Marketing #neurodiversity for well-being

Abstract

Purpose – To develop a bottom-up segmentation of people affected by neurodiversity using Twitter data.

Design/methodology/approach – This exploratory study uses content analysis of information shared by Twitter users over a three-month period.

Findings – Cultural currents affect how the label of 'neurodiversity' is perceived by individuals, marketplace actors and society. The extent to which neurodiversity provides a positive or negative alternative to stigmatizing labels for mental disorders is shaped by differentiated experiences of neurodiversity. We identify five neurodiversity segments according to identifiable concerns and contextual dynamics that affect mental well-being. Analysing Twitter data enables a bottom-up typology of stigmatized groups toward improving market salience.

Originality – To our knowledge, this research is the first to investigate neurodiversity using Twitter data to segment stigmatized consumers into prospective customers from the bottom-up.

Keywords – Segmentation, Neurodiversity, Mental disorders, Well-being, Twitter, Stigma, Transformative Consumer Research

Paper type – Research paper

Introduction

Mental illness represents a burgeoning market, with one in four people estimated to experience a mental condition in their lifetime (United Nations, 2015). The stigma associated with mental health leads people to avoid treatment or delay help-seeking, and as a result, 70% of people with mental illnesses go untreated (Henderson *et al.*, 2013). Effectively targeting products and services to help these consumers cope with mental disorders (Machin *et al.*, 2019) will require understanding how mental health-related stigma (Scambler, 2009, 2017) occurs through everyday use of stigmatizing labels and stereotypes (Link and Phelan, 2001).

In this paper we focus on the example of neurodiversity (Singer, 1998), a lay term for neurodevelopmental disorders, as well as a social movement to replace use of stigmatizing clinical labels e.g., autism, dyslexia and attention-deficit/hyperactivity disorders (ADHD) (Armstrong, 2011; Rothstein, 2012). Neurodiversity refers to the most prevalent and misunderstood area of mental disorders meriting further research (Asherson *et al.*, 2012; Moncrieff *et al.*, 2010; Smith, 2017). Studying neurodiversity is relevant to transformative consumer research (Davis *et al.*, 2016) because it represents a large, under-served market, relates to market exclusion of marginalized groups, and is focused on positive cultural shifts enabling consumer well-being.

Marginalized consumers with mental disorders have little say in how they want to be perceived. What little research there has been has looked at how stigmatizers categorize the stigmatized (Yeh *et al.*, 2017). Our novel approach is to segment the stigmatized group to address issues linking marketplace exclusion and consumer well-being, and thereby help firms improve the salience of their offer to excluded consumers using our bottom-up segmentation. By contributing a bottom-up approach to segmenting stigmatized neurodiverse consumers,

we argue that market orientation should include marginalized groups (Dolbec and Fischer, 2015; Scaraboto and Fischer, 2013). In showing an emic categorization, we can engender true marketplace diversity.

Our theoretical contribution leverages segmentation theory to argue that current approaches underpin the systematic exclusion of marginalized consumers. We offer a segmentation-based solution to identify what these long-ignored consumers want and need so that they can more effectively find marketplace solutions (Machin *et al.*, 2019). We analyzed the evolving public discourse about neurodiversity on Twitter, a popular platform increasingly used for monitoring health-related topics (Chew and Eysenbach, 2010). This enabled us to privilege marginalized voices and their concerns (Hutton and Lystor, 2020) to generate a typology.

The paper is organised to first review segmentation literature and extant marketing studies focusing on mental disorders. Then we briefly explain the neurodiversity and stigmatization concepts before outlining our methodological procedures and the findings from our content analysis of Twitter data. We conclude with a discussion of the marketing implications, limitations and suggestions for future research.

Segmentation

Market segmentation is a fundamental marketing technique that divides the market 'into distinct and meaningful groups of buyers who might merit separate products or marketing mixes' (Beane & Ennis, 1987, p. 20). Segmentation is the means of classifying consumers into recognizable categories so that firms may select the most profitable segments, and target them based on the proposed benefits derived from or desired in a product (Dibb, 1998). A dark side of segmentation is that it entrenches social disparities (Mirabito *et al.*, 2016;

Newton *et al.*, 2013) by encouraging firms to divert resources away from unprofitable consumers (Hunt and Arnett, 2004).

Traditional segmentation approaches have tended to be commercially focused and managerially driven from the top down on the basis of geodemographic or psychographic variables, or data linked to sales and customer lifetime value (Kumar and Reinartz, 2016; Yankelovich and Meer, 2006). As segmentation has evolved from focusing on attracting prospective customers to maximizing value from existing customers (Snellman, 2000), it systematically excludes disadvantaged consumer groups over time. In suggesting current segmentation approaches are unethical because of their effects on market exclusion and consumer well-being, we acknowledge examples of good segmentation practice exist, such as utilities firms that, when pushed by policymakers to address consumer vulnerability (Ofgem, 2017), tend to consult more with these groups about their needs. However, more work is needed to encourage firms to invest in high quality and diverse insights, data and measurement to improve the relevance of their brands to increasingly diverse marketplaces (Sahagun, 2019). We suggest developing ethical segmentation can improve a firm's market salience to diverse groups.

This is different to social marketing techniques that use consumer insight, segmentation and targeting of interventions for individual behavior change (Andreasen, 1994). For example, Yeh *et al.*'s (2017) study considers the well-being of marginalized consumers by segmenting people who negatively stereotype mental illness. By identifying five segments of stigmatizers (adversaries, blamers, ambivalents, shamers, and allies), they show how these five segments focus on and exacerbate stigma dimensions differently. They recommend targeting social marketing communications to counteract the specific ways these segments stigmatize mental illness. By offering a typology of attitudes and behaviors and their

effect size, they identify segments of human actors socializing stigma (Goffman, 1963). Extending this work, we suggest firms are stigmatizers when they use traditional segmentation approaches to stigmatize and exclude disadvantaged consumers. Our solution is to use bottom-up segmentation for market inclusion by segmenting the group that is the target of the stigma to highlight new marketing opportunities for well-being.

By advancing the accountability of segmentation to marginalized groups, we also address the notoriously difficult challenge of linking marketing spend on segmentation with performance (Dibb and Simkin, 2009). This challenge is partially due to the ubiquity of segmentation as a culturally embedded practice, i.e., people do it without knowing if or how it is effective (Beane and Ennis, 1987). According to Diaz Ruiz and Kjellberg (2020), when creating their segmentation, firms either invest in expensive ad hoc approaches tailored to their commercial activities or pay less for third-party segmentation insights from agencies offering the same insights to multiple firms. A third option is attending to cultural intermediaries (e.g., content creators, vloggers, bloggers, journalists, influencers) who perform market segmentation in the wild without mediation from marketing experts. Such 'feral segmentation' (Diaz Ruiz and Kjellberg, 2020) identifies and explains the emergence of novel market segments (e.g., 'lumbersexuals') and their characteristics.

An implication of their study is to suggest that the hierarchy of expertise in market segmentation has evolved from top down (marketing academics and marketing agencies informing firms) to a horizontal orientation as cultural intermediaries become savvy predictors and shapers of market dynamics by identifying novel segments, emergent trends, and unmet demand (Scaraboto and Fischer, 2013). We suggest further research is needed to understand how segmentation occurs from the bottom-up, a critical move for identifying needs of systematically ignored groups due to traditional segmentation practices and cultural

biases. One way to achieve this is by using social media data. For example, Twitter enables users to find mass audiences to whom they can broadcast their opinions and experiences without mediation (Mcquarrie *et al.*, 2013). We asked: How can Twitter be used to identify novel segments? Can bottom-up segmentation address the limitations of traditional segmentation approaches that systematically ignore the needs of marginalized consumers?

Neurodiversity

In addressing these questions, we focused on the case of neurodiversity, an increasingly visible term and social initiative to destigmatize neurodevelopmental disorders (Armstrong, 2011) classified in the American Psychiatric Association's diagnostic and statistical manual of mental disorders (DSM-V) (Clark *et al.*, 2017). The term 'neurodiversity' was coined by Australian sociologist Judith Singer (1998) in her study on autism, and popularized by US journalist Harvey Blume (Armstrong, 2011), to refer to variation in the human brain regarding learning, sociability, mood, attention and other mental functions in a non-pathological sense (Rothstein, 2012). Often described as an activist social movement, neurodiversity challenges disabling attitudes towards mental disorders by displacing clinical labels that create barriers to well-being (Casanova and Widman, 2021). Although the emergence of a neurodiversity social movement is highly nuanced and shaped by passionate advocates and detractors (Jurgens, 2020), a useful distinction is to see neurodiversity as a strengths-based social identity, which is distinguished from deficit-focused concepts of neurological disabilities and the lack of social opportunities due to stigma (Baker, 2006). Given increasing visibility of the neurodiversity term, we believe there is an opportunity for marketers use it to destigmatize mental disorders.

Studies focusing on neurodiversity are scant in marketing journals; however, this gap is not mirrored in cognate areas of management, psychology, neuroscience, economics, and

sociology, in which the growing number of publications went from 1 in 2007 to 58 published between 2012 and 2021, including a special issue in an organisational management journal in 2019.

The handful of marketing-related studies on neurodevelopmental disorders tend to be critiques of marketing practice in the interest of consumer welfare. Examples include studies of burgeoning pharmaceutical markets for children where the commodification of mental illness for profit uses psychiatric labels for normal behavior, leading to the so-called 'McDonaldization' of childhood mental health (Timimi, 2010, 2011). Other examples relate to new markets for brain hacking and neuroenhancement through nutritional supplementation or transcranial electrical stimulation devices (Fuentes-Albero *et al.*, 2019; Graf *et al.*, 2014; Waltz, 2019), new product development (e.g. interactive game designs for autistic children) (Barakova *et al.*, 2007), digital mental health services (Roland *et al.*, 2020), fidget toys (Javonillo, 2017) and use of other products and services to cope with stress of sensory overload (Machin *et al.*, 2019). Mason and Pavia's (2006) study of families with disabilities and Helkkula *et al.*'s (2020) study of parents with autistic children highlight the experience of burdensome market interactions that force them to accommodate and adapt to situations designed for 'normal' children and families.

Addressing the call for research examining mental health and the marketplace, we problematize the key marketing process of segmentation as stigmatizing for certain groups; we explore how and why top-down segmenting using neurodiversity inhibits well-being for neurodiverse individuals; and we elaborate a bottom-up segmentation by asking: how does Twitter discourse on neurodiversity affect stigmatized consumers with neurodevelopmental conditions?

Stigmatization

To answer this question, we must explain the link between stigma and mental disorders. Stigma is an 'attribute that is deeply discrediting' (Goffman, 1963, p. 3) and the outcome of a four-step process of social stereotyping that entails: 1) distinguishing and labelling differences; 2) linking those labelled human differences with negative attributes; which results in 3) separating 'us' from 'them'; and leads to 4) status loss for and discrimination against the labelled person (Link and Phelan, 2001).

Stigma as a process depends on power relations, for example, which parties have the ability to determine which labels become negative stereotypes and when, and how they are activated in everyday acts of discrimination to engender or reverse status loss (Link and Phelan, 2001). Emphasising power relations foregrounds the relationship between individuals and environments, making it critical to identify socio-political conditions in which individuals can reject stigmatizing labels and recover status for themselves.

Scholars also explain stigmatization in terms of cultural dynamics. Mirabito et al.'s (2016) stigma turbine suggests cultural currents influence (de)stigmatization, linking individual behaviours with markets and society. For example, stigmatization of mental illness may be exacerbated by cultural neoliberalism, which prioritizes self-help through market-based solutions over state provision to address social problems (Charmaz, 2019), whereas human rights is a destigmatizing cultural current valuing all forms of human life (Fenton and Krahn, 2007). Having conceptualized the research problem, we now explain our methodological procedures.

Methods

We conducted an exploratory study using content analysis (Krippendorff, 2018) of unsolicited and unstructured social media data from Twitter (Balducci and Marinova, 2018). Twitter has

gained popularity and importance as a platform for broadcasting, and researchers have investigated Twitter as a rapid, cost-effective tool for health and sentiment surveillance (Chew and Eysenbach, 2010). Twitter limits the length of posts or tweets to 280 characters, though users can create threads of extended links. Twitter facilitates sharing of information to members in a network in two ways: by visibly signalling a liking for a tweet and the RT (retweet) function. Retweeting is a way for users to share ideas with others by re-broadcasting someone else's tweet with attribution, so that their own followers can see it.

Data collection

We built a dataset of 71,553 tweets by collecting data from 17 October 2019 to 20 January 2020 spanning a period of around three months. We used the keyword 'neurodiversity' and utilised the Twitter Archiving Google Sheet (TAGS v.6.1.9.1) tool, which has access to the Twitter Search Application Programming Interface (API), to retrieve data. The project received university ethical approval and applies Association of Internet Researchers principles to continuously appraise the ethics of internet research as it evolves (Whiting and Pritchard, 2021). We quote tweets without anonymization (Ciechanowski *et al.*, 2020) to retain the original meaning of messages and in the format approved by Twitter for quoting content, including identifiers. Furthermore, those who used a hashtag in their tweets (most of our dataset) may have done so with the awareness that their tweets would be visible to a new audience and to increase the visibility of their messages.

In total, we retrieved 71,553 tweets containing 68,882 unique tweets. The metadata include a unique identification number, time, date, profile image, the Twitter user who posted the tweet, whether the tweet was in reply to another identified user, technical source (e.g., Twitter for iPhone, Twitter web app), number of followers and friends, and user location provided in their profile (e.g., Nashville, TN; the bottom of the ocean; Always on-location

somewhere; Here). Also included were a downloaded copy of the text and images; GIFs, including weblinks that direct readers to offsite content; emoticons (e.g., coloured hearts; winking, smiling, crying, and laughing faces; heart-eyes; clockface; pointing finger; star; rainbows; umbrella in the rain; a muscular bicep), which editorialized the content; and networked Twitter accounts that were connected to the post. When retrieved through an API and stored in a spreadsheet, Twitter data do not include threads that include links and images visible on the platform interface; however, it is possible to access the original data on Twitter to recover those attributes and include them in the analysis. Respecting Twitter's terms and conditions, we paraphrase the content of automatically retrieved tweets whenever the original tweets could not be retrieved due to their deletion or changed privacy settings.

Data analysis

Our systematic analysis provides a cross-sectional glimpse into activity across a fixed period (three months). We analysed the dataset using MAXQDA to provide a systematic overview of the content of the tweets. MAXQDA is a software application designed to support the analysis of qualitative data (Kuckartz and Rädiker, 2019). A wealth of previous studies across several different fields have made use of MAXQDA (Gizzi and Rädiker, 2021). It is a useful application for generating qualitative insights into different types of data sources. We used word combinations and the MAXDictio's Interactive Word Tree feature to find patterns in words and phrases from tweets. Our content analysis was inductive to identify the issues that matter to participants in online discussions about neurodiversity (Reid and Duffy, 2018).

We first analyzed the entire dataset (individual unique tweets) using MAXQDA to generate an overview of three-word associations in individual tweets (Table I).

[INSERT Table I HERE]

We discussed the most frequent word combinations and used these as the basis for further queries using interactive word trees. These were 'neurodiversity in the workplace', 'the neurodiversity movement', 'parenting', 'childhood', 'competitive advantage', 'asperger', 'anxiety' and 'depression'. Using these key words to find the full tweets created a subset of 8394 tweets. The first author gathered, read and open-coded 90% of this subset. By removing duplicate RTs, we were able to analyse the remainder of the dataset by hand, including viewing the content shared in the Twitter thread or off the Twitter platform, when necessary, to reduce ambiguity. Coding stopped after 461 individual tweets (5.5% of the sample) were retrieved and coded in a separate document and themes began to repeat themselves, evidencing theoretical saturation (Tweed and Charmaz, 2012). Iterative analysis included identifying the role of different contexts in shaping positive or negative experiences of the neurodiversity label. Using abductive reasoning (Timmermans and Tavory, 2012) meant going from inductively coding differences into five conditions where neurodiversity was helpful or harmful (Charmaz, 2006) toward considering the neurodiversity phenomenon in the wider cultural context of marketing theory and practice (Belk and Sobh, 2018). The resulting neurodiversity segmentation advances a theoretical framework indicating how marketing can destigmatize mental disorders.

Findings

We begin by showing illustrative tweets that support a grounded definition of neurodiversity (and relatedly neurodivergence) as a label and a destigmatizing movement (Figure 1).

[INSERT Figure 1 HERE]

The neurodiversity label is based on assumptions about its prevalence (estimated to be 20% of the population) to assert that neurodiversity describes normal human variation. Our

findings confirm neurodiversity is a case of destigmatization because it defuses the connection between negative stereotypes of abnormality and mental disorder, and redefines 'normal' as inclusive of neurological difference, with neurodiversity advocates uniting rather than segregating 'us' and 'them' (Link and Phelan, 2001). However, we find people lack clarity about what neurodiversity means (Figure 2):

[INSERT Figure 2 HERE]

Some tweets define neurodiversity paradoxically, focusing on differentiating neurodivergent from neurotypical (Figure 3):

[INSERT Figure 3 HERE]

Tweets could be divided according to their belief that advocating for neurodiversity involved drawing attention to important neurological differences and their effects on relationships (othering) or whether neurological differences should be de-emphasised and treated as normal human variation (uniting).

By dividing the tweets into two groups according to differences of opinion about whether the neurodiversity label was helpful or harmful, we find variation related to whether the tweet concerned work or family contexts and their power relations. Table II shows how the effects of stigmatization as a process (Link and Phelan, 2001) helped differentiating between conditions that influence the neurodiversity label's capacity to help or harm.

[INSERT Table II HERE]

Neurodiversity as helpful

Table II shows stages in the destigmatization process and conditions under which neurodiversity counters stigma. For example, when progressive corporate brands make positive associations between neurodiversity and success, it creates novel stereotypes like abnormally efficient, enterprising, creative, and productive. These tweets show companies

seeking to reposition themselves as progressive employers by hiring neurodiverse people (Figure 4).

[INSERT Figure 4 HERE]

A cultural shift toward accommodating neurodiversity is visible through demand for products and services, e.g., purchasing specialist equipment, training and spaces that minimize distraction (Figure 5).

[INSERT Figure 5 HERE]

Although progressive corporate brands pushing the use of #neurodiversity in their communications associate neurodiversity with positive attributes, their motivation can be less about the ethics of promoting well-being (Sirgy and Lee, 2008) than showcasing their expertise in extracting value from neurodiverse people (Figure 6):

[INSERT Figure 6 HERE]

Such tweets evidence marketing to include stigmatized groups through the neurodiversity label. They draw attention to extraordinary skills and characteristics associated with neurodiversity, showing businesses disengaging from deficit-models of disability and refocusing on this market's potential value. This shift suggests that an increased demand from corporate customers for neurodiversity-relevant products and services may stimulate alternative market formation (Scaraboto and Fischer, 2013) catering to overlooked consumers.

However, unrealistic expectations of superhero-like performance risks misrepresenting neurodiversity. Misrepresentation advances perspectives of already empowered groups to highlight what matters to them, and entrenches stigma by silencing the voices of the misrepresented (Kearney *et al.*, 2019). With potentially well-intended tweets

stressing ontological difference, thinking of and treating those with mental disorders as different, and focusing on extraordinary capabilities exacerbates the potential for distancing and othering that underpins stigmatization (Yeh *et al.*, 2017). For example, although tweets celebrate companies assigning neurodivergent managers to oversee neurodiverse teams can create opportunities for this group's improved financial and psychological well-being (Machin *et al.*, 2019) they could in fact be interpreted as engaging discriminatory attitudes like: 'it takes one to know how to manage one'. Despite the paradox of differentiating for inclusion, we see a cultural shift toward inclusion as businesses actively disassociate their brands from stigmatizing neurodevelopmental disorders. Focusing on neurodiversity's business advantages could destigmatize practices in male-dominated industries (Catalyst, 2021) and encourage change among men with the most stigmatizing attitudes to mental disorders (Yeh *et al.*, 2017). Destigmatizing workplace behaviours may also spill over into non-commercial spaces and places (Verfuerth *et al.*, 2019).

Despite evidence of a cultural shift from tweets about national politics and equal opportunities for neurodiverse people (**Error! Reference source not found.**) most tweets suggest the cultural currents supporting destigmatization are in their infancy, with tweets indicating large, hidden populations of neurodiverse people compelled to mask their neurodiversity (**Error! Reference source not found.**).

 [INSERT **Error! Reference source not found.** and **Error! Reference source not found.** HERE]

The cost of masking from fear of exposure to stigmatizing attitudes is great (Figure 9). Fear is disabling and may result in *mutual* distancing and withdrawal of and from opportunities (Yeh *et al.*, 2017). These tweets also indicate that neurodiversity manifests in non-conformance to cultural standards of pace and motivation, which is relevant for mapping how neurodiversity

affects benefit realization in consumer coproduction journeys (Azzari *et al.*, 2021; Hamilton and Price, 2019).

[INSERT Figure 9]

Neurodiversity as harmful

Some consumers find the neurodiversity label itself stigmatizing. We were not able to retrieve this group of original tweets because they were deleted or hidden from public access, perhaps because controversial opinions attract harassment from online trolls (Golf-Papez and Veer, 2017). For example, these paraphrased tweets highlight parents with autism and/or caring for children with autism engaging in heated exchanges about the practical value of the neurodiversity concept:

> ***Honestly, I'm not 100% sure how acceptance, inclusion and a positive outlook integrating neurodiversity will help teach my son not to bite people's faces***. #Autism

Marketers considering the use of neurodiversity labelling will need to consider the neurodiversity movement's failure to obtain buy-in from parents. Some feel neither included nor represented as caregivers in the neurodiversity movement, instead feeling unsupported and defensive about their opinions and actions:

> Calling out the language of "autistic liberation" as twisted ***to bash autism parents who have a hard time*** and even ***to frame them as "oppressors".*** It's one of the most sickening aspects of neurodiversity advocacy IMO.

> It's really nice seeing so many people standing up against the neurodiversity movement lately. ***Parents of autistic children matter, their feelings matter.*** Autism isn't a gift for everyone.

Parents are framed as oppressors and their feelings about the prospects of life with mental and behavioral differences are ignored by neurodiversity activists. This stems from two divisive beliefs: 1) that parents' opinions are misguided, and 2) that parents fail to grasp the

revolutionary purpose of using the neurodiversity label to overturn the status quo by normalizing stigmatized conditions (Figure 10).

[INSERT Figure 10]

Such tweets broadly suggest that parents are duped by predatory actors profiteering from parental fear of autism. These insinuations trigger defensive anti-neurodiversity reactions (Figure 11).

[INSERT Figure 11]

'Mum-bashing' refers to parents' burden of being harshly judged because they are observed failing to control their children's behavior. Thus, parents feel alienated, beleaguered, or attacked by society *and* neurodiversity activists who object to their adoption of potentially dehumanizing diagnosis and treatment.

Parental tweets also suggest that neurodiversity should be more clearly used to refer to moderately rather than severely disabled people with autism, who require more specialist support:

> The problem is they try to sell us the notion that "neurodiversity" is a gift. It ignores the agonising reality of **the worst nightmare for every parent who is faced with handing off the care of their special needs child**. Caretaker arrested, charged with beating disabled teen to death https://t.co/Jtf44QBx6V

Severe neurodiversity is a major concern for parents *and* neurodiversity activists who denigrate treatments that entail forcible modification of individual behaviors; marginalization and institutionalization rather than social integration; pharmaceutical treatment; or rigorous applied behavior analysis that may involve violent forms of bodily restraint. Our analysis of linked content shared in tweets reveals that this position is rooted in a history of dehumanizing psychiatric treatments and, in a frequently mentioned theme, use of physical restraint of people with severe autism. Several threads memorialize avoidable deaths of

young and minority ethnic people due to overuse of restraints. This includes using an electric

shock system to control behavior in a well-known educational centre[1] (Figure 12).

[INSERT Figure 12]

However, we find positive indications that neurodiversity activism is improving practices

among civil protection agencies through training on communicating and de-escalating

situations with neurodiverse people to avoid misuse of physical restraint (Figure 13).

[INSERT Figure 13]

We also find a subset of parents using the neurodiversity label to emancipate themselves

from stigmatizing mental frames, including rejecting unhelpful models of 'good' parenting

and family relationships (Figure 14).

[INSERT Figure 14]

This tweet shows a mother coming to terms with institutional support for her son. For her,

neurodiversity also means accepting diversity in the concept of family—in this case, caring for

a child who lives externally but is still considered part of the family unit. Several tweets

problematize conventional family structures and occasions culturally associated with well-

being by showing how inaccessible that well-being can be (Figure 15). For example, negative

stereotyping of neurodiverse family members as 'difficult' or 'high maintenance' leads them

to mask intrinsic traits and behaviors during family get-togethers which diminishes their well-

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[1] 'The Judge Rotenberg Educational Center in Canton [Ohio], a privately operated, taxpayer-funded school that serves children and adults, is the only school in the country using an electric shock system to control students' behaviors. Many of the students struggle with profound disorders that can cause severe aggressive and self-injurious behavior, like head-banging and biting. Some family members of Rotenberg students say the shocks are the only way to keep their loved ones safe. But critics call the system torture. An FDA [Food and Drug Administration] **report** found the short-term benefits of the shock device include a reduction of unhealthy behaviors, but risks involve burns to the skin, anxiety, fear and pain' (McKim, 2020).

being. Such tweets highlight opportunities for marketers to help restructure family relationships to be less stigmatizing by advancing positive portrayals of atypical families affected by neurodiversity.

[INSERT Figure 15]

Segmenting stigmatized groups

Drawing on the analysis above, we identify five neurodiverse segments (including estimated effect size based on prevalence of tweets (see Table I) as an artifact of who is most vocal): *scouted talents* (.15%), *masked crusaders* (.14%), *activism-inclineds* (.08%), *castaways* (.04%), and *healthists* (.04%). The relative effect size of castaways and healthists in the dataset may be due to unfamiliarity with the term and purposeful avoidance of neurodiversity activists' adversarial reactions.

This bottom-up segmentation can help companies support consumer well-being by identifying how cultural currents dynamically affect the reception and response to neurodiversity as a label among marginalized groups. Figure 16 provides a visual overview of the five neurodiversity segments identified in this study as a continuum.

[INSERT Figure 16]

Scouted talents: These consumers are hot property, with a rising status and economic empowerment due to progressive corporate brands promoting their value. As firms and cultural currents increase tolerance of neurodivergent attributes, attractive products and services designed for neurodiverse customers may attract others to willingly promote neurodiversity's aspirational, positive associations with competitive advantages.

Masked crusaders: These consumers are a largely hidden, under-served market. Critical of the status quo, they struggle against exposure of neurodiversity within unsupportive environments to avoid status loss and negative discrimination. Part of the neurodiversity

movement, they seek opportunities to self-advocate and destigmatize neurodiversity when it is safe to do so. They require discreet ways to effectively manage their needs in resistant or slow-to-change cultures. Firms should innovate products and services that help this segment maintain employment. Gaining their loyalty involves developing relationships across life stages and career progression.

Activism-inclineds: These consumers are parents of high-functioning neurodivergent children. Awakened to self-advocate and advocate for others due to their experience of social injustices like negative stereotyping, they seek recognition of their children's (or their own) gifts due to high-functioning or moderate neurodiversity. Vocally sharing experiences of stigma and marginalization, they need support advancing transformative, positive stereotypes in work roles and family relationships for improved well-being.

Castaways: These consumers are isolated by unsupportive family contexts. Disconnected from the neurodiversity label and movement, they are least aware of the potential opportunities afforded by positive cultural shifts. Marginalized due to (self-) stigmatizing mental disorders with clinical labels, e.g., persons with Autism, ADHD, dyslexia, Asperger's, and associated negative stereotypes, these self-blamers gravitate toward identifiable solutions using familiar labels.

Healthists: Similar to castaways, these consumers conflate biomedical classifications of mental health and illness with subjective indicators of well-being (Silchenko and Askegaard, 2021) and find campaigning for social change an unnecessary distraction. They depend on specialist assistance to cope with severe conditions. A barrier to their identifying with the neurodiversity label is fear that the neurodiversity movement exclusively promotes the interests of moderately severe cases. Converting consumers affected by severe cases to view neurodiversity positively and campaign for shift to inclusive cultures depends on

communicating the practical advantages of wider choice and opportunities afforded by neurodiversity labelling to improve well-being. Critically, neurodiversity activists must stop stigmatizing healthists' reliance upon medical, behavioral and institutional treatment in the absence of viable alternatives.

Discussion

Our findings explain how segmenting stigmatized groups can help firms position themselves to address a serious public health issue, mental disorders, by identifying opportunities to market well-being. We demonstrate how bottom-up segmentation clarifies when and why alternative labels for people with mental disorders are helpful or harmful. We show how heterogeneous groups endorse or reject labels depending on perceived severity and perception of support in the environment. Although the neurodiversity movement aims to destigmatize neurodevelopmental disorders by making neoliberal market-based societies more accommodating of mental differences, our findings indicate that such a unitary categorization of the neurodiverse limits the effectiveness of dynamic destigmatization processes. We show how differentiating between conditions when labels help, or harm, enables identification of segments for improved targeting. We suggest that destigmatizing different types of mental disorders (e.g., bipolar depression, anxiety, schizophrenia) using alternative labelling can be achieved using our segmentation approach.

Bottom-up segmentation can help develop marketable solutions that address stigma in everyday interactions. Developing universally attractive products (e.g., noise-cancelling headphones, soft, seam-and-label-free clothing, brain-hacking nutritional supplements) to benefit diverse segments can reduce social distance through engagement in shared symbolic consumption (Elliott and Davies, 2006). The emergence of positive role models at the level of corporate brands, and differentiation between traditional and growth industries (e.g.,

technology, creative, financial) that value neurodiverse individuals may inspire firms to be inclusive and profitable.

Marketers should address uncertainty about when to utilise the neurodiversity label (e.g., in relation to employment and training) or when clinical terms to emphasize their child's (and their own) deficits are better for accessing appropriately paternalistic services (Baker, 2006). Flexibility and acceptance that pro- and anti-neurodiversity labels and identities relate to particular times and places for differentially affected groups will be critical to foster enabling rather than disabling marketplace interactions. Effective segmentation helps identify shifting well-being needs according to how cultural currents and the market context affect consumers (Mirabito *et al.*, 2016).

Using Twitter as a marketing tool provides insights into experiences of potentially non-verbal, misunderstood consumers, and can help identify new markets for specialist products and services (e.g., Spectra's autism-friendly non-scratchy, seam- and label-free clothing and Target's low stimulus store atmospherics catering to neurodiverse shoppers) and wider social change. Social listening techniques (Reid and Duffy, 2018) are useful for gathering insights about mental conditions that cause deviations from the standard pace and motivation of consumer journeys (Azzari *et al.*, 2021; Hamilton and Price, 2019).

Finally, this study faced some limitations. Providing thick descriptions of the neurodiversity phenomenon was constrained by the limitations of Twitter data. Marketing scholars should focus on understanding the journeys of stigmatized mental health consumers using qualitative and quantitative approaches. Future research is needed to develop and test market solutions using neurodiversity-based segmentation approaches, as well as seeking to capture longitudinal data and the use of content analysis and/or machine learning to determine the size of segments.

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Table I Overview of the three-word associations on individual tweets

Rank	Word combination	Words	Frequency	%	Occurrence	Percentage
1	in the workplace	3	256	0.15	254	2.96
2	neurodiversity in the	3	243	0.14	242	2.82
3	the neurodiversity movement	3	134	0.08	133	1.55
4	childhood parenting family	3	75	0.04	75	0.87
5	parenting family anxiety	3	75	0.04	75	0.87
6	adhd adhdacceptance neurodiversity	3	73	0.04	73	0.85
7	neurodiversity neurodiversityacceptance childhood	3	72	0.04	72	0.84
8	neurodiversityacceptance childhood parenting	3	72	0.04	72	0.84
9	adhdacceptance neurodiversity neurodiversityacceptance	3	71	0.04	71	0.83
10	welcome to the	3	70	0.04	70	0.82
11	autism autismacceptance ambition	3	69	0.04	69	0.80
12	a competitive advantage	3	68	0.04	68	0.79
13	autistic aspergers autism	3	67	0.04	67	0.78
14	neurodiversity welcome to	3	67	0.04	67	0.78
15	anxiety depression sensory	3	66	0.04	66	0.77
16	autismacceptance ambition adhd	3	66	0.04	66	0.77
17	a lot of	3	65	0.04	63	0.73
18	ambition adhd adhdacceptance	3	65	0.04	65	0.76
19	family anxiety depression	3	65	0.04	65	0.76
20	neurodiversity is a	3	65	0.04	65	0.76

Table II When is neurodiversity helpful for destigmatization?

Destigmatization process	Neurodiversity as a potentially destigmatizing force	Neurodiversity as a potentially stigmatizing force
1. Eliminate harmful labelling of human differences	• Offers a positive, strengths-based alternative label for human difference • Disconnects mental disorders from negative, disabling clinical labels	• Neurodiversity is not an inclusive label when its use fails to differentiate between high- functioning and more severe cases of neurodevelopmental disorders, assuming they merit equal treatment rather than cases for positive discrimination and accommodation. • It is ineffectual as most people, marketplaces and societies are unfamiliar with neurodiversity as a term or its political implications, meaning it has questionable power to affect how stigmatizers think about mental differences.

2. Defuse stereotypes: break connections between labels and negative attributes	• Neurodiversity as a strength is connected with progressive cultural views of social diversity and human rights
	• Progressive firms enhance their corporate brand by framing neurodiversity as essential for their success/competitiveness by:
	  - Successfully marketizing neurodiversity as valuable in terms of increased productivity and competitive advantages
	  - Promoting well-being through improved employability, self-worth, social inclusion, and financial resources to participate in markets
	  - Targeting attractive neurodiversity-friendly products and services
		• When the label is exclusive; positive attributes (e.g., productive and efficient) connect with high-functioning neurodiversity types
		• When minor cultural and environmental interventions (e.g., noise-cancelling headphones, low sensory stimulation environments, sensitive hiring and management) create unrealistic expectations of moderate- and low-functioning types
		• Rejecting the use of clinical labels due to connection with negative attributes, means people with more severe conditions may have difficulty communicating legitimate need for diagnostically specific solutions
		• Extreme neurodiversity activists create negative, inhumane stereotypes of accepting medical and behavioral modification treatments

|		
3. Unite rather than segregate 'us' and 'them'	• Neurodiversity potentially unites people with mild and more severe mental conditions • Firms valuing stigmatized people reduces social distance with stigmatizers, which may convert adversaries, blamers, ambivalents and shamers into allies (Yeh *et al.*, 2017). • Rather than focusing on individual-level differences, neurodiversity critiques macro level thinking about differential labels: neurodiversity celebrates both neurodivergence and neurotypical within a unified spectrum or umbrella.	• Neurodiversity that excludes or misrepresents consumers' needs alienates potential allies • Most businesses compel people to mask their neurodiversity to stay employed • Schism between neurodivergent groups challenging or supporting the aims of the neurodiversity movement
4. Reverse status loss and discrimination	• Marketplace interactions normalizing neurodivergence strengthen cultural currents encouraging mutually helpful behaviors across individual, market and society domains • Corporate brands promoting themselves as neurodiversity champions shape markets to value neurodiverse talent and customers • When people can reject discriminatory notions of 'happy family' social relationships, inclusive interactions recover status for neurodivergent family members who can forgo masking to fit in or reinforce mutual need for social distancing	• Viewing everyone as neurodiverse glosses over stark differences in need, silencing consumers who need specialist resources; poor access to market-based solutions exacerbates status loss, discrimination, and marginalization • When people with severe conditions fail to see practical value from neurodiversity labelling • When fighting between people who need clinical and institutionalizing care and militant strands of the neurodiversity movement undermine each other
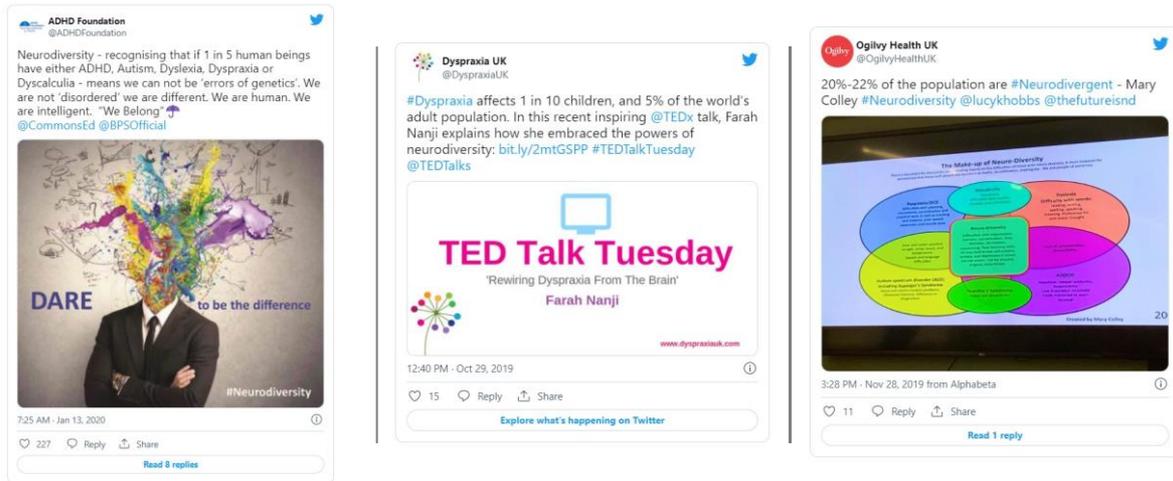
Figure 1 Example tweets defining neurodiversity. Authored by @OgilvyHealthUK, @DyspraxiaUK, and @ADHDFoundation.
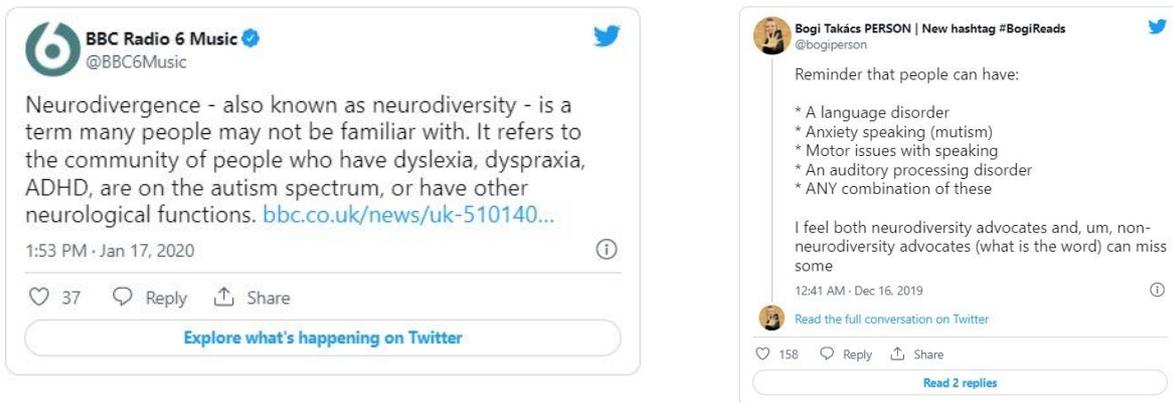

Figure 2 Example tweets showing confusion about what neurodiversity means. Authored by @BBC6Music and @bogiperson.
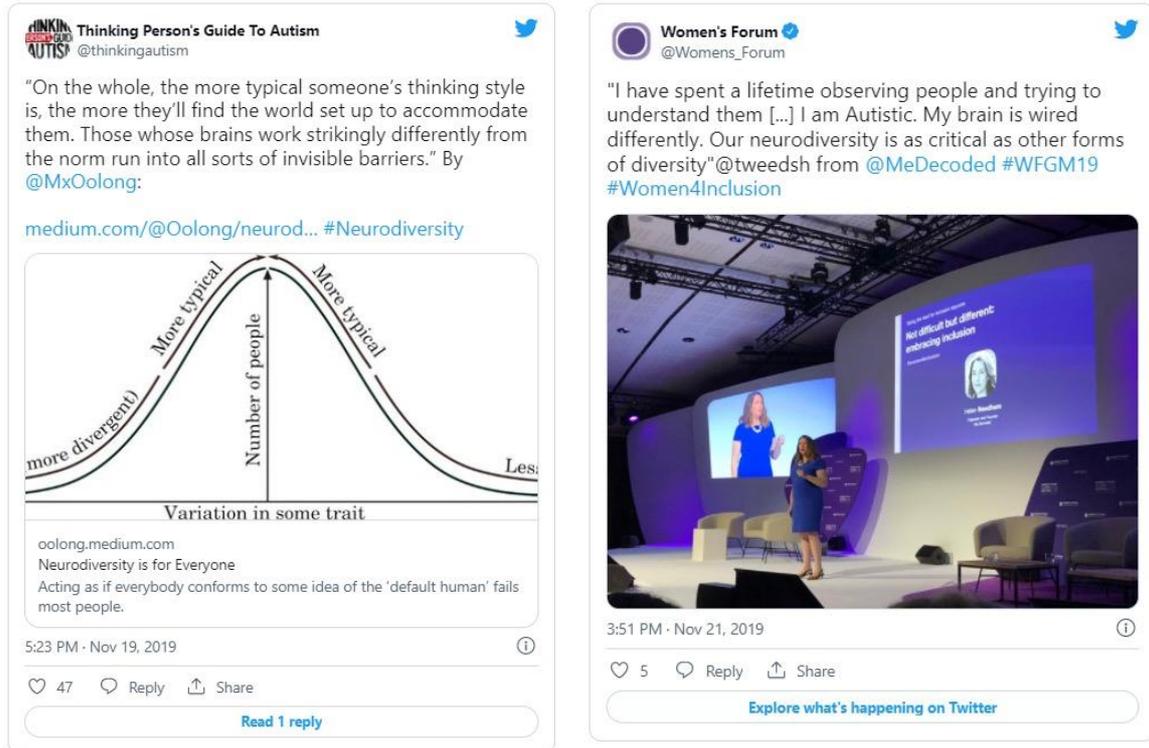
Figure 3 Example tweets distinguishing neurodivergent from neurotypical. Authored by @thinkingautism and @Womens_Forum.
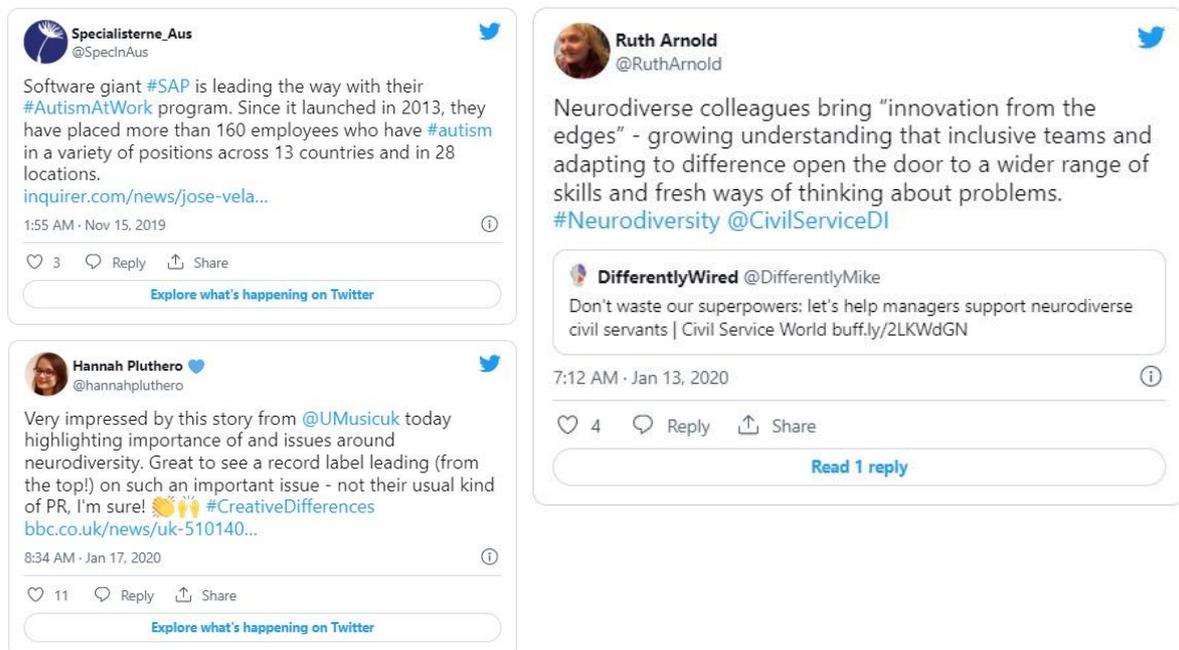

Figure 4 Example tweets repositioning companies as progressive employers. Authored by @SpecInAus, @hannahpluthero, and @RuthArnold.

Figure 5 Example tweet indicating demand for neurodiversity-relevant products and services. Authored by @DyxpraxicBee.
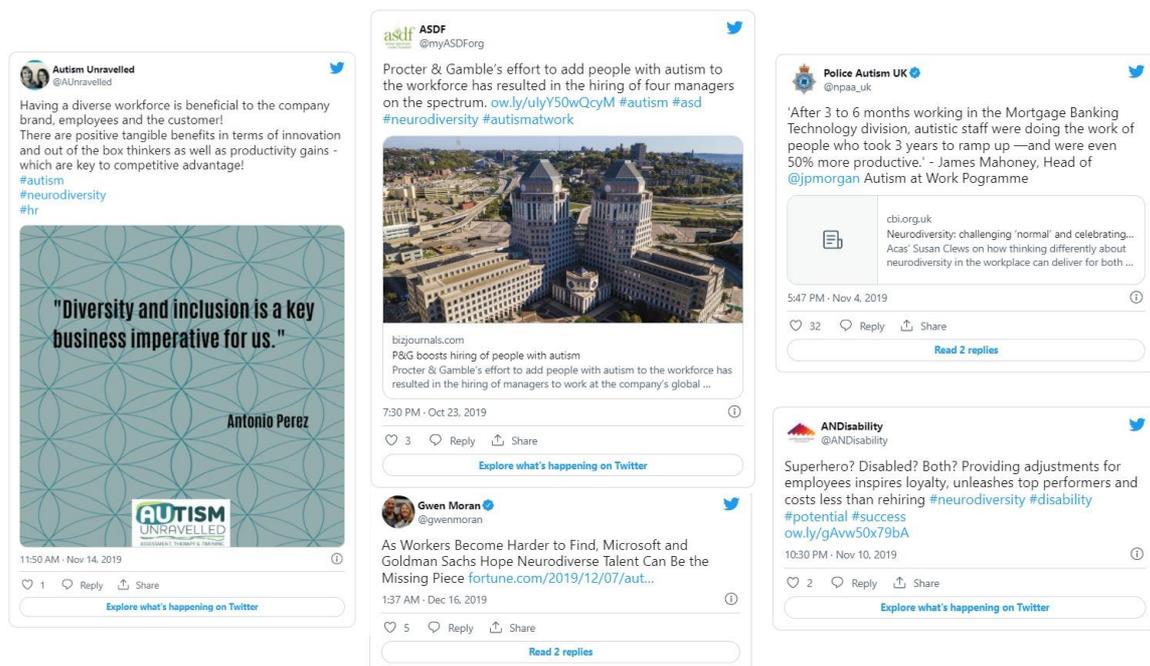
Figure 6 Examples of tweets associating neurodiversity with positive attributes. Authored by @AUnravelled, @myASDForg, @gwenmoran, @npaa_uk, and @ANDisability.
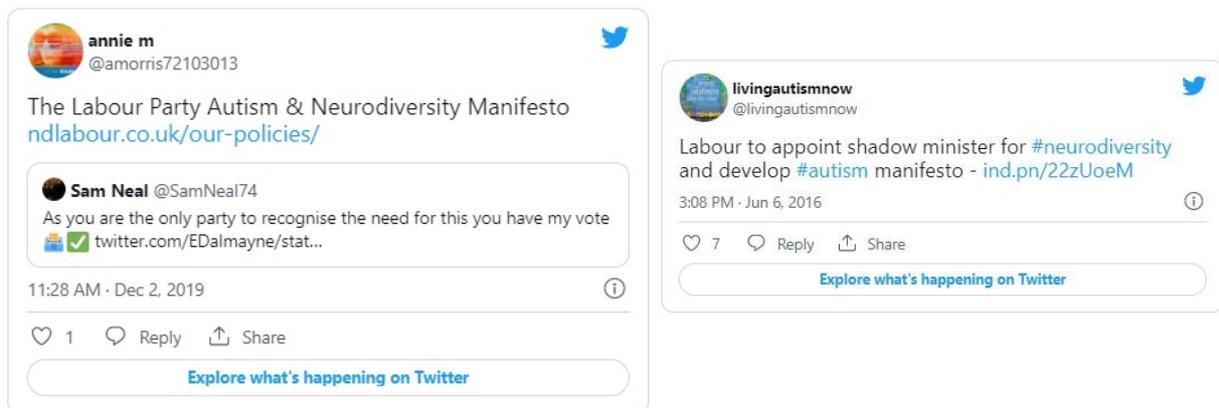
Figure 7 Example tweets showing a major UK political party advocating for the rights of neurodiverse people. Authored by @amorris72013013 and @livingautismnow.
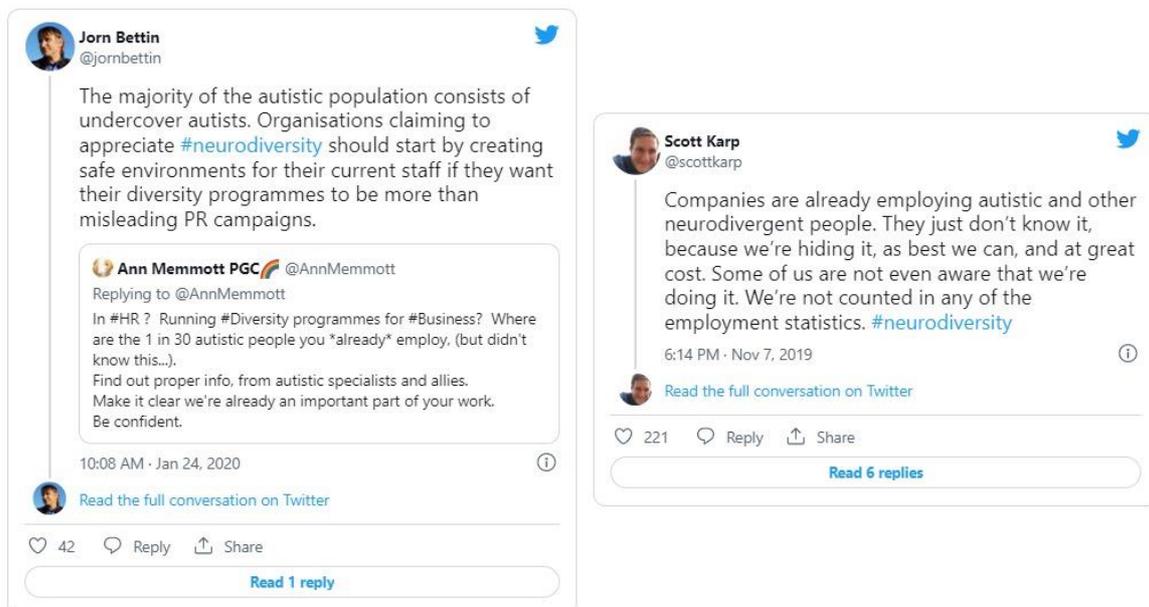
Figure 8 Example tweets indicating a largely undiscovered neurodiverse population due to masking. Authored by @jornbettin and @scottkarp.
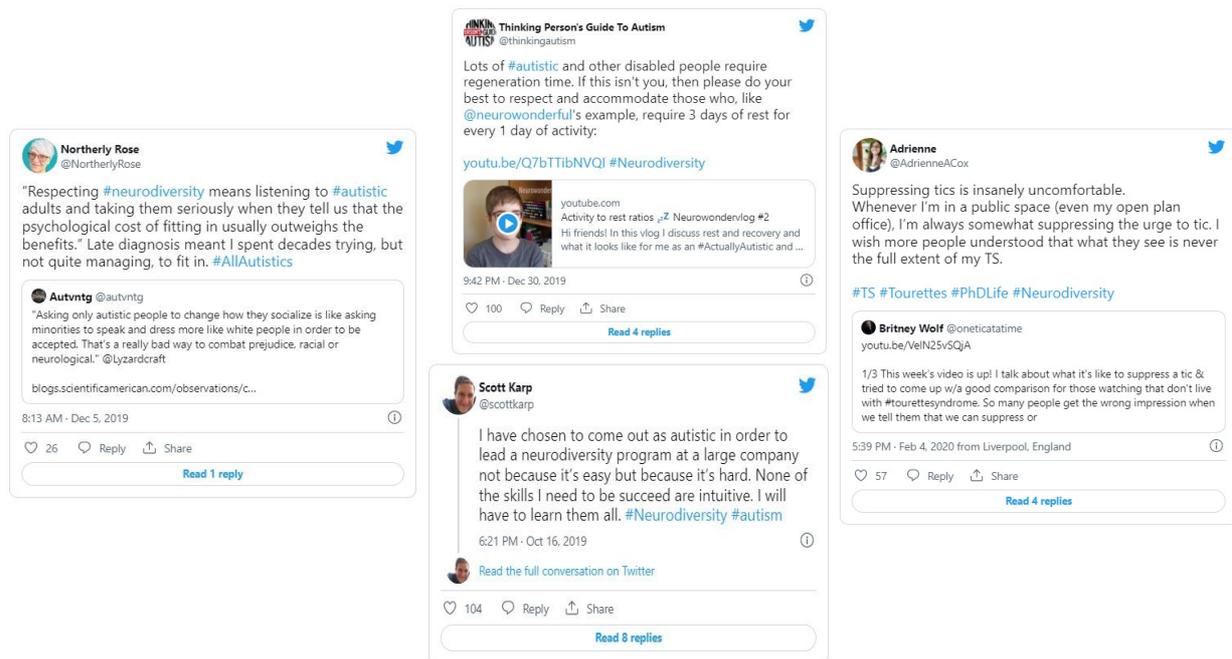
Figure 9 Example tweets showing the cost of hiding neurodiversity. Authored by @NortherlyRose, @thinkingautism, @scottkarp, and @AdrienneACox.
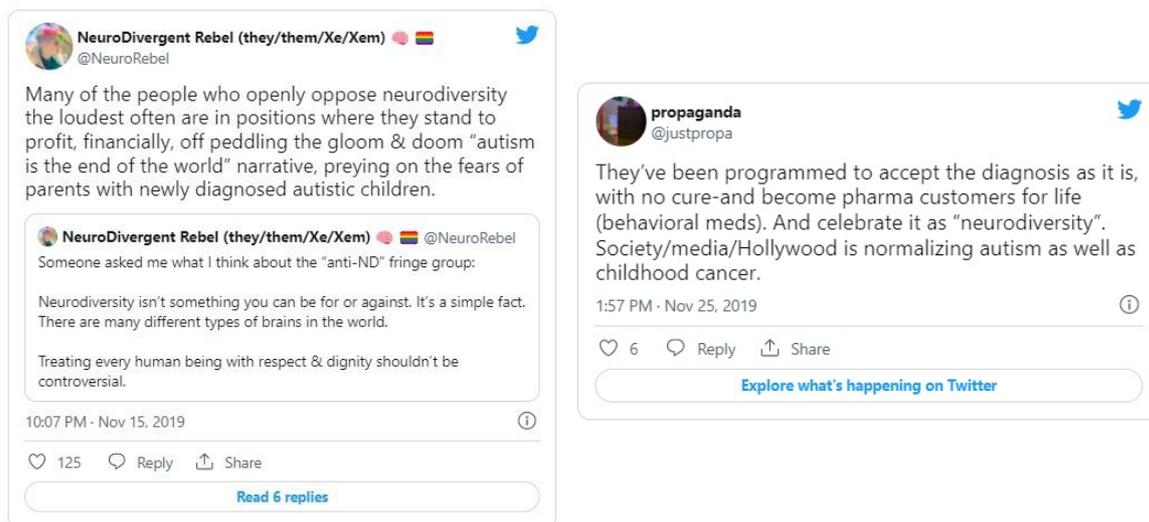

Figure 10 Example tweets showing neurodiversity is embroiled in debates about socio-political empowerment. Authored by @NeuroRebel and @justpropa.

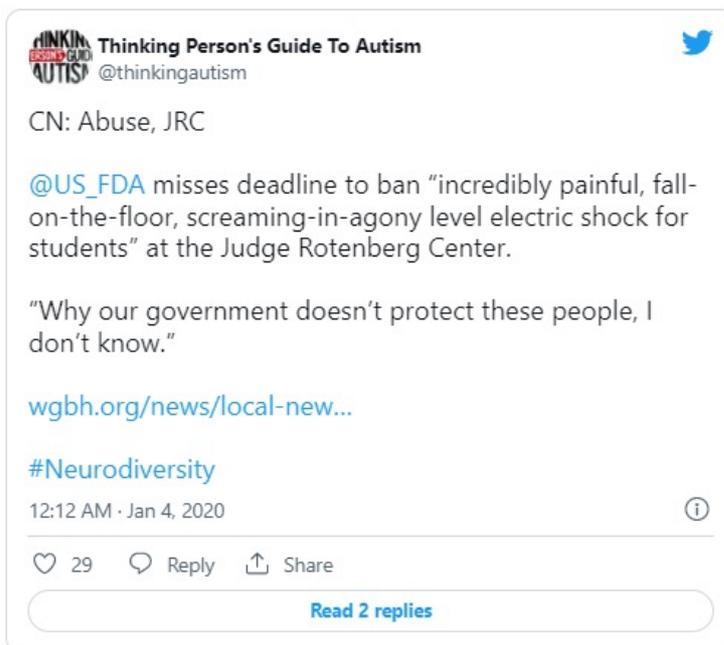*Figure 11 Example of tweets showing defensive reaction to neurodiversity movement. Authored by @ABA4ALL_UK.*

Figure 12 Example tweet authored by @thinkingautism showing sanctioned violence against people with neurodiversity.
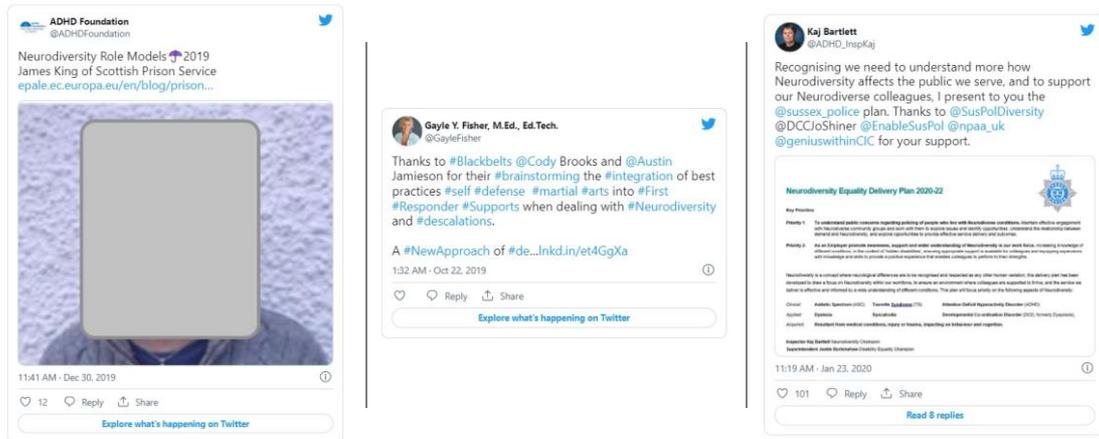
Figure 13 Example tweets authored by @ADHD_InspKaj, @ADHDFoundation, and @GayleFisher promoting civil protection agencies' efforts to improve how they deal with neurodiversity. Photo edited for anonymity.
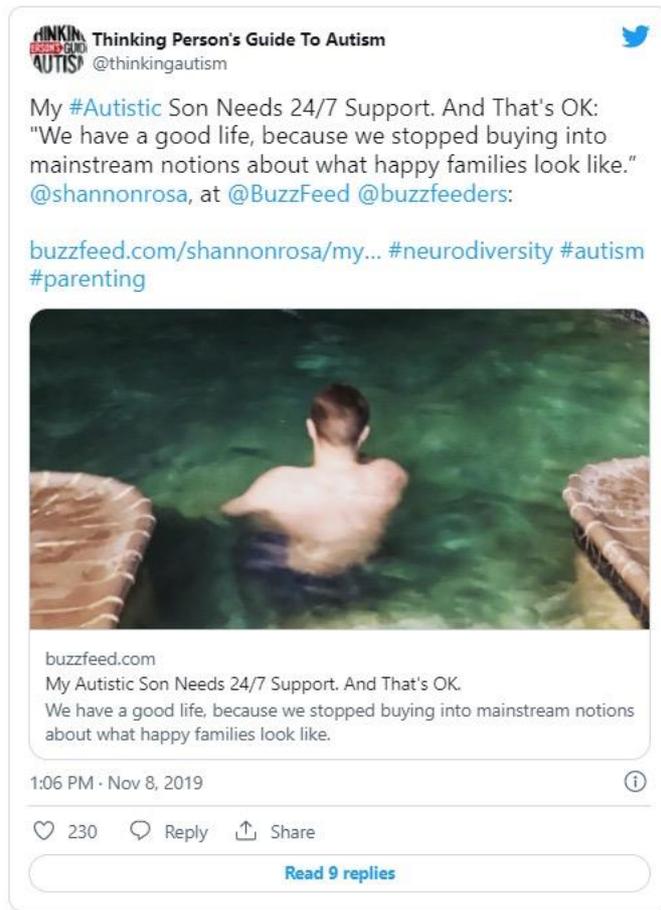
Figure 14 Example tweet authored by @thinkingautism showing how liberation from traditional family structures fosters well-being.
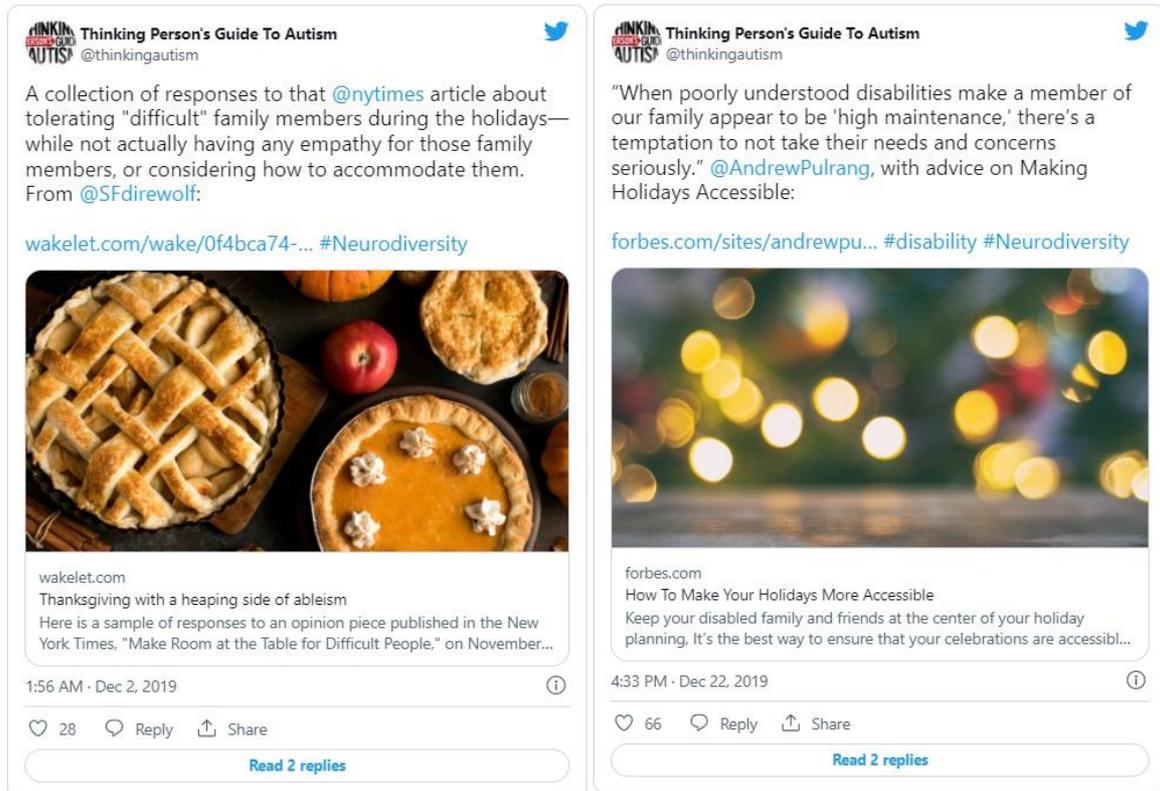
Figure 15 Example tweets authored by @thinkingautism showing demand for solutions to manage neurodiversity during family holidays.

Destigmatizing

Neoliberal

Neurodiversity label

Cultural currents

Scouted talents

Masked crusaders

Activism-inclineds

Castaways

Healthists

Stigmatizing

Paternalistic

Figure 16 How neurodiversity affects the stigmatization of consumer segments differentially depending on prevailing cultural currents