals with autism and schizophrenia: Results from a comparative survey in Denmark. *Autism*. 2016;20(4):496-508.
32. Cage E, Di Monaco J, Newell V. Understanding, attitudes and dehumanisation towards autistic people. *Autism*. 2018;23(6):1373-1383.
33. Botha M, Dibb B, Frost DM. "Autism is me": an investigation of how autistic individuals make sense of autism and stigma. *Disability & Society*. 2020:1-27.
34. Brownlow C, Lawson W, Pillay Y, Mahony J, Abawi D. "Just Ask Me": The Importance of Respectful Relationships Within Schools. *Frontiers in psychology*. 2021;12(2281).
35. Mantzalas J, Richdale AL, Adikari A, Lowe J, Dissanayake C. What Is Autistic Burnout? A Thematic Analysis of Posts on Two Online Platforms. *Autism in Adulthood*. 2021.

36. Oti-Boadi M, Dankyi E, Kwakye-Nuako CO. Stigma and Forgiveness in Ghanaian Mothers of Children with Autism Spectrum Disorders (ASD). *Journal of Autism and Developmental Disorders*. 2020;1-10.
37. Öz B, Yüksel T, Nasiroğlu S. Depression-Anxiety Symptoms and Stigma Perception in Mothers of Children with Autism Spectrum Disorder. *Archives of Neuropsychiatry*. 2020;57(1):50.
38. Zuckerman KE, Lindly OJ, Reyes NM, et al. Parent perceptions of community autism spectrum disorder stigma: measure validation and associations in a multi-site sample. *Journal of autism and developmental disorders*. 2018;48(9):3199-3209.
39. Kinnear SH, Link BG, Ballan MS, Fischbach RL. Understanding the experience of stigma for parents of children with autism spectrum disorder and the role stigma plays in families' lives. *Journal of Autism and Developmental Disorders*. 2016;46(3):942-953.
40. Liao X, Lei X, Li Y. Stigma among parents of children with autism: A literature review. *Asian journal of psychiatry*. 2019.
41. Mitter N, Ali A, Scior K. Stigma experienced by families of individuals with intellectual disabilities and autism: A systematic review. *Research in developmental disabilities*. 2019;89:10-21.
42. Song J, Mailick MR, Greenberg JS. Health of parents of individuals with developmental disorders or mental health problems: Impacts of stigma. *Social Science & Medicine*. 2018;217:152-158.
43. Lovell B, Wetherell MA. Affiliate stigma, perceived social support and perceived stress in caregivers of children with autism spectrum disorder: A multiple mediation study. *Archives of psychiatric nursing*. 2019;33(5):31-35.
44. Broady TR, Stoyles GJ, Morse C. Understanding carers' lived experience of stigma: the voice of families with a child on the autism spectrum. *Health & social care in the community*. 2017;25(1):224-233.
45. Lovell B, Wetherell MA. Caregivers' characteristics and family constellation variables as predictors of affiliate stigma in caregivers of children with ASD. *Psychiatry research*. 2018;270:426-429.
46. Jansen-van Vuuren J, Aldersey HM. Stigma, Acceptance and Belonging for People with IDD Across Cultures. *Current developmental disorders reports*. 2020;7(3):163-172.
47. Harrison AJ, Bradshaw LP, Naqvi NC, Paff ML, Campbell JM. Development and Psychometric Evaluation of the Autism Stigma and Knowledge Questionnaire (ASK-Q). *Journal of Autism and Developmental Disorders*. 2017;47(10):3281-3295.
48. Kuzminski R, Netto J, Wilson J, Falkmer T, Chamberlain A, Falkmer M. Linking knowledge and attitudes: Determining neurotypical knowledge about and attitudes towards autism. *PLoS one*. 2019;14(7).
49. Ling CYM, Mak WWS, Cheng JNS. Attribution model of stigma towards children with autism in Hong Kong. *Journal of Applied Research in Intellectual Disabilities*. 2010;23(3):237-249.
50. Obeid R, Daou N, DeNigris D, Shane-Simpson C, Brooks PJ, Gillespie-Lynch K. A cross-cultural comparison of knowledge and stigma associated with autism spectrum disorder among college students in Lebanon and the United States. *Journal of autism and developmental disorders*. 2015;45(11):3520-3536.

51. Kitchin JL, Karlin NJ. Awareness and Stigma of Autism Spectrum Disorders in Undergraduate Students. *Psychological Reports*.0(0):00332941211014144.
52. Mac Cárthaigh S, López B. Factually based autism awareness campaigns may not always be effective in changing attitudes towards autism: Evidence from British and South Korean nursing students. *Autism*. 2020;24(5):1177-1190.
53. White D, Hillier A, Frye A, Makrez E. College students' knowledge and attitudes towards students on the autism spectrum. *Journal of Autism and Developmental Disorders*. 2019;49(7):2699-2705.
54. Gardiner E, Iarocci G. Students with autism spectrum disorder in the university context: peer acceptance predicts intention to volunteer. *J Autism Dev Disord*. 2014;44(5):1008-1017.
55. Matthews NL, Ly AR, Goldberg WA. College Students' Perceptions of Peers with Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders*. 2015;45(1):90-99.
56. van 't Hof M, van Berckelaer-Onnes I, Deen M, et al. Novel Insights into Autism Knowledge and Stigmatizing Attitudes Toward Mental Illness in Dutch Youth and Family Center Physicians. *Community Mental Health Journal*. 2020;56(7):1318-1330.
57. Tipton LA, Blacher J. Brief report: Autism awareness: Views from a campus community. *Journal of autism and developmental disorders*. 2014;44(2):477-483.
58. Mitchell GE, Locke KD. Lay beliefs about autism spectrum disorder among the general public and childcare providers. *Autism*. 2015;19(5):553-561.
59. Wood C, Freeth M. Students' Stereotypes of Autism. *Journal of Educational Issues*. 2016;2:131.
60. Heidgerken AD, Geffken G, Modi A, Frakey L. A survey of autism knowledge in a health care setting. *Journal of Autism and Developmental disorders*. 2005;35(3):323-330.
61. Plumb AM, Plexico LW. Autism spectrum disorders: Experience, training, and confidence levels of school-based speech-language pathologists. *Language, Speech, and Hearing Services in Schools*. 2013.
62. Khanna R, Jariwala K, Holmes ER, Ramachandran S. Autism familiarity and knowledge among pharmacy students. *Currents in Pharmacy Teaching and Learning*. 2014;6(1):150-157.
63. Zerbo O, Massolo ML, Qian Y, Croen LA. A study of physician knowledge and experience with autism in adults in a large integrated healthcare system. *Journal of autism and developmental disorders*. 2015;45(12):4002-4014.
64. Crane L, Davidson I, Prosser R, Pellicano E. Understanding psychiatrists' knowledge, attitudes and experiences in identifying and supporting their patients on the autism spectrum: online survey. *BJPsych open*. 2019;5(3):e33.
65. Bono LK, Haverkamp CR, Lindsey RA, Freedman RN, McClain MB, Simonsmeier V. Assessing Interdisciplinary Trainees' Objective and Self-Reported Knowledge of Autism Spectrum Disorder and Confidence in Providing Services. *J Autism Dev Disord*. 2021.
66. Unigwe S, Buckley C, Crane L, Kenny L, Remington A, Pellicano E. GPs' confidence in caring for their patients on the autism spectrum: an online self-report study. *The British journal of general practice : the journal of the Royal College of General Practitioners*. 2017;67(659):e445-e452.

67. Al-Sharbati MM, Al-Farsi YM, Ouhtit A, et al. Awareness about autism among school teachers in Oman: A cross-sectional study. *Autism*. 2015;19(1):6-13.
68. Haimour AI, Obaidat YF. School Teachers' Knowledge about Autism in Saudi Arabia. *World Journal of Education*. 2013;3(5):45-56.
69. Sanz-Cervera P, Fernández-Andrés M-I, Pastor-Cerezuela G, Tárraga-Mínguez R. Pre-service teachers' knowledge, misconceptions and gaps about autism spectrum disorder. *Teacher Education and Special Education*. 2017;40(3):212-224.
70. Schwartz H, Drager KDR. Training and knowledge in autism among speech-language pathologists: A survey. *Language, speech, and hearing services in schools*. 2008.
71. Young K, Mannix McNamara P, Coughlan B. Post-primary school teachers' knowledge and understanding of autism spectrum disorders. *Irish Educational Studies*. 2017;36(3):399-422.
72. Ballantyne C, Gillespie-Smith K, Wilson C. A Comparison of Knowledge and Experience of Autism Spectrum Disorder among Teachers in the United Kingdom and China. *International Journal of Disability, Development and Education*. 2019:1-12.
73. Segall MJ, Campbell JM. Factors relating to education professionals' classroom practices for the inclusion of students with autism spectrum disorders. *Research in Autism Spectrum Disorders*. 2012;6(3):1156-1167.
74. Goodall C. 'I felt closed in and like I couldn't breathe': A qualitative study exploring the mainstream educational experiences of autistic young people. *Autism & developmental language impairments*. 2018;3:2396941518804407.
75. Dillenburger K, McKerr L, Jordan J-A, Keenan M. Staff training in autism: The one-eyed wo/man.... *International journal of environmental research and public health*. 2016;13(7):716.
76. Association AP. *Diagnostic and Statistical Manual of Mental Disorders 5th edition (DSM-5)*. Washington, DC: American Psychiatric Association; 2013.
77. Schaaf RC, Toth-Cohen S, Johnson SL, Outten G, Benevides TW. The everyday routines of families of children with autism: examining the impact of sensory processing difficulties on the family. *Autism*. 2011;15(3):373-389.
78. Ryan S. 'Meltdowns', surveillance and managing emotions; going out with children with autism. *Health Place*. 2010;16(5):868-875.
79. Grossman RB. Judgments of social awkwardness from brief exposure to children with and without high-functioning autism. *Autism*. 2015;19(5):580-587.
80. DeBrabander KM, Morrison KE, Jones DR, Faso DJ, Chmielewski M, Sasson NJ. Do first impressions of autistic adults differ between autistic and nonautistic observers? *Autism in Adulthood*. 2019;1(4):250-257.
81. Kapp SK, Steward R, Crane L, et al. 'People should be allowed to do what they like': Autistic adults' views and experiences of stimming. *Autism*. 2019;23(7):1782-1792.
82. Jones R, Quigney C, Huws J. First-hand accounts of sensory perceptual experiences in autism: A qualitative analysis. *Journal of Autism and Developmental Disorders*. 2003;28(2):112-121.
83. Barnes C. Understanding the social model of disability: Past, present and future. In: *Routledge handbook of disability studies*. Routledge; 2019:14-31.
84. Dachez J, Ndobu A, Ameline A. French validation of the multidimensional attitude scale toward persons with disabilities (MAS): the case of attitudes toward autism and their moderating factors. *Journal of autism and developmental disorders*. 2015;45(8):2508-2518.

85. Cook A, Ogden J, Winstone N. The effect of school exposure and personal contact on attitudes towards bullying and autism in schools: A cohort study with a control group. *Autism*. 2020;24(8):2178-2189.
86. Kim SY. College Disability Service Office Staff Members' Autism Attitudes and Knowledge. *Remedial and Special Education*. 2021:0741932521999460.
87. Mitchell P, Sheppard E, Cassidy S. Autism and the double empathy problem: Implications for development and mental health. *The British journal of developmental psychology*. 2021.
88. Milton DEM. On the ontological status of autism: the 'double empathy problem'. *Disability & Society*. 2012;27(6):883-887.
89. Crompton CJ, Sharp M, Axbey H, Fletcher-Watson S, Flynn EG, Ropar D. Neurotype-Matching, but Not Being Autistic, Influences Self and Observer Ratings of Interpersonal Rapport. *Frontiers in psychology*. 2020;11(2961).
90. Gray DE. Perceptions of stigma: The parents of autistic children. *Sociology of Health & Illness*. 1993;15(1):102-120.
91. Corrigan P, Markowitz FE, Watson A, Rowan D, Kubiak MA. An attribution model of public discrimination towards persons with mental illness. *J Health Soc Behav*. 2003;44(2):162-179.
92. Sasson NJ, Morrison KE. First impressions of adults with autism improve with diagnostic disclosure and increased autism knowledge of peers. *Autism*. 2019;23(1):50-59.
93. Austin JE, Zinke VL, Davies WH. Influencing perception about children with autism and their parents using disclosure cards. *Journal of autism and developmental disorders*. 2016;46(8):2764-2769.
94. Austin JE, Galijot R, Davies WH. Evaluating parental Autism disclosure strategies. *Journal of autism and developmental disorders*. 2018;48(1):103-109.
95. Brosnan M, Mills E. The effect of diagnostic labels on the affective responses of college students towards peers with 'Asperger's Syndrome' and 'Autism Spectrum Disorder'. *Autism*. 2016;20(4):388-394.
96. Mogavero MC, Hsu K-H. Autism Spectrum Disorder and Harassment: An Application of Attribution Theory. *International Journal of Criminology and Sociology*. 2018;7:260-274.
97. O'Connor C, Burke J, Rooney B. Diagnostic Disclosure and Social Marginalisation of Adults with ASD: Is There a Relationship and What Mediates It? *J Autism Dev Disord*. 2020;50(9):3367-3379.
98. Morrison KE, DeBrabander KM, Faso DJ, Sasson NJ. Variability in first impressions of autistic adults made by neurotypical raters is driven more by characteristics of the rater than by characteristics of autistic adults. *Autism*. 2019;23(7):1817-1829.
99. White R, Barreto M, Harrington J, Kapp SK, Hayes J, Russell G. Is disclosing an autism spectrum disorder in school associated with reduced stigmatization? *Autism*. 2019:1362361319887625.
100. Thompson-Hodgetts S, Labonte C, Mazumder R, Phelan S. Helpful or harmful? A scoping review of perceptions and outcomes of autism diagnostic disclosure to others. *Research in Autism Spectrum Disorders*. 2020;77:101598.
101. Frost KM, Bailey KM, Ingersoll BR. "I Just Want Them to See Me As...Me": Identity, Community, and Disclosure Practices Among College Students on the Autism Spectrum. *Autism in Adulthood*. 2020;1(4):268-275.

102. Cage E, Troxell-Whitman Z. Understanding the Relationships Between Autistic Identity, Disclosure, and Camouflaging. *Autism in Adulthood*. 2020;2:334-338.
103. Johnson TD, Joshi A. Dark clouds or silver linings? A stigma threat perspective on the implications of an autism diagnosis for workplace well-being. *Journal of Applied Psychology*. 2016;101(3):430-449.
104. Someki F, Torii M, Brooks PJ, Koeda T, Gillespie-Lynch K. Stigma associated with autism among college students in Japan and the United States: An online training study. *Research in developmental disabilities*. 2018;76:88-98.
105. Yu L, Stronach S, Harrison AJ. Public knowledge and stigma of autism spectrum disorder: Comparing China with the United States. *Autism*. 2020:1362361319900839.
106. Gillespie-Lynch K, Daou N, Sanchez-Ruiz M-J, et al. Factors underlying cross-cultural differences in stigma toward autism among college students in Lebanon and the United States. *Autism*. 2019;23(8):1993-2006.
107. Grinker RR, Cho K. Border Children: Interpreting Autism Spectrum Disorder in South Korea. *Ethos*. 2013;41(1):46-74.
108. McCabe H. Parent advocacy in the face of adversity: Autism and families in the People's Republic of China. *Focus on Autism and Other Developmental Disabilities*. 2007;22(1):39-50.
109. Ha VS, Whittaker A, Whittaker M, Rodger S. Living with autism spectrum disorder in Hanoi, Vietnam. *Social Science & Medicine*. 2014;120:278-285.
110. Sangare M, Demebele B, Toure A, et al. Autism seminary for public engagement: evaluation of knowledge and attitudes of traditional medical practitioners in Mali [version 1; peer review: 1 approved, 1 approved with reservations, 1 not approved]. *AAS Open Research*. 2019;2(21).
111. Tilahun D, Hanlon C, Fekadu A, Tekola B, Baheretibeb Y, Hoekstra RA. Stigma, explanatory models and unmet needs of caregivers of children with developmental disorders in a low-income African country: a cross-sectional facility-based survey. *BMC health services research*. 2016;16:152.
112. Tekola B, Baheretibeb Y, Roth I, et al. Challenges and opportunities to improve autism services in low-income countries: lessons from a situational analysis in Ethiopia. *Global Mental Health*. 2016;3.
113. Ellen Selman L, Fox F, Aabe N, Turner K, Rai D, Redwood S. 'You are labelled by your children's disability'—A community-based, participatory study of stigma among Somali parents of children with autism living in the United Kingdom. *Ethnicity & health*. 2018;23(7):781-796.
114. Sritharan B, Koola MM. Barriers faced by immigrant families of children with autism: A program to address the challenges. *Asian journal of psychiatry*. 2019;39:53-57.
115. Hussein AM, Pellicano E, Crane L. Understanding and awareness of autism among Somali parents living in the United Kingdom. *Autism*. 2019;23(6):1408-1418.
116. Fox F, Aabe N, Turner K, Redwood S, Rai D. "It was like walking without knowing where I was going": A Qualitative Study of Autism in a UK Somali Migrant Community. *Journal of Autism and Developmental Disorders*. 2017;47(2):305-315.
117. Dababnah S, Shaia WE, Champion K, Nichols HM. "We Had to Keep Pushing": Caregivers' Perspectives on Autism Screening and Referral Practices of Black Children in Primary Care. *Intellectual and Developmental Disabilities*. 2018;56(5):321-336.

118. Burkett K, Morris E, Manning-Courtney P, Anthony J, Shambley-Ebron D. African American families on autism diagnosis and treatment: the influence of culture. *J Autism Dev Disord*. 2015;45(10):3244-3254.
119. Kim SY. The Development and Pilot-Testing of the Autism Attitude Acceptance Scale: An Instrument Measuring Autism Acceptance. *Autism in Adulthood*. 2020;2:204-215.
120. Lilley R, Sedgwick M, Pellicano E. Inclusion, acceptance, shame and isolation: Attitudes to autism in Aboriginal and Torres Strait Islander communities in Australia. *Autism*. 2020:1362361320928830.
121. de Leeuw A, Happé F, Hoekstra RA. A Conceptual Framework for Understanding the Cultural and Contextual Factors on Autism Across the Globe. *Autism Research*. 2020;13(7):1029-1050.
122. Lai MC, Lombardo MV, Auyeung B, Chakrabarti B, Baron-Cohen S. Sex/gender differences and autism: setting the scene for future research. *Journal of the American Academy of Child and Adolescent Psychiatry*. 2015;54(1):11-24.
123. Bargiela S, Steward R, Mandy W. The experiences of late-diagnosed women with autism spectrum conditions: An investigation of the female autism phenotype. *Journal of Autism and Developmental Disorders*. 2016;46(10):3281-3294.
124. Sedgewick F, Hill V, Pellicano E. 'It's different for girls': Gender differences in the friendships and conflict of autistic and neurotypical adolescents. *Autism*. 2018;23(5):1119-1132.
125. Van Der Miesen AIR, Hurley H, De Vries ALC. Gender dysphoria and autism spectrum disorder: A narrative review. *International Review of Psychiatry*. 2016;28(1):70-80.
126. Glidden D, Bouman WP, Jones BA, Arcelus J. Gender dysphoria and autism spectrum disorder: A systematic review of the literature. *Sexual Medicine Reviews*. 2016;4(1):3-14.
127. Stronach S, Wiegand S, Mentz E. Brief report: Autism knowledge and stigma in university and community samples. *Journal of autism and developmental disorders*. 2019;49(3):1298-1302.
128. Dodge R, Daly AP, Huyton J, Sanders LD. The challenge of defining wellbeing. *International journal of wellbeing*. 2012;2(3).
129. Steptoe A, Deaton A, Stone AA. Subjective wellbeing, health, and ageing. *The Lancet*. 2015;385(9968):640-648.
130. Cage E, Troxell-Whitman Z. Understanding the Reasons, Contexts and Costs of Camouflaging for Autistic Adults. *J Autism Dev Disord*. 2019;49(5):1899-1911.
131. Mazurek MO. Loneliness, friendship, and well-being in adults with autism spectrum disorders. *Autism*. 2014;18(3):223-232.
132. Hull L, Petrides KV, Allison C, et al. "Putting on my best normal": social camouflaging in adults with autism spectrum conditions. *Journal of autism and developmental disorders*. 2017;47(8):2519-2534.
133. Lai M-C, Lombardo MV, Ruigrok ANV, et al. Quantifying and exploring camouflaging in men and women with autism. *Autism*. 2017;21(6):690-702.
134. Perry E, Mandy W, Hull L, Cage E. Understanding Camouflaging as a Response to Autism-Related Stigma: A Social Identity Theory Approach. *Journal of Autism and Developmental Disorders*. 2021.
135. Caron V, Jeanneret N, Giroux M, et al. Sociocultural context and autistics' quality of life: A comparison between Québec and France. *Autism*. 2021:136236132111035229.

136. Cage E, Di Monaco J, Newell V. Experiences of autism acceptance and mental health in autistic adults. *Journal of Autism and Developmental Disorders*. 2018;48(2):473-484.
137. Lai M-C, Kassee C, Besney R, et al. Prevalence of co-occurring mental health diagnoses in the autism population: a systematic review and meta-analysis. *The Lancet Psychiatry*. 2019;6(10):819-829.
138. Earnshaw VA, Quinn DM. The impact of stigma in healthcare on people living with chronic illnesses. *Journal of health psychology*. 2012;17(2):157-168.
139. Gulliver A, Griffiths KM, Christensen H. Perceived barriers and facilitators to mental health help-seeking in young people: a systematic review. *BMC psychiatry*. 2010;10:113.
140. Crane L, Adams F, Harper G, Welch J, Pellicano E. 'Something needs to change': Mental health experiences of young autistic adults in England. *Autism*. 2019;23(2):477-493.
141. Nicolaidis C, Raymaker D, McDonald K, et al. Comparison of healthcare experiences in autistic and non-autistic adults: a cross-sectional online survey facilitated by an academic-community partnership. *J Gen Intern Med*. 2013;28(6):761-769.
142. Walsh C, Lydon S, O'Dowd E, O'Connor P. Barriers to healthcare for persons with autism: A systematic review of the literature and development of a taxonomy. *Developmental neurorehabilitation*. 2020;23(7):413-430.
143. Romualdez AM, Heasman B, Walker Z, Davies J, Remington A. "People Might Understand Me Better": Diagnostic Disclosure Experiences of Autistic Individuals in the Workplace. *Autism in Adulthood*. 2021.
144. Russell G, Norwich B. Dilemmas, diagnosis and de-stigmatization: Parental perspectives on the diagnosis of autism spectrum disorders. *Clinical child psychology and psychiatry*. 2012;17(2):229-245.
145. Papadopoulos C, Lodder A, Constantinou G, Randhawa G. Systematic review of the relationship between autism stigma and informal caregiver mental health. *Journal of autism and developmental disorders*. 2019;49(4):1665-1685.
146. Werner S, Shulman C. Subjective well-being among family caregivers of individuals with developmental disabilities: the role of affiliate stigma and psychosocial moderating variables. *Research in developmental disabilities*. 2013;34(11):4103-4114.
147. Linton M-J, Dieppe P, Medina-Lara A. Review of 99 self-report measures for assessing well-being in adults: exploring dimensions of well-being and developments over time. *BMJ open*. 2016;6(7).
148. John RPS, Knott FJ, Harvey KN. Myths about autism: An exploratory study using focus groups. *Autism*. 2018;22(7):845-854.
149. Jaswal VK, Akhtar N. Being versus appearing socially uninterested: Challenging assumptions about social motivation in autism. *Behavioral and Brain Sciences*. 2019;42.
150. Müller E, Schuler A, Yates GB. Social challenges and supports from the perspective of individuals with Asperger syndrome and other autism spectrum disabilities. *Autism*. 2008;12(2):173-190.
151. Skafle I, Nordahl-Hansen A, Øien RA. Short Report: Social Perception of High School Students with ASD in Norway. *Journal of Autism and Developmental Disorders*. 2020;50(2):670-675.

152. Schiltz HK, McVey AJ, Dolan Wozniak B, et al. The role of loneliness as a mediator between autism features and mental health among autistic young adults. *Autism*. 2020;1362361320967789.
153. Stice LV, Lavner JA. Social Connectedness and Loneliness Mediate the Association Between Autistic Traits and Internalizing Symptoms Among Young Adults. *Journal of Autism and Developmental Disorders*. 2019;49(3):1096-1110.
154. Han GT, Tomarken AJ, Gotham KO. Social and nonsocial reward moderate the relation between autism symptoms and loneliness in adults with ASD, depression, and controls. *Autism Res*. 2019;12(6):884-896.
155. Bailey KM, Frost KM, Casagrande K, Ingersoll B. The relationship between social experience and subjective well-being in autistic college students: A mixed methods study. *Autism*. 2020;24(5):1081-1092.
156. Scheeren AM, Koot HM, Begeer S. Stability and change in social interaction style of children with autism spectrum disorder: A 4-year follow-up study. *Autism Research*. 2020;13(1):74-81.
157. Farrugia D. Exploring stigma: Medical knowledge and the stigmatisation of parents of children diagnosed with autism spectrum disorder. *Sociology of Health & Illness*. 2009;31(7):1011-1027.
158. Ng CKM, Lam SHF, Tsang STK, Yuen C, Chien C-W. The Relationship between Affiliate Stigma in Parents of Children with Autism Spectrum Disorder and Their Children's Activity Participation. *International Journal of Environmental Research and Public Health*. 2020;17(5):1799.
159. Livingston LA, Colvert E, Social Relationships Study T, Bolton P, Happé F. Good social skills despite poor theory of mind: exploring compensation in autism spectrum disorder. *Journal of Child Psychology and Psychiatry*. 2019;60(1):102-110.
160. Livingston LA, Shah P, Happé F. Compensatory strategies below the behavioural surface in autism: a qualitative study. *The Lancet Psychiatry*. 2019;6(9):766-777.
161. Livingston LA, Happé F. Conceptualising compensation in neurodevelopmental disorders: Reflections from autism spectrum disorder. *Neuroscience & Biobehavioral Reviews*. 2017;80:729-742.
162. Halsall J, Clarke C, Crane L. "Camouflaging" by adolescent autistic girls who attend both mainstream and specialist resource classes: Perspectives of girls, their mothers and their educators. *Autism*. 0(0):13623613211012819.
163. Bernardin CJ, Lewis T, Bell D, Kanne S. Associations between social camouflaging and internalizing symptoms in autistic and non-autistic adolescents. *Autism*. 0(0):1362361321997284.
164. Hull L, Levy L, Lai MC, et al. Is social camouflaging associated with anxiety and depression in autistic adults? *Molecular autism*. 2021;12(1):13.
165. Cassidy S, Bradley L, Shaw R, Baron-Cohen S. Risk markers for suicidality in autistic adults. *Molecular autism*. 2018;9:42.
166. O'Connor C, Burke J, Rooney B. Diagnostic Disclosure and Social Marginalisation of Adults with ASD: Is There a Relationship and What Mediates It? *Journal of autism and developmental disorders*. 2019:1-13.
167. Crompton CJ, Hallett S, Ropar D, Flynn E, Fletcher-Watson S. 'I never realised everybody felt as happy as I do when I am around autistic people': A thematic analysis of autistic adults' relationships with autistic and neurotypical friends and family. *Autism*. 2020:1362361320908976.

168. Meyer IH. Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: conceptual issues and research evidence. *Psychol Bull.* 2003;129(5):674-697.
169. Miller D, Rees J, Pearson A. "Masking Is Life": Experiences of Masking in Autistic and Nonautistic Adults. *Autism in Adulthood.* 2021.
170. Schneid I, Raz AE. The mask of autism: Social camouflaging and impression management as coping/normalization from the perspectives of autistic adults. *Soc Sci Med.* 2020;248:112826.
171. Lai MC, Baron-Cohen S. Identifying the lost generation of adults with autism spectrum conditions. *The lancet Psychiatry.* 2015;2(11):1013-1027.
172. Lai M-C, Anagnostou E, Wiznitzer M, Allison C, Baron-Cohen S. Evidence-based support for autistic people across the lifespan: maximising potential, minimising barriers, and optimising the person–environment fit. *The Lancet Neurology.* 2020.
173. Tola G, Talu V, Congiu T, Bain P, Lindert J. Built Environment Design and People with Autism Spectrum Disorder (ASD): A Scoping Review. *International journal of environmental research and public health.* 2021;18(6):3203.
174. Milton D, Martin N, Melham P. Beyond reasonable adjustment: autistic-friendly spaces and Universal Design. In: Milton D, Martin N, eds. *Autism and Intellectual Disabilities in Adults Vol. 1.* Hove: Pavilion Publishing and Media; 2016:81-85.
175. Pellicano L, Bölte S, Stahmer A. The current illusion of educational inclusion. *Autism.* 2018;22(4):386-387.
176. Brewer N, Zoanetti J, Young RL. The influence of media suggestions about links between criminality and autism spectrum disorder. *Autism.* 2017;21(1):117-121.
177. Tang L, Bie B. The stigma of autism in china: an analysis of newspaper portrayals of autism between 2003 and 2012. *Health communication.* 2016;31(4):445-452.
178. Holton AE, Farrell LC, Fudge JL. A threatening space?: Stigmatization and the framing of autism in the news. *Communication Studies.* 2014;65(2):189-207.
179. Bie B, Tang L. Representation of autism in leading newspapers in China: A content analysis. *Health communication.* 2015;30(9):884-893.
180. Baeyens D, Moniquet A, Danckaerts M, van der Oord S. A comparative study of the structural stigmatisation of ADHD and autism spectrum disorder in Flemish newspapers. *Tijdschr Psychiatr.* 2017;59(5):269-277.
181. Nordahl-Hansen A, Øien RA, Fletcher-Watson S. Pros and Cons of Character Portrayals of Autism on TV and Film. *J Autism Dev Disord.* 2018;48(2):635-636.
182. Gillespie-Lynch K, Bisson J, Saade S, et al. If You Want to Develop an Effective Autism Training, Ask Autistic Students to Help You. *Autism.* 2021.
183. Saade S, Bean YF, Gillespie-Lynch K, Poirier N, Harrison AJ. Can participation in an online ASD training enhance attitudes toward inclusion, teaching self-Efficacy and ASD knowledge among preservice educators in diverse cultural contexts? *International Journal of Inclusive Education.* 2021:1-16.
184. Jones DR, Morrison KE, DeBrabander KM, Ackerman RA, Pinkham AE, Sasson NJ. Greater Social Interest Between Autistic and Non-autistic Conversation Partners Following Autism Acceptance Training for Non-autistic People. *Frontiers in psychology.* 2021;12(4026).
185. Jones DR, DeBrabander KM, Sasson NJ. Effects of autism acceptance training on explicit and implicit biases toward autism. *Autism.* 2021:1362361320984896.

186. Morris S, O'Reilly G, Byrne MK. Understanding Our Peers with Pablo: Exploring the Merit of an Autism Spectrum Disorder De-stigmatisation Programme Targeting Peers in Irish Early Education Mainstream Settings. *Journal of autism and developmental disorders*. 2020.
187. Staniland JJ, Byrne MK. The effects of a multi-component higher-functioning autism anti-stigma program on adolescent boys. *Journal of Autism and Developmental Disorders*. 2013;43(12):2816-2829.
188. Ranson NJ, Byrne MK. Promoting peer acceptance of females with higher-functioning autism in a mainstream education setting: A replication and extension of the effects of an autism anti-stigma program. *Journal of Autism and Developmental Disorders*. 2014;44(11):2778-2796.
189. Sarge MA, Kim H-S, Velez JA. An Anti-Sim Intervention: The Role of Perspective Taking in Combating Public Stigma with Virtual Simulations. *Cyberpsychology, Behavior, and Social Networking*. 2020;23(1):41-51.
190. Bonsu A. Keeping an open mind about autism. *The Lancet Neurology*. 2017;16(12):963.
191. Como DH, Floríndez LI, Tran CF, Cermak SA, Stein Duker LI. Examining unconscious bias embedded in provider language regarding children with autism. *Nursing & health sciences*. 2020;22(2):197-204.
192. Teal CR, Gill AC, Green AR, Crandall S. Helping medical learners recognise and manage unconscious bias toward certain patient groups. *Medical education*. 2012;46(1):80-88.
193. Government W. Refreshed Autistic Spectrum Disorder Strategic Action Plan. In. Wales, UK2020.
194. Kapp SK, Gillespie-Lynch K, Sherman LE, Hutman T. Deficit, difference, or both? Autism and neurodiversity. *Developmental psychology*. 2013;49(1):59.
195. Jaarsma P, Welin S. Autism as a natural human variation: reflections on the claims of the neurodiversity movement. *Health Care Anal*. 2012;20(1):20-30.
196. Griffin E, Pollak D. Student experiences of neurodiversity in higher education: insights from the BRAINHE project. *Dyslexia*. 2009;15(1):23-41.
197. Armstrong T. The myth of the normal brain: embracing neurodiversity. *AMA J Ethics*. 2015;17(4):348-352.
198. Smart J. Challenges to the Biomedical Model of Disability. 2006.
199. Pellicano E, den Houting J. Annual Research Review: Shifting from 'normal science' to neurodiversity in autism science. *Journal of Child Psychology and Psychiatry*. 2021.
200. Cooper K, Smith LGE, Russell A. Social identity, self-esteem, and mental health in autism. *European Journal of Social Psychology*. 2017;47(7):844-854.
201. Kenny L, Hattersley C, Molins B, Buckley C, Povey C, Pellicano E. Which terms should be used to describe autism? Perspectives from the UK autism community. *Autism*. 2016;20(4):442-462.
202. Bury SM, Jellett R, Spoor JR, Hedley D. "It Defines Who I Am" or "It's Something I Have": What Language Do [Autistic] Australian Adults [on the Autism Spectrum] Prefer? *Journal of Autism and Developmental Disorders*. 2020:1-11.
203. Gernsbacher MA. Editorial perspective: The use of person-first language in scholarly writing may accentuate stigma. *Journal of Child Psychology and Psychiatry*. 2017;58(7):859-861.

204. Bottema-Beutel K, Kapp SK, Lester JN, Sasson NJ, Hand BN. Avoiding Ableist Language: Suggestions for Autism Researchers. *Autism in Adulthood*. 2021.
205. Singh JS, Bunyak G. Autism Disparities: A Systematic Review and Meta-Ethnography of Qualitative Research. *Qualitative Health Research*. 2019;29(6):796-808.
206. Corrigan PW, Shapiro JR. Measuring the impact of programs that challenge the public stigma of mental illness. *Clinical psychology review*. 2010;30(8):907-922.
207. Fletcher-Watson S, Adams J, Brook K, et al. Making the future together: Shaping autism research through meaningful participation. *Autism*. 2019;23(4):943-953.
208. Pickard H, Pellicano E, den Houting J, Crane L. Participatory autism research: Early career and established researchers' views and experiences. *Autism*.0(0):13623613211019594.