In the past fifteen years or so, there has been a growing recognition, from research evidence and clinical settings, that autistic people frequently experience mental health difficulties. Indeed, the consensus is that, across the life span, autistic people are disproportionately affected by mental ill health, compared with neurotypical individuals (Lai et al., 2019). These challenges can present as internalising (anxiety, depression, suicidality) or externalising difficulties (aggression, dysregulated outbursts, irritability) and have huge impact on wellbeing and quality of life for the autistic person and those supporting them. Furthermore, the phenomenology of common mental health conditions, such as anxiety and depression, may be experienced differently by autistic people, rendering assessment and intervention techniques developed with and for neurotypical individuals potentially less sensitive and less effective for those on the spectrum (Crane, Adams, Harper, Welch, & Pellicano, 2019). The logical implication of this is that assessment methods and intervention programmes designed to identify and ameliorate distress for autistic people need to be informed by knowledge of the underlying mechanisms and maintenance factors associated with mental health difficulties in autism. This is often not the case.

In the United Kingdom, clinical guidelines recommend the use of evidence-based adapted treatments to address these debilitating co-occurring conditions. However, much of this adaption is related to the format of the interventions (e.g. scheduling more treatment sessions, use of supporting visual aids). These adaptations are important but do not get to the heart of the matter, the mechanisms that underpin and maintain these difficulties. Without a thorough understanding of these mechanisms, it is unlikely we will be able to provide effective tailored assessment and interventions to those in most need.

In their study in this issue, Ozsivadjian et al. focus on three such potential mechanisms, initially proposed by South and Rodgers (2017), that may contribute to co-occurring internalising and externalising difficulties in autistic children and young people, specifically intolerance of uncertainty, alexithymia and cognitive inflexibility. The study is an important and welcome addition to the literature.

There has been a groundswell of interest in the role that intolerance of uncertainty (IU), defined as the tendency to react negatively on an emotional, cognitive and behavioural level to uncertain situations and events, may have in relation to anxiety in autism. Originally conceptualised in relation to generalised anxiety disorder in neurotypical adulthood, IU has emerged as an important process mechanism in both the development and maintenance of anxiety in autistic children and adults. The recent meta-analysis by Jenkinson and colleagues (Jenkinson, Milne, & Thompson, 2020) reaffirms the importance of IU as a treatment target in autism, as it is in neurotypical samples. However, recent conceptual models of the relationship between IU and anxiety in neurotypical people have suggested that a traditional therapeutic focus on mitigating fear responses in anxious individuals may be missing a more pertinent difficulty in recognising safety cues (see e.g. Brosschot, Verkuil, & Thayer, 2016). This aligns with neuromaging work using fear conditioning paradigms (Top et al., 2016), which speculated that the reason for group differences between autistic and neurotypical individuals for amygdala and related brain function was not in response to fear cues, rather that threat response in the autism group remained elevated during safety conditions. If a person does not realise when it is okay to feel safe, the evolutionary default may lean towards uncertainty as an undercurrent of anxiety (Brosschot, ibid).

Alexithymia, that is difficulties recognising, labelling and processing one’s own emotions, differentiating emotions from bodily sensations and focusing on inner rather than external experiences, is reported to be common in autism and has also received some attention in relation to anxiety, with higher rates of anxiety associated with more alexithymia amongst autistic individuals. Alexithymia may also be missed in therapy for anxiety, as many autistic people report that their therapists assume that autistic clients will report their emotional experiences in the same way as neurotypical clients. Autistic people frequently report feeling unlistened to in therapy, and even that therapists suggest that autistic clients are ‘not trying hard enough’ when autistic communication styles do not match rigid therapist expectations (Crane et al., 2019).
To date, there has been much less work focused on the role of cognitive inflexibility in relation to mental health difficulties in autism. Cognitive inflexibility refers to the tendency to focus on one’s own perspective, thoughts, interests and behaviours with consequent impact on flexible problem-solving, the ability to inhibit prepotent responses and adapt in a flexible way to changing circumstances and situations. There are a few studies linking cognitive inflexibility in autism to anxiety symptoms (Hollocks, Howlin, Papadopoulos, Khondoker, & Simonoff, 2014) and externalising difficulties (Lawson et al., 2015). However, as Ozsivadjian et al. note, the paucity of research in this area is somewhat surprising, both because differences in cognitive flexibility are considered a core trait of autism and because difficulties with cognitive flexibility have long been associated with anxiety and depression in neurotypical adults (Strang et al., 2017).

It is highly unlikely that any one of these mechanisms (or indeed others) alone will account for the degree of and range of heightened internalising and externalising difficulties associated with autism and it is more likely that mechanisms interact and together contribute to the formation and persistence of these difficulties. In 2017, we proposed an autism specific model of anxiety suggesting potential pathways from sensory processing difficulties, alexithymia and rigidity of thought (i.e. cognitive inflexibility), via intolerance of uncertainty to restricted and repetitive behaviours and anxiety symptoms (South & Rodgers, 2017). At the time of publication, we acknowledged that the research evidence for the model was incomplete, particularly in relation to the role of cognitive inflexibility and we welcome research that seeks to test out our proposed model.

The Ozsivadjian et al. study makes a welcome contribution to the field. In their work, they explore the simultaneous contributions of intolerance of uncertainty, alexithymia and cognitive inflexibility to both internalising and externalising difficulties with autistic children and young people. They do this by collecting questionnaire data from parents of ninety-five autistic young people aged between 5 and 18 years. Structural equation modelling is used to explore putative pathways between the constructs of interest. Their findings indicate a direct pathway between cognitive inflexibility and externalising symptoms and an indirect path via IU to internalising problems for the young people in the study. Their data indicate that alexithymia had a weaker association with both internalising and externalising symptoms and predicted internalising difficulties via IU only.

There are a number of strengths to this work. First, the study explicitly incorporates the underresearched construct of cognitive inflexibility with the more frequently explored constructs of intolerance of uncertainty and alexithymia. To our knowledge, this is the first paper to bring these constructs together. Parsing out the relative contribution of these constructs across symptoms and settings (including home, school and clinic) has clear real-world utility.

Second, unlike much of the previous literature, the authors have included autistic children with and without co-occurring intellectual disability in their sample. This is important for two reasons. First, there is a woeful lack of research on the mental health difficulties of autistic people with intellectual disability and as such this study has face validity. Second, although the sample size precludes any detailed drilling down at the subgroup level, the findings suggest that the mechanisms under investigation (and in particular cognitive inflexibility) may operate differently in autistic young people with and without intellectual disability, and in relation to internalising and externalising behaviours. This suggests important next steps for future research endeavours and additional thoughtfulness when designing interventions.

Ozsivadjian et al. accurately note several limitations to their cross-sectional study. To date, the several studies related to mechanisms for anxiety in autism have focused on either youth samples or adult samples; this study included young people seen in a specialist neurodevelopmental clinic, and there is a need to consider longitudinal and developmental factors both within young people (using larger samples that can drill down by age) and into adulthood. Generalisability of these findings to children who may have less access to services is not known. Some of the measures used have not been validated with autism samples, and given known concerns about the validity of standard mental health measures in autism (Crane et al., 2019), this leaves legitimate questions. On the other hand, inclusion of a new measure of cognitive inflexibility validated with autism samples (Strang et al., 2017) is an area of strength and offers rich promise for future work in the area.

As Ozsivadjian et al. highlight, acknowledging the direct and indirect (e.g. through intolerance of uncertainty) influences of cognitive inflexibility on externalising and internalising difficulties in autism is critical for both research and practice. Indeed, another recent study of adult women with high levels of autism traits (South et al., 2019) reported that a combination of depression and inflexibility was the key predictor of suicidality in that sample. That study suggested that while depression is generally associated with risk for suicide, added tendencies towards inflexibility make it difficult to think of alternate solutions and increases the probability of suicidal thoughts and behaviour. This and other studies emphasise the urgency of further exploration of cognitive inflexibility as an underlying mechanism of mental health in autism. Cognitive inflexibility may indeed be the missing piece, or at least a missing piece, to understanding the mental health experience of autistic children, youth and adults.
More generally, undertaking psychosocial and/or pharmacological interventions to address mental health concerns in autism will benefit from improved understanding of more specific constructs such as cognitive inflexibility, alexithymia and intolerance of uncertainty that may uniquely contribute to anxiety, depression, behavioural outbursts and other challenges experienced by autistic people. We note especially how the experience of frequent mistreatment by others understandably and negatively influences mental health in autism (Crane et al., 2019). This study by Ozsivadjian and colleagues is a great step forward and provides a useful model for future research and clinical practice.

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