

Autism spectrum disorder, extremism and risk assessment

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Abstract

Background: To date, there is no evidence supporting the existence of an association between Autism Spectrum Disorder (ASD) and extremism in the general population. However, there is increasing recognition that several features of ASD may provide the context of vulnerability to engage in extremist behaviour.

Aims: This paper sets out the case for a dedicated clinical approach to better integrate clinical risk appraisal processes with an assessment of ASD individuals' vulnerabilities within the Criminal Justice System.

Methods and Results: In this paper the Framework for the Assessment of Risk & Protection in Offenders on the Autistic Spectrum (FARAS): A Guide for Risk Assessors Working with Offenders on the Autistic Spectrum is explored. In developing the FARAS, Al-Attar proposed seven facets of ASD that 'may have different functional links with push and pull factors to terrorism' (p. 928), which include circumscribed interests; rich vivid fantasy and impaired social imagination; need for order, rules, rituals, routine and predictability; obsessionality, repetition and collecting; social interaction and communication difficulties; cognitive styles and Sensory processing.

Discussion and Conclusion: We describe the FARAS within the context of the most widely used clinical risk appraisal

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'aide memoire' instruments integral to the Structured Professional Judgement of risk process, namely the HCR20v3.

KEYWORDS

autism spectrum disorder, extremism, FARAS, lone-actor terrorism, risk assessment, radicalisation

1 | INTRODUCTION

Extremism is becoming increasingly common, spread by the explosion of ways to communicate that have come with the digital revolution. There is a clinical concern that autistic people may have heightened vulnerability to recruitment to extremist ideologies, and, by extension, may be at risk for perpetration of extremism-related crimes. Most epidemiological data indicate that individuals with an Autism Spectrum Disorder (ASD), and no other co-existing disorders, are no more likely to offend compared to individuals without ASD (Hippler et al., 2010; King & Murphy, 2014). Other studies report a negative association of an ASD diagnosis and offending behaviours in different health service tiers (e.g. Bjørkly, 2009; Cashin & Newman, 2009; Hippler et al., 2010; King & Murphy, 2014; Lundström et al., 2014; Mouridsen et al., 2008; Woodbury-Smith et al., 2006). Similarly, a hypothesised over-representation in specific forms of offending such as cybercrime could not be confirmed (Ledingham & Mills, 2015; Payne et al., 2019).

Several studies confirm that autistic individuals are more likely to be the victim of crimes than the perpetrator (e.g. Brown-Lavoie et al., 2014; Browning & Caulfield, 2011; Sevlever et al., 2013). However, when they do engage in offending behaviour, they are more likely to engage in physical offences (Allen et al., 2008; Robinson et al., 2012), sexual offences (Allely & Creaby-Attwood, 2016; Kumagami & Matsuura, 2009; Lisette et al., 2009; Søderstrøm et al., 2005) or arson (Allely, 2019a; Barry-Walsh & Mullen, 2004; Freckelton, 2011; Freckelton & List, 2009; Gunasekaran & Chaplin, 2012; Haskins & Silva, 2006; Mouridsen et al., 2008; Siponmaa et al., 2001).

Whilst anecdotal accounts and some cases highlight some autistic individuals become involved with extremism activities, to date no studies have identified any clear association between ASD and extremism in the general population (Al-Attar, 2020; Faccini & Allely, 2017). However, teams of practitioners working with people on the path to radicalisation or already radicalised have reported a high prominence of individuals with an ASD diagnosis; it is imperative that we build an increasing 'understanding of the individual's autistic functioning and how it may contextualise factors that push them towards extremism and aspects of extremism that may pull them in, in order to manage and reduce risk when terrorist acts are planned or carried out by someone with ASD' (Al-Attar, 2020, p. 926). This paper sets out the case for a dedicated clinical approach to better integrate clinical risk appraisal processes with an assessment of ASD individuals' vulnerabilities within the Criminal Justice System: The Framework for the Assessment of Risk & Protection in Offenders on the Autistic Spectrum (FARAS): A Guide for Risk Assessors Working with Offenders on the Autistic Spectrum. We describe the FARAS within the context of the best validated clinical risk appraisal 'aide memoire' instruments integral to the Structured Professional Judgement of Risk process, namely the Historical-Clinical-Risk Management, Version 3 (HCR20v3, Douglas et al., 2013).

2 | ASD, RADICALISATION AND EXTREMIST BEHAVIOURS

Autism Spectrum Disorders (ASDs) are neurodevelopmental disorders characterised by the impairment of the *quality* in how the individual engages in any reciprocal social interaction, verbal and/or non-verbal communication including restricted repetitive behaviours (Wing, 1997). The fifth edition of The Diagnostic Statistical Manual (DSM-V, American Psychiatric Association [APA], 2013) characterises two core areas of impairment in ASD. These are (1) 'persistent deficits in social communication and social interaction' and (2) 'restricted, repetitive patterns of behaviour,

interests or activities' (APA, 2013). Repetitive behaviours and restricted interests characterise behaviours that can include repetitive motor movements, sensory reactions, rituals, routines and restricted interests. However, for clinical and commissioning/remuneration purposes the World Health Organization's International Classification of Mental Disorders latest edition no 11 is the determining clinical diagnostic manual to follow (WHO, ICD-11, January 2022).

In the United Kingdom, it was recently suggested that 'a staggeringly high' number of autistic people are referred to PREVENT, the UK government's anti-radicalisation programme (<https://www.counterterrorism.police.uk/what-we-do/prevent/>). PREVENT aims to safeguard vulnerable individuals from being radicalised to become terrorists themselves. The majority of these individuals with ASD who were referred to the PREVENT programme were later (after much time and resources) found not to be of concern. There are many key reasons why many of these individuals with ASD were being incorrectly referred to the PREVENT programme. One of them was the level of time spent engaged in the terroristic behaviour/interest appearing to be indicative of the level of commitment to the ideology, when in fact it was driven by an intense preoccupying interest. It is important to recognise that some individuals with ASD may engage in behaviours that, on the surface, appear malicious or terroristic. However, most often, those behaviours involve no operational intent and are driven by some of the features of ASD. A few examples are provided below. First, it is common for individuals with ASD to pursue their interest or preoccupation repetitively (and pedantically). It becomes all-encompassing as they engage in their preoccupation at the expense of other things such as social relationships. Regarding terroristic (or extremist) behaviour, the individual may accumulate substantial amounts of information or data associated with terrorism, watch propaganda videos repeatedly or engage in making items relating to terrorism. These pre-occupational interests may be inaccurately misinterpreted as strong indications of an intense commitment to extremism. However, in many cases of individuals with ASD, it is more accurate to see this type of behaviour as 'being driven or at least accentuated by obsessionality, repetition, pedantry for detail and compulsive collecting/pursuit, as opposed to evidence of broader or greater ideological objectives or greater operational involvement' (Al-Attar, 2020, p. 937). Additionally, there is a range of autistic social communication styles that may confound the 'terror' that others may appraise—such as a threat or a risk assessment professional. For instance, they may talk about their ideology in very graphic, matter-of-fact terms, with a flat expression and tone of voice. They may also volunteer details that would be considered substantial. Such a presentation may be mistaken by some assessing their level of risk as evidence of boasting about extremist capabilities and impact or trying to cause fear or shock (Al-Attar, 2018b).

A modest body of research, to date, has explored how ASD can 'contextualise vulnerability and risk' (e.g. Al-Attar, 2016a, 2016b, 2018b, 2018c, 2019a, 2019b; Al-Attar, 2020; Faccini & Allely, 2017, p. 926). Palermo (2013) described the case of a thirteen-year-old, Italian adolescent 'neo-Nazi theorist' with a diagnosis of Asperger's syndrome. Palermo suggests in the case study paper that this young male's impaired empathy, social dysfunction and schizoid nature of his temperament (which is characteristic of ASD), when combined with his extreme knowledge, gave him access to an angry and violent subculture. 'Temper outbursts' were commonly exhibited by the young male, he experienced social isolation during his childhood and despite attempts by his parents to get him to socialise, he rejected all. When he started middle school, he became a prolific reader and by the time he was 12 years old, he read biographies of political leaders, displaying a particular interest in the current president of the Russian Federation Vladimir Putin and of Iran's leader Mahmud Ahmadinejad. These leaders were viewed as role models and he started to search the internet and read right wing extremist blogs and interacted with others online who were like-minded.

Some of the members of the Storm Front Italia forum (an internet forum propagandising white supremacy, anti-Semitism and hate in general) contacted him after seeing his manifesto which he posted online. They also invited him to meet them in a local pub and to become the leader of a neo-Nazi formation. However, shocked by his young age, they turned him away. He continued to maintain his political positions despite experiencing this rejection but became increasingly alienated by his peers and socially rejected because of his actions/behaviours and would engage in solitary activities (e.g. reading, activities online, or using public transport to travel about the city in which he lives on his own) (Palermo, 2013). His increasing social isolation perhaps contributed to him becoming increasingly disconnected from reality and not be able to 'sense check' or 'reality check' his beliefs, thoughts and behaviours.

3 | LIMITATIONS WITH CURRENT STRUCTURED RISK ASSESSMENTS WITH AUTISTIC INDIVIDUALS

Although case descriptions of autistic individuals highlight the importance of considering associated difficulties in offence formulations (Murphy, 2010a, 2010b; Staufenberg, 2007), research examining how formal risk assessment aids apply to such individuals is limited. There are significant limitations when using current standardised structured risk assessments tools for a range of behaviours (such as the Risk Matrix 2000 [RM2000], The Historical, Clinical and Risk Management–20 [HCR-20] or the Risk for Sexual Violence Protocol [RSVP]) with individuals with neurodevelopmental disorders such as ASD (e.g. Gunasekaran, 2012; Murphy, 2013; Shine & Cooper-Evans, 2016). All of the currently used standardised risk assessments have been normed on individuals with no diagnosis of ASD. As a result, such assessment may not be appropriate for autistic individuals (Sugrue, 2017). The presence, in addition to the ASD, of the personality disposition to wish to 'fit in', 'to please' and 'to be accepted' would appear to play potentially material roles in an individual with ASD becoming involved in group-based risk and/or offending conduct. This is a disposition that might occur in ASD as well as in people without ASD. These variables are currently not measured in standard tools such as the HCR-20v2. The HCR-20 research team recognised this (personal communication, Chris Webster to EFAS) so that the current HCR-20v3 introduces additional 'Other Considerations' single items under each of its three Scales (Historical Factors, Clinical Factors, Risk Management Factors, called OC-H: Other Case–History [scale]; OC-C: Other Case–Clinical [scale] and OC-R: Other Case–Risk Management [scale] variables, respectively). This permits the discerning, trained, expert rater with forensic and ASD training to record (free hand) each individual's ASD specific (or any other neuropsychiatric conditions) risk variables within the worksheet. To our knowledge, no study has examined how OC-H, OC-C, OC-R items are being used, whether the 'OC' variables have discrete item validity, and therefore may improve the HCR-20v3 (Douglas et al., 2013) and its clinical pertinence in ASD and risk/offender patient focused Clinical Professional Judgement of Risk (Mullen & Ogloff, 2009).

Elsewhere, it has been argued that the application of these standardised risk assessments can make some autistic individuals appear to be of greater risk than they actually present (e.g. Allely, 2022; Allely & Dubin, 2018; Sugrue, 2017). During risk assessment, autism potentially requires more specific consideration given the nature and style of social interaction and communication, and also given the wide variance in how autism presents across individuals—no two individuals will present the same (Brewer & Young, 2015). Whilst most of the standardised risk assessments which are currently used assess factors which have a strong association with particular offending behaviours for neurotypical offenders, they may have limited relevance for many autistic individuals (Gunasekaran, 2012). The majority of the conventional risk factors are relevant for individuals with autism but not on their own. They need to incorporate in their development ASD-specific indicators.

There is an urgent need for good practice guidelines which can be used when assessing the level of risk in autistic individuals (Murphy, 2013). A risk assessment which was sensitive to the features of autism would consist of factors such as communication, cognitive and sensory differences, social awareness, anxiety, varying level of intelligence, vulnerability, circumscribed interests or preoccupations, repetitive and stereotyped behaviours, unusual interests, anxiety-provoking situations and unusual physiological arousal response and obsessive/compulsive type behaviours. Sometimes psychiatric comorbidities may be present with increasing reports of post-traumatic stress disorder (PTSD) (Haruvi-Lamdan et al., 2018). Another feature of autism that is important for a risk assessment to be sensitive is the dichotomised thinking categorised with 'all or nothing', 'black or white', with no nuances. There may also be factors which may serve as a protective function (such as an immediate environment which is well-structured and is also unambiguous) (e.g. Gunasekaran, 2012; Murphy, 2010a, 2010b; Payne et al., 2019). Features of the diagnosis of ASD need to be taken into consideration and incorporated into an account of each of the feature's role (or absence) in the offending behaviour rather than simply relying on the generic standardised risk assessment tools (Shine & Cooper-Evans, 2016). Murphy has previously stated that: 'Failing to include these difficulties in a risk assessment of an individual with ASD may therefore result in an inadequate risk formulation and ultimately poor risk management plans' (Murphy, 2013, p. 39). With regards to risk factors in autism, Girardi et al. (2019) have previously stated that

'A growing body of evidence suggests that risk assessment for patients with ASD needs to include ASD-specific risk factors, which may increase the likelihood of engaging in violent behaviours' (Girardi et al., 2019, pp. 428–429). Girardi et al. (2019) argue that the HCR-20 fails to account for difficulties typical of autistic individuals which are thought to contribute to their engagement in offending behaviours. Additionally, Westphal and Allely (2019) emphasised that 'the process of risk assessment might need to be quite different for the autistic individual. In addition, there are non-diagnostic behaviours associated with ASD that may modify risk' (Westphal & Allely, 2019, p. 2).

In a small study completed in one High Secure Psychiatric Care (HSPC) hospital (Murphy, 2013), the relevance of the HCR-20 items for 20 clinician-diagnosed autistic individuals were examined. Whilst all admissions to HSPC present a 'grave and immediate' risk to others, it was possible to divide the sample into 'high' and 'low' violence groups using the Violence Rating Scale (Robertson et al., 1987). Individuals in the 'high' violence group included those with offences involving murder or severe injury (including rape). In contrast, individuals within the 'low' violence group included those with offences of assault or where there was no direct physical harm to victims. Whilst no group differences were present in the number of HCR-20 items endorsed, nine items (substance misuse, major mental illness and psychopathy from the historical scale; negative attitudes, active symptoms of major mental illness, impulsivity and unresponsiveness to treatment from the clinical scale and exposure to destabilisers and non-compliance with remediation attempts from the risk-management scale) were present in 50% or less of the whole sample and a history of previous violence and vulnerability to future stress was present in all. No significant group differences were observed in full scale Intelligence Quotient (IQ) or performance within the revised eyes task (a social perceptual theory of mind test) (Baron-Cohen et al., 2001). In other words, the revised eyes task did not segregate out significant group differences across full scale IQ or performance measures. However, individuals within the 'high' violence group had lower verbal abilities (specifically in word knowledge and abstract verbal reasoning), perhaps highlighting the role of poor verbal communication skills in the aetiology of violence.

Whilst this analysis is useful for examining the relevance of some conventional risk items to autistic individuals, there was considerable, potentially confounding, case variation. For example, some individuals had histories of alcohol and illicit substance misuse and/or psychosis. A major limitation of HCR-20 ratings, as well as other formal risk assessment aids, is the absence of an explanation of why someone may have particular difficulties. For example, the underlying reason why someone with a history of relationship instability will differ between someone with a personality disorder and someone who is autistic. Anecdotally, Murphy (2013) found for many individuals, their HCR-20 profiles added very little to their offence formulations and case management. Using two other violence risk assessment aids—the Historical Clinical Future [Historisch Klinisch Toekomst, HKT-R] Revised Risk Assessment (similar to the HCR-20) and the Structured Assessment of Protective Factors for violence risk (SAPROF)—Dutch clinicians examining autistic inpatients who displayed physical aggression drew similar conclusions (Bosch et al., 2020). Girardi et al. (2019) found that the HCR-20v3 could help predict risk judgements for physical aggression for individuals with an ASD in medium secure care but not verbal aggression.

Given that at least some risk factors are different in autism, it would be reasonable to make the assumption that conventional risk factors (e.g. co-occurring mental illness, age, separately to be identified and formulated personality traits and socioeconomic status) may play out differently when related with autism (Westphal & Allely, 2019). Some studies support this hypothesis. In their study, Kanne and Mazurek (2011) found that higher parental income increases risk for violence. This finding is inconsistent with the large body of research which has found the opposite in other populations. 'As a result, risk profiles might be very different in ASD, and the task of risk assessment may need to be quite different than the one used for people without ASD. Because risk profiles may be different, it is unclear whether risk assessment tools designed for other populations are effective at predicting violence in ASD' (Westphal & Allely, 2019, p. 3). Because there are currently no validated instruments for assessing risk in autistic individuals (for example, instruments which have been normed on such individuals), clinicians and forensic practitioners have to rely, predominantly, on published research based largely on neurotypicals and then extrapolate based on their knowledge and experience of autism (Sugrue, 2017). This is potentially fraught with difficulties related to biases and the availability heuristic, as it applies to familiar features or characteristics of autism, with speculation around over-representation

of autistic individuals in specific populations, such as cybercrime, terrorism or the secure hospitals (Folkes, 1988; Gabrielcik & Fazio, 1984; Kahneman et al., 1982).

4 | PSYCHOPATHY

Characterised by a collection of personality features and behaviours, including callousness, lack of remorse, and empathy deficits, research consistently finds a significant relationship between the presence of psychopathy, an increased risk of future offending and violence (Hart, 1998). Although some authors such as Fitzgerald (2003) have highlighted superficial similarities between some features of autism and some psychopathic traits (e.g. empathy difficulties), as well as differences in the relative 'naivety' and acknowledgement of offending (Bjørkly, 2009), research does not suggest that autistic individuals are any more likely to score highly in measures of psychopathy such as in the Hare Psychopathy Checklist Revised—PCL-R (Hare, 2003). For example, a HSPC sample of 'high risk' autistic individuals was found to have PCL-R profiles lower than other patient groups, although with elevated facet two scores, that is, affective features including a lack of remorse or guilt, shallow affect, callousness/lack of empathy and a failure to accept responsibility (Murphy, 2007). A similar lack of any association between autistic traits and psychopathy was also found by Loureiro et al. (2018) in a study of 101 Portuguese prisoners from a high-security prison and compared them to a control group (the control group consisted of voluntary male individuals who were matched to cases for age and education). The idea of a 'double hit' of difficulties has been proposed for those where autism and psychopathy were present (Rogers et al., 2006). Clinical experience with autistic individuals and psychopathic traits suggests that they are typically a difficult group to engage. Whilst the relationship is complex, 'extreme' empathy deficits, egocentricity and deliberate inconsistent answers to questions during interviews, in the context of relatively good verbal communication abilities, appear to be characteristic of many of these psychopathic individuals (Murphy, 2018). Whilst an examination of psychopathy is important to include in risk appraisals it is necessary to follow Hare's (2003) recommendation to 'exercise clinical judgement with the interpretation of psychopathic traits among individuals with unusual presentations'. To date, there has been very little examination of clinical cases. The majority of the research to date looking at autism and psychopathy has been with non-clinical populations using self-report measures and has focused on the narrow issue of a lack of empathy. Other gaps in the literature to date include no information on whether there are any differences between men and women with both, as well as influence of age and intellectual functioning. We know certain features of autism may become less problematic with age; however, contradicting evidence also suggests men with psychopathy may become more psychopathic with increasing age. Unfortunately, there is currently no body of literature detailing what happens when there is a co-occurrence of autism and psychopathy in relation to how the features change over the individual's life course. Finally, there is very little research on the influence of general intellectual functioning when mixed with an ASD diagnosis, with high levels of psychopathy, as well as the factors of ASD and psychopathy which could create vulnerability towards extremism.

5 | FARAS: A GUIDE FOR RISK ASSESSORS WORKING WITH OFFENDERS ON THE AUTISTIC SPECTRUM

Given the limitations discussed above regarding the usefulness of standardised risk assessment with autistic individuals, it is therefore essential that characteristics or features that are specific to autism should be considered during risk assessment, more specifically when it comes to extremism (Gunasekaran, 2012). Many of the risk assessment aids for interpersonal violence such as the HCR 20 were never intended to assess extremism, let alone autism. Some examples of specific extremism risk assessment aids include ERG22 + ('Extremist Risk Guidance', Lloyd & Dean, 2015); IVPG ('Guidance for Identifying People Vulnerable to Recruitment into Violent Extremism', Cole et al., 2016; Egan et al., 2016); VERA-2R (Violent Extremist Risk Assessment, Pressman et al., 2018; Sadowski et al., 2017) and its

'sister' instrument called the CYBERA (the Cyber-VERA Risk Assessment Protocol, a cyber -focused risk indicator protocol) which focuses on online behaviour (Pressman & Ivan, 2016) and TRAP-18 ('Terrorist Radicalisation Assessment Protocol', Meloy, 2017), which was developed for lone actors and the MLG ('Multi Level Guidelines', Cook et al., 2013; Cook, 2014), which are focused on group-based violence rather than being extremism-specific.

To our knowledge there is only one available framework or assessment which supports the clinician in exploring different facets of ASD that may provide the push and pull factors engaging in terroristic behaviour/interests. This framework is the FARAS or the Framework for the Assessment of Risk and Protection in Offenders on the Autistic Spectrum (Al-Attar, 2019a, 2019b). The FARAS is not a risk assessment tool. It should only be used as a supplementary aid to conventional risk assessment methodologies. The objective of supplementing standard risk assessment methodology is to address a gap or limitations in current risk assessment such as the ones highlighted above. Any future research requires, in our observations, the use of a standardised approach to the clinical diagnostic process. The diagnostic standards and guidelines are available in the recently published International Classification of Diseases, version 11 (ICD-11 publisher: WHO, Jan 2022). The WHO concurrently developed its semi-structured diagnostic interview, the Schedules for Clinical Assessments in Neuropsychiatry, version 3 (SCAN3, WHO, paper version 2024, digital version projected publication date in 2025). SCAN 3 is the fully re-developed 'gold standard' tool for the purpose of all mental health, behavioural and neurodevelopmental disorders developed by an international WHO ICD-11 Executive Development Work Group between 2011 and 2023. It is the only diagnostic tool whose computerised algorithm permits diagnoses in both ICD (version 9-11), and the American Psychiatric Association's (APA) Diagnostic and Statistical Manual of Mental Disorders (APA, 18 May 2013, ISBN 978-0-89042-554-1) and its three most recent editions. Once the clinical diagnosis is confirmed, especially in risk appraisal focussed clinical academic research, The FARAS, unlike current standardised risk assessment tools, captures the specific difficulties associated with autism and associated risk conduct. The concomitant increase in vulnerability to offend and/or re-offend or engage in other significant risk behaviours have previously been described by Murphy (Murphy, 2013, p. 39). For instance, it takes into consideration the fact that difficulties with egocentricity, social naivety, emotional regulation, pursuing a problem preoccupation, different dimensions of cognition (for instance, with rigidity in problem solving and an impaired ability to think through consequences of actions or generalise learning) and sensory processing (often hypersensitivity towards a particular stimulus) have a substantial impact on an individual's decision-making and also their behaviour. In sum, the FARAS provides an overview of key considerations that risk assessors can take into account when carrying out a risk assessment with an autistic offender. It is also not intended to provide in-depth knowledge of autism or its contextual links to offending (how certain features of ASD may provide the context of vulnerability to engaging in a range of offending behaviours). Al-Attar (2018b) has stated that 'in order to elicit relevant, accurate, and thorough information on terrorist offence details, motives, and trajectories that led to terrorism, forensic interviewers working with offenders with autism need to consider several facets of autism and their implications for the interview process as well as for the pathway to terrorist offending that is being delineated by the interview' (p. 336). Al-Attar also recommends that interviewers may need to identify which behaviours had specific operational objectives and which are fixated ASD interests due to cognitive rigidity and impaired attention-switching (Al-Attar, 2018b).

The FARAS addresses the issues of limitations with current standardised risk assessments for use with autistic individuals. It also, unlike the majority of risk assessment tools, focuses on the possible function of risk vulnerability factors linked to an individual's autism. For instance, why the individual engages in them and what needs they meet for that individual. The FARAS guidelines address how to delineate the autistic functions of behaviour. Therefore, even allowing for a degree of confirmation bias present in tools developed with highly selected or unusual populations, when used in conjunction with standardised risk assessments, it provides more depth and specificity. The FARAS would also be able to inform rehabilitation pathways for ASD individuals. By identifying possible risk vulnerability factors linked to an individual's autism, the FARAS might also inform appropriate risk management pathways. In the FARAS, Al-Attar organises the guidelines along seven sections each addressing a facet of autism (these are outlined and described in the next section).

These seven facets of autism do not map onto separate individual diagnostic criteria but instead are each considered to be of potential relevance to risk assessments. However, they do reflect diagnostic aspects of ASD and are

either directly or indirectly tied to diagnostic criteria. Necessarily there are overlaps between sections, for example, rigid cognitive style (Section 6), obsessionality (Section 4), and need for order, rules, routines and predictability (Section 3). This reflects the fact that the condition itself is made up of a number of dimensions but also that a specific characteristic can manifest in very different ways in different contexts. As such, the FARAS only mirrors the construct of ASD. The FARAS also includes other considerations, including 'Diversity of Autistic Spectrum and Gender' as well as 'Co-Morbidity and Complexity'. References and links to useful information on autism and criminal justice practice guidelines are included at the end of the FARAS manual. Within each of the seven sections, the facet of autism is explained and its implications for risk and protective factors and the interview process are highlighted before summarising the information in the form of 'tips'. Al-Attar highlights that not all facets impact all individuals. Therefore, the FARAS sections can be used as standalone guides and do not need to be considered in any sequence. It is a brief aid for practitioners which provides them with summary information, tips, questions to ask and illustrative examples.

6 | ASD AND EXTREMISM BEHAVIOURS: HOW DIFFERENT FEATURES OF ASD CAN CONTEXTUALISE VULNERABILITY AND RESILIENCE

As emphasised earlier, there is no evidence supporting the existence of an association between ASD and terrorism in the general population (Al-Attar, 2020; Faccini & Allely, 2017). Dr Zainab Al-Attar (2020) proposed seven facets of ASD that 'may have different functional links with push and pull factors to terrorism' (p. 928), which include Facet 1: Circumscribed interests; Facet 2: Rich vivid fantasy and impaired social imagination; Facet 3: Need for order, rules, rituals, routine and predictability; Facet 4: Obsessionality, repetition and collecting; Facet 5: Social interaction and communication difficulties; Facet 6: Cognitive styles and Facet 7: Sensory processing.

With regards to Facet 1: Circumscribed interests, one of the core features of ASD is a narrow and intense interest towards something or someone that may become preoccupying. The interest is commonly researched by the individual in excessive detail. The development of restricted interests in high-profile crime, including terrorism, terrorist groups or mass killings, given their saliency, may develop in some people (Al-Attar, 2018b, 2019a, 2019b, 2020). The individual, when researching their all-consuming and obsessional interest, may become completely immersed and absorbed in their details and the immediate rewards, becoming less focused on the consequences of their actions or the links in the cause-and-effect of their behaviour (Al-Attar, 2019a, 2019b). There was a case of a young autistic man, charged with terror-related offences, who held numerous grudges and held vengeful feelings that he carried on with him. He was bullied at school, felt rejected, cast out and felt extreme jealousy towards others. He turned to the online world for comfort and was sent a link about the Columbine shooting. He fell into a spiral of what he would call 'radical days' where he spent hours online, researching lone-actor previous attacks and participating in forums. He considers the murder of George Floyd to be the climax of his radicalism.

Turning to Facet 2, Rich vivid fantasy and impaired social imagination, restricted interests and pre-occupations may be exhibited through vivid fantasies (the vivid fantasy tends to be visual) (Al-Attar, 2020). The rich and vivid fantasy life which some autistic individuals experience tends to be based on visual imagery they have seen rather than on their social imagination or abstract ideas (Al-Attar, 2019a, 2019b). In the fantasies, there may be certain themes which provide 'certain functions' (e.g. revenge or violent fantasies which alleviate feelings of anger) or 'general functions' (e.g. being intellectually stimulating or exciting) for the individual (Al-Attar, 2020).

Facet 3 focuses on the need for order, rules, rituals, routine and predictability. Autistic individuals can experience the social world as chaotic and unpredictable (Al-Attar, 2020) which can be experienced as intolerable. In order to try and make sense of the socially and morally chaotic world, they may read and carry out extensive research and may come across, frequently unintentionally, extremist 'explanations' and 'solutions'. Extremist ideologies and terrorist groups usually claim to provide the individual with concrete and literal explanations and solutions for moral chaos and social injustice (Al-Attar, 2018b). Extremist groups often brand themselves as organised, systematic and orderly. Some autistic individuals find the world easier to understand when it is explained to them in categories, facts and

systems which is why the way extremist ideologies and terrorist group ideologies are fashioned may be appealing to some autistic individuals (Al-Attar, 2019a, 2019b).

With respect to Facet 4, obsessionality, repetition and collecting, it is common for autistic individuals to pursue their interest or pre-occupation in a repetitive manner (and pedantically) and it becomes all-encompassing as they engage in their pre-occupation at the expense of other things such as social relationships (Klin et al., 2007). With regards to terroristic (or extremist) behaviour, the individual may engage in the accumulation of substantial amounts of information or data associated with terrorism/extremist groups, watch propaganda videos repeatedly or make terrorist-related items. In many cases of individuals with ASD, it is important to identify whether this type of behaviour is 'being driven or at least accentuated by obsessionality, repetition, pedantry for detail and compulsive collecting/pursuit' (Al-Attar, 2020, p. 937) rather than being an intense commitment to terrorism.

Facet 5 focuses on social interaction and communication difficulties. Autistic individuals find navigating the social world challenging, stressful, anxiety-provoking and exhausting (Al-Attar, 2020), which can lead them to withdraw from the complex and unpredictable social world resulting in social isolation. On the other hand, the online environment provides them a predictable and safe environment. Like-minded individuals can also communicate and share their interests and opinions on the online environment. For some individuals with ASD, this may be the first time they have ever experienced a sense of connection or belonging to another person or group (Al-Attar, 2020). Some autistic individuals charged or convicted of terror-related offences have described themselves as being like a 'grasshopper' going from one extremist group to another trying to fit in and find out where they belonged in the extremist world. Al-Attar (2019a, 2019b) has pointed out that if the autistic individual accesses extremist websites, they may read what is on these extremist websites and take them literally and at face value (Al-Attar, 2019a, 2019b, p. 12).

Facet 6 focuses on cognitive styles. There are four features of neurocognitive functioning which Al-Attar has drawn attention to which may contribute to the push and pull factors (Al-Attar, 2020). 'Push' factors may include distress, insecurity, and anxiety which are caused by perceived threats and injustice. 'Pull' factors include 'the appeal of extremist causes and groups in addressing such negative feelings and restoring order, safety, and justice' (Al-Attar, 2018b, p. 326). The four neurocognitive functioning features which Al-Attar outlines as being potential contributors to the push and pull factors include (1) Theory-of-Mind, which is the ability to understand how others think/feel when this differs from our own perspective, is often severely impaired in autistic individuals (Al-Attar, 2020); (2) Central Coherence—autistic individuals often 'overfocus' on fine detail or strong 'local coherence' coupled with a tendency not to see the bigger picture or weak 'central coherence' (Happé & Frith, 2006), which may lead the individual to conduct extensive research on single ideas or devices which has no operational objective with no appreciation of any legal implications (Al-Attar, 2018b); (3) Systemising: a strong tendency towards systemising is commonly found in autistic individuals and it is common for individuals high in systemising to process and organise everything around as systems, facts and categories (even social interactions/relationships) which significantly elevate their 'need for a logical world whereby people and events can be ordered into systems, categories, hierarchies, theories and facts' (Al-Attar, 2020, p. 942) and lastly, (4) Attention-Switching: Autistic individuals can have an impaired attention switching ability. This results in impaired mental flexibility and ability to switch attention between different topics/ideas (Al-Attar, 2020). It is important to identify behaviours which have an operational objective versus behaviours which are fixated ASD interests as a result of cognitive rigidity and an impaired ability to exhibit attention-switching (Al-Attar, 2018b).

Lastly, Facet 7, Sensory processing (Al-Attar, 2020). For some autistic individuals, there may exist a strong sensory appeal to terrorist propaganda and materials (e.g. colours, lights, smells, noises of chemicals and explosives). Terrorist imagery, magazines, diagrams, flags, murals, uniforms, weapons and other paraphernalia can, in some individuals with ASD, have a significant visual sensory appeal (detail and colour) (Al-Attar, 2020). Hypersensitivity may also lead an individual to take to the internet and extremist websites to get away from the sensory overloading and socially and morally chaotic physical world (Al-Attar, 2018b). Relating to Facet 7 (sensory processing) and Facet 1 (Circumscribed interests), one autistic young man had restrictive and obsessive interests around extremist groups and ideologies. He had a particular interest in the boogaloo movement (whose adherents are often referred to as boogaloo boys or

boogaloo bois) a loosely organised far-right anti-government extremist movement in the United States. He said that they appealed to him because of their Hawaiian shirts and guns. He found the Hawaiian shirt visually stimulating. He also was drawn to guns because he had an intense restrictive interest in guns since he was a young child.

7 | RECOMMENDATIONS TO GUIDE FORENSIC INTERVIEWERS WORKING WITH EXTREMISM SUSPECTS AND OFFENDERS WHO HAVE ASD

It is important to acknowledge that terrorism interviews are challenging for all interviewees for a number of reasons (e.g. because of their long duration). However, autistic individuals (particularly individuals with high functioning ASD) may be particularly disadvantaged. It is important that, when the terrorism interview or assessment is being carried out with an autistic individual, the key potential implications of each of the seven facets of ASD for the terrorism interview outlined by Al-Attar (2018b) are taken into consideration. Al-Attar (2018b) has developed, based on extensive professional clinical expertise and research, 20 recommendations to guide forensic interviewers working with terrorism suspects and offenders who have ASD. We outline four examples from the 20 recommendations below. (1) 'Consider the autistic context for the appeal that terrorist ideologies and groups may have for the individual (e.g., claims of bringing about order, predictability, and routines, organising the world into a systemising scheme of events). Do not limit the interview questions to the political or moral objectives of the ideologies/groups that the offender supports' (Al-Attar, 2018b, p. 335). (2) 'Focus more on the short-term rewards and drivers (including sensory, cognitive, and social reward) of terrorism, and less on long-term abstract political objectives. However, avoid questions about "experiences" and avenues of exploration which require the interviewee to relive experiences. Instead address each behaviour, event, or item and its appeal to the interviewee' (Al-Attar, 2018b, p. 335). (3) 'Consider the adaptations required to respond to the interviewee's social communication style and explore the role social communication impairments may have played at each stage of the pathway to offending. Where deception is suspected, use a range of disclosures from across the interview(s) rather than relying on one specific disclosure. Where the impact of communications during the interview is "terror" or shock, check if this is intended by the interviewee or if it is an unintended effect of their autistic social communication style' (Al-Attar, 2018b, p. 335). This 'matter of fact' communication style is important to consider. There is no overt intention to shock, just a rather blunt description of what the intention was or what happened, with no appreciation of how this might be viewed by a listener. (4) 'Consider political statements and narratives in the context of rote learning and explore if they are primary drivers for offending or social mimicry that is secondary to other functions of the offence (such as a desire for friendships or an identity)' (Al-Attar, 2018b, p. 335). This paper and the 20 recommendations outlined by Al-Attar (2018b) are critical reading for anyone working in this field. We also recommend the recommendations and resources outlined in a recently published paper by Soares et al. (2022).

8 | CONCLUSION

Al-Attar (2020) proposed seven facets of ASD that 'may have different functional links with push and pull factors to terrorism'. (p. 928). Supporting the approach taken by many clinicians, Al-Attar advocates that professionals adopt a case-by-case approach and identify the specific individual's unique profile (of both strengths and weaknesses) (Al-Attar, 2020). Rather than relying only on conventional risk assessment aids such as the HCR20v3 and VERA, there is a need for risk assessments to be sensitive to the specific features and characteristics associated with autism (Girardi et al., 2019; Murphy, 2010a, 2010b, 2013; Murphy, 2022; Shine & Cooper-Evans, 2016; Westphal & Allely, 2019). Rather than replacing well established risk assessment aids such as the HCR20v3 and VERA, the FARAS is a helpful supplement to ensure that risk assessments are autism-informed.

We would recommend further evaluation of the FARAS across a range of forensic settings, including community and secure environments, as well as with different offender groups and whether, when used to supplement risk

assessment tools, it improves the decision-making process. As emphasised previously, the FARAS offers a set of guidelines rather than a formal tool. FARAS could be used to develop a structured risk assessment tool. A crucial aspect of completing risk assessments with autistic individuals is familiarity with autism and its associated features and difficulties, as well as the risk assessment tool being used. In general, all risk assessments, formulations and subsequent management should also be collaborative with the individual, include input from relevant/appropriate individuals including family and friends, be multi-disciplinary and involve a multi-agency response. With regard to autism characteristics and co-occurring conditions, much remains to be established in identifying the predictors of positive therapeutic forensic outcomes, as well as the potential role of other demographic features such as socio-economic factors, education, culture and ethnicity, as well as an individual's age. It is also possible that additional issues relevant to risk are present for female autistic offenders, especially where diagnostic practice (or criteria) may be biased towards males. In addition, any risk assessment needs to be considered within the social context of an individual, their access to and use of media sources (mainstream, social and the dark web) as well as their access to and any expertise with technology. Future of risk assessments with autistic individuals, particularly within secure settings (where it is often difficult to replicate real life settings), and where there is a need to familiarise individuals with new environments or 'triggers'/conditions for risk, is likely to include new technologies such as computer simulation (Wilk et al., 2009) and virtual reality (Benbouriche et al., 2014). In combination with using an autism framework for assessing risky situations and high degree of risky 'trigger' manipulation, the development and availability of such tools will provide a personalised way of assessing and evaluating individual risk in a safe way.

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Clare S. Allely drafted the article. Emma Jouenne, David Murphy, Alexander Westphal and Ekkehart Staufenberg were involved in revising the manuscript critically for important intellectual content and for adding important elements based on their expertise.

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