



Centre for Research and Evidence on Security Threats



Neurodivergence and Violent Extremism: Case Studies

FULL REPORT

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FULL REPORT

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ABOUT CREST

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EXECUTIVE SUMMARY

Although there is no direct link between autism and violent extremism in the general population, some autistic individuals become radicalised and engage in extremist activities. Within these individuals, specific symptoms and features of autism may contextualise vulnerability as well as resilience, disengagement, and risk management in ways that differ from neurotypical populations.

Existing research suffers from the limited availability of data and cases. Through analysing a novel dataset of international cases of individuals with autism and extremism concerns, this research expands the existing evidence base. This study aimed to:

1. Examine specific autistic symptoms, facets, or behaviours that may contextualise extremism vulnerability, risk, or resilience within at-risk populations.
2. Examine the suitability of the Framework for the Assessment of Risk & Protection in Offenders on the Autistic Spectrum (FARAS) when applied to this population.
3. Consider any implications for approaches and strategies for mitigating extremism risk and enhancing protection amongst individuals with autism with extremism concerns.

This research adopted a case study analysis approach, analysing a novel dataset of 18 closed-source international cases of individuals with autism and extremism concerns, provided by practitioners with direct knowledge of them. We used the FARAS to provide a conceptual framework for the analysis.

The findings indicate that in combination with wider environmental factors, the facets of autism outlined in the FARAS may contextualise the pull and push factors towards violent extremism amongst those

who are vulnerable to extremist engagement. These factors are:

1. Circumscribed Interests
2. Visual Fantasy & Impaired Social Imagination
3. Need for Order, Rules, Routines & Predictability
4. Obsessionality, Repetition & Collecting
5. Social Interaction & Communication Difficulties
6. Cognitive Styles (Difficulties & Strengths)
7. Sensory Hyper- & Hypo-Sensitivity

Overall, the findings suggest that the FARAS provides an appropriate conceptual framework to analyse the functional links, behaviours, and motivations that may be present amongst autistic individuals in extremism contexts. In particular, the findings highlight how individuals' experiences of different facets of autism, within their wider circumstances, can contextualise pull or push factors towards extremist engagement. These findings provide specific contextual considerations for risk assessment and disengagement, as well as evidence-based practice and guidance for practitioners working with autistic individuals with extremism concerns. Through better understanding how these factors present amongst autistic individuals in these contexts, practitioners may better be able to understand vulnerability and risk in this population, which may subsequently present considerations for tailoring support to these individuals' needs.

OVERVIEW

BACKGROUND

Although there is no direct link between autism and violent extremism in the general population, some autistic individuals become radicalised and engage in extremist activities. Within these individuals, specific symptoms and features of autism may contextualise vulnerability as well as resilience, disengagement, and risk management in ways that differ from neurotypical populations. Understanding these factors may help to inform risk assessment and management, thereby facilitating more positive outcomes for at-risk individuals.

However, the evidence base is currently limited. Existing research examining autism in extremism contexts suffers from the limited availability of data and cases, where a small number of cases are reused. Existing research also primarily focuses on the presence or prevalence of autism and its symptoms, rather than their relevance. There is therefore a need to examine new cases and understand the relevance of the individuals' traits and symptoms in the context of their vulnerability, risk, and disengagement.

OBJECTIVES

Through analysing a novel dataset of international cases of individuals with autism and extremism concerns, this research expands the existing evidence base. This study aimed to:

1. Examine specific autistic symptoms, facets, or behaviours that may contextualise extremism vulnerability, risk, or resilience within at-risk populations.
2. Examine the suitability of the Framework for the Assessment of Risk & Protection in Offenders on the Autistic Spectrum (FARAS) when applied to this population.
3. Consider any implications for approaches and strategies for mitigating extremism risk and enhancing protection amongst individuals with autism with extremism concerns.

METHOD

This research adopted a case study analysis approach, analysing a novel dataset of 18 closed-source international cases of individuals with extremism concerns who were diagnosed with, or undergoing diagnosis for, autism. These cases were sourced from closed-source data held by public authorities, including law enforcement, corrective services, forensic mental health services, and fixated threat assessment centres, in the UK and Australia.

Case formulation summaries were provided by practitioners (forensic psychologists, forensic psychiatrists, and autism specialist extremism intervention practitioners) with direct knowledge of the cases. The FARAS was used to structure the case summaries and to provide a conceptual framework for the analysis. This framework includes seven broad facets of autism that may contextualise risk and offending.

The cases were synthesised and aggregated using the FARAS to identify common patterns (as well as any differences) across the cases.

KEY FINDINGS

FACET 1. CIRCUMSCRIBED INTERESTS

The cases analysed showed evidence of specific intense interests that became associated with violent extremism. Such interests served psychological functions for the individuals, providing comfort and a

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sense of purpose, and often started innocuously (e.g., interests in politics and history), but subsequently took a harmful turn. Online platforms and socio-political events played a role in amplifying these interests. Some individuals' interests (e.g., those related to computers, technology, and weapons) led to the development of technical skills that could be used for illicit purposes (e.g., hacking, bomb-making). Several cases were detected by law enforcement through behaviours related to these interests, such as sharing extreme content or expressing extreme views in school or work settings.

FACET 2. VISUAL FANTASY & IMPAIRED SOCIAL IMAGINATION

The cases analysed experienced intense and vivid fantasies that provided a form of escape, comfort, and pleasure, as well as a sense of power or mastery. The most common fantasies involved violent acts, usually inspired by online content. Some individuals also had fantasies related to their political views or a desire for a different world. These fantasies provided a way for the individuals to cope with feelings of anger, distress, and injustice. In some cases, as the individuals became desensitised to violence, violent fantasies became more extreme and led to an escalation in risky behaviour. These fantasies sometimes became all-consuming, leading individuals to detach from reality, especially during challenging times or periods of isolation.

FACET 3. NEED FOR ORDER, RULES, ROUTINES & PREDICTABILITY

Individuals with autism often have a strong need for order, routines, and predictability. In the cases analysed, the individuals saw the world as chaotic and unpredictable, and relied on daily routines and a sense of order for comfort and stability. Disruptions to this order and routines, and perceived rule violations, heightened feelings of threat, injustice, and vulnerability. For these individuals, online spaces, special interests, and fantasies served as a sanctuary away from the chaos of the outside world and provided a sense of control and purpose. Ideologies that offered

clear, black-and-white narratives provided a sense of predictability, rules, and punishment for perceived injustices, increasing their appeal. Conversely, some individuals found comfort in following laws and rules, viewing law enforcement as a source of safety and justice.

FACET 4. OBSESSIONALITY, REPETITION & COLLECTING

The individuals studied developed intense fixations on their interests or perceived injustices. This involved collecting interest-related materials, repetitively engaging with extreme content, and obsessively ruminating on grievances, particularly during times of stress. Individuals meticulously studied and researched their interests, sometimes leading to tunnel vision that reduced inhibitions towards accessing extreme content. Collections included graphic or extreme content; its possession and distribution provided a sense of status and social affirmation. This collecting behaviour, especially of illicit content, often led to detection by law enforcement. Fixated grievances related to personal or wider injustices sometimes became all-consuming, contributing to the intensity of extremist engagement and violent fantasies.

FACET 5. SOCIAL INTERACTION & COMMUNICATION DIFFICULTIES

The individuals in the sample experienced challenges in social interaction and communication, which led to social rejection and isolation. These difficulties contributed to feelings of being different, resulting in low self-esteem and grievances. Some found it challenging to navigate social demands in the workplace or school, leading to job loss or exclusion from education, reducing prosocial opportunities. Additionally, some engaged in provocative behaviour, either for social reinforcement or to cope with anxiety-provoking situations. Individuals found solace and a sense of belonging in online spaces, where they could communicate with like-minded individuals who reinforced their risky interests and extreme views.

FACET 6. COGNITIVE STYLES (DIFFICULTIES & STRENGTHS)

The cases often displayed an intense focus on details at the expense of considering the broader context, as well as difficulties in shifting their attention between topics or people. Some individuals experienced executive function impairments, affecting their organisational skills, task management, and impulse control. While these cognitive styles can confer strengths in some domains, the individuals in the sample experienced academic difficulties and challenges in social settings, contributing towards isolation and grievances. The intense focus on details was also linked to a fixated immersion in risky interests, and a lack of consideration of the potential consequences of their actions. Challenges in understanding others' perspectives, behaviours, and intentions were linked to difficulties in forming relationships and comprehending the impact of their actions on others. Some individuals may also have been vulnerable due to their difficulty in recognising ulterior motives in online interactions.

FACET 7. SENSORY HYPER- & HYPO- SENSITIVITY

Individuals with autism often experience sensory difficulties, which can manifest as hypersensitivity (over-sensitivity) or hyposensitivity (under-sensitivity) to sensory stimuli such as sound, light, smells, touch, and taste. Some of the cases reported sensitivities to noise, touch, light, and temperature, which contributed to feelings of distress, especially in environments like school or workplaces. Hyposensitivity was also observed in some cases, associated with an attraction to intense sensory stimuli such as explosions, fire, and violent imagery. Some individuals found pleasure in loud noises associated with explosions, while others were attracted to propaganda imagery, finding it visually stimulating. This sensory attraction may have made risky interests and behaviours more appealing. In some cases, desensitisation to these stimuli led to an escalation in seeking out more extreme content. This was accentuated in cases with comorbid ADHD.

CONCLUSIONS AND RECOMMENDATIONS

Overall, the findings suggest that the FARAS provides an appropriate conceptual framework to analyse the functional links, behaviours, and motivations that may be present amongst autistic individuals in extremism contexts. In particular, the findings highlight how individuals' experiences of different facets of autism, within their wider circumstances, can contextualise pull or push factors towards extremist engagement. These findings provide specific contextual considerations for risk assessment and disengagement, as well as evidence-based practice and guidance for practitioners working with autistic individuals with extremism concerns. Through better understanding how these factors present amongst autistic individuals in these contexts, practitioners may better be able to understand vulnerability and risk in this population, which may subsequently present considerations for tailoring support to these individuals' needs.

INTRODUCTION

Existing research does not indicate that there is a direct causal link between autism and engagement in criminality or violent extremism in the general population (Druitt et al., 2023; King & Murphy, 2014). Furthermore, the impact of autism and other forms of neurodivergence can differ depending on the individual, their symptoms, and their characteristics, which can include strengths and skills as well as difficulties. Autism is a type of neurodivergence characterised by cognitive and behavioural patterns broadly defined through two key diagnostic criteria: social communication and interaction challenges; and restricted, repetitive behavioural patterns (World Health Organisation, 2019a). However, alongside these core diagnostic criteria, individuals with autism may present a range of different characteristics, facets, or symptoms, such as sensory under- or over-sensitivity, vivid fantasy and ideation, and differences in executive function and cognition (Al-Attar, 2019b; National Autistic Society, 2023).

While the vast majority of individuals with autism are law-abiding, a proportion of individuals within the criminal justice system are also neurodivergent (HM Inspectorate of Prisons et al., 2021; King & Murphy, 2014). Specifically, there is evidence that a small proportion of convicted extremists in the UK have a diagnosis of autism (Kenyon et al., 2023). Within these individuals, specific characteristics of autism may contextualise vulnerability to criminal and extremist engagement (Al-Attar, 2020). Throughout this research, we conceptualise the role of autism and other forms of neurodivergence as ‘contextual’ to emphasise how neurodivergent features may affect individuals’ experiences, functioning, and behaviour in ways that may, in some individuals, become a context for their vulnerability and risk factors – rather than directly causing this vulnerability or risk (Al-Attar, 2020). Conversely, these traits can also contextualise resilience and disengagement in ways that differ from

neurotypical populations. It is therefore important for practitioners involved in preventing and countering violent extremism (PCVE) to understand how to contextualise vulnerability, risk, and resilience among autistic populations, as well as how best to support them to mitigate risk and encourage disengagement.

Currently, there is limited information and guidance to help practitioners, particularly those with non-clinical backgrounds, to differentiate, contextualise, and manage the vulnerabilities of autistic individuals with which they interact. This is not limited to the PCVE context; a recent report examining neurodiversity (including autism) in the criminal justice system in England and Wales highlights key gaps and recommendations (HM Inspectorate of Prisons et al., 2021). These recommendations highlight a need to better understand and screen individuals in criminal justice contexts, raise staff awareness through training, implement adjustments to make environments and communications ‘neurodiversity-friendly’, and co-ordinate multi-agency approaches to better understand neurodivergent needs, prevent offending, and improve outcomes for those who do come into contact with the criminal justice system (HM Inspectorate of Prisons et al., 2021). Thus, in line with these recommendations, it is important to provide evidence-based guidance for practitioners to better understand vulnerability, risk, and resilience amongst autistic individuals in PCVE contexts. Through doing so, practitioners can improve outcomes for autistic individuals in these contexts.

Existing relevant guidance for practitioners in PCVE includes recommendations for interviewing terrorism suspects and offenders with autism (Al-Attar, 2018b), brief guidance on potentially relevant features and interventions for individuals with autism in extremism and radicalisation contexts (Al-Attar, 2019a, 2020), and ethical guidance for mental health professionals in PCVE (Al-Attar et al., 2018; Lloyd, 2021). Outside

of the PCVE context, more detailed guidelines exist for practitioners working with offenders with autism, namely the Framework for the Assessment of Risk & Protection in Offenders on the Autistic Spectrum (FARAS; Al-Attar, 2018a, 2019b). This guidance was developed and evaluated through consultations and focus groups with forensic practitioners, and although not specific to the violent extremism context, it has been applied to extremism contexts (Al-Attar, 2018b, 2020). Alongside existing risk assessment processes, the FARAS provides information to help practitioners understand how specific characteristics of autism can contextualise risk (i.e., the likelihood of the outcome under consideration; Monahan, 2012) and resilience (i.e., a reduced vulnerability to risk; Lösel et al., 2018). These characteristics or ‘facets’ of autism include circumscribed interests; visual fantasy and impaired social imagination; a need for order, rules, routines, and predictability; obsessionality, repetition, and collecting; social interaction and communication difficulties; cognitive styles; and sensory hyper- and hypo-sensitivity (Al-Attar, 2019b). These facets can contextualise both ‘push’ and ‘pull’ factors to extremism – by contributing to or exacerbating the biopsychosocial factors that may push individuals towards extremism and terrorist groups, as well as the features that may draw individuals into extremism. These guidelines are an important step in raising practitioner awareness of autism and helping to guide practice based on the best available evidence. However, this evidence-base is limited, with little published research examining data relating to autism in PCVE contexts (Salman & Al-Attar, 2023). There also has been little (publicly accessible) evaluation of existing frameworks and guidance to determine their relevance or usefulness when applied to cases.

Much of the existing empirical research examining violent extremism risk factors characterises mental health as a homogenous factor, encompassing both mental ill health and neurodivergence (Corner & Gill, 2014). The majority of the existing research focuses on prevalence (e.g., Corner et al., 2016; Weenink, 2015), while few studies have focused on the relevance and

functional role of mental health and neurodivergence in the context of violent extremism (Gill et al., 2021). Two reviews of the existing literature examining neurodivergence in the context of violent extremism and mass murder (Salman & Al-Attar, 2023; Worthington et al., 2021) found that publications primarily collate knowledge from field experience and individual case studies. For example, Al-Attar (2020) describes how specific facets of autism can both have a role in push and pull factors to extremism, as well as implications for resilience and diversion, based on the FARAS. Similarly, Faccini and Allely (2017) use nine case studies to describe and differentiate the functional connections between autistic traits, terrorism, and ‘empty terroristic threats’.

Across the existing literature, a number of links are drawn between certain characteristics and traits of autism (and to some extent, other types of neurodivergence), and vulnerability in PCVE contexts, broadly in line with the facets described in the FARAS (Al-Attar, 2019b). Importantly, these characteristics are not directly linked to extremism risk in isolation, rather, they form some of the many individual, environmental, and societal factors and complex needs that can contextualise an individual’s engagement. However, although the existing literature identifies some recurring themes and factors, it is severely limited by a lack of empirical data, the reuse of a limited number of case studies, and superficial descriptions of the presence of symptoms and characteristics, rather than their relevance. Furthermore, the existing published data offers little information on factors that can be protective against violent extremism engagement or that can facilitate disengagement (Lösel et al., 2020).

Given the limitations and scarcity of existing publicly accessible research, this study aims to address these gaps by conducting an empirical analysis of novel data, specifically through analysing case studies of individuals with autism in PCVE contexts. Case studies can be a rich source of data, providing details that are not available from large, coded datasets that

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are typically used to examine prevalence through categorical data (i.e., the presence of a diagnosis). Using case studies can give more insights into functional links, motivations, and individual circumstances that can describe or explain behaviours (Allely, 2020). It can be challenging to access extremist populations for research purposes (Schuurman, 2020), and this is an even greater challenge for extremist populations with autism diagnoses. Among these populations, there may also be additional vulnerabilities or ethical concerns that make it inappropriate for researchers to approach and interview these individuals directly. Thus, existing research often relies on publicly accessible case information (e.g., Allely & Faccini, 2017), limiting the number of cases available, as well as the depth of direct knowledge and information available. There is therefore a need for a greater number of in-depth cases from a wider range of sources, particularly cases that draw from direct case knowledge and clinical insights. Information from existing cases held by law enforcement and forensic mental health services can provide a rich source of data, including accounts from the individuals' experiences, forensic formulations, offending behaviour, and outcomes. This may provide a more representative data source than secondary open sources (e.g., news reporting) commonly used in case study research.

Thus, by analysing cases of autistic individuals with extremism concerns, provided by practitioners with direct knowledge of them, this research aims to examine the symptoms, facets, or behaviours that may relate to extremism vulnerability, risk, or resilience. This research uses the FARAS to provide a conceptual framework to shape this analysis, thereby also examining the suitability of this framework when applied to this population, which may subsequently have implications for training and resources provided to practitioners working with autistic individuals who are vulnerable to extremism. Finally, this research will also consider any implications for approaches and strategies for mitigating extremism risk and enhancing protection amongst individuals with autism with extremism concerns.

METHOD

TRANSPARENCY STATEMENT

The materials used for this study (data coder information sheet and data coding template) are available via <https://osf.io/s8mdx/>. A summary of the data is available upon request via the UK Data Service. This study has been pre-registered via OSF: <https://osf.io/czdfa>.

SAMPLE

This study adopted a purposive sampling strategy to gather data from international cases of individuals with extremism concerns who had been diagnosed with (or were awaiting assessment for) autism. While the precise cases were determined by the availability from data providers, this study adopted a diverse case selection strategy by requesting cases relating to different extremist ideologies, age groups, and severity of risk to gain a more generalisable and representative dataset.

An initial target of up to 10 cases was pre-determined, however, 18 were received. Given the availability of this data, all cases were used for this analysis. All 18 cases were male, and 15 had confirmed diagnoses of autism, while three were undiagnosed but were awaiting autism assessments. Those who were not yet diagnosed were deemed to exhibit autistic traits by practitioners with expertise in autism, and had been referred for a diagnostic assessment. The ages of the individuals in the cases are summarised in *Table 1*.

Age Range	Frequency
11-18	12
19-29	4
30-39	1
40-49	1
Total	18

Table 1. Age ranges of individuals referred to in case studies.

DATA COLLECTION METHODS

The data were derived from closed-source data held by public authorities, including law enforcement, corrective services, forensic mental health services, and fixated threat assessment centres, in the UK and Australia. This included case files, diagnostic reports, risk assessment formulations, and other files and practitioner knowledge generated for law enforcement and risk assessment purposes.

This data was coded and summarised by practitioners within the relevant authorities who had direct knowledge of the cases (i.e., forensic psychologists, forensic psychiatrists, and autism specialist extremism intervention practitioners). The data was provided using a qualitative free-text entry data coding template in line with the FARAS (described below). This method for data collection was chosen as the researchers did not have direct access to full case files held by public authorities, to ensure the anonymity and ethical treatment of the data held by these authorities, and to gain knowledge and insights from the practitioners who had worked directly with the cases. In line with data minimisation principles, only the information relevant to the data questions was

obtained through the use of the template. This also enabled for the removal of identifying markers at the source, to protect the anonymity of the subjects. Upon receiving coded data, the researchers ensured that it was presented adequately in summary form.

DESIGN AND MATERIALS

Data coders within the relevant authorities were provided with a data collection template to structure the data provided. The template comprised three sections: a case summary table, a case summary paragraph, and a FARAS formulation. The case summary table included drop-down lists of categorical variables and free-text entry sections to obtain basic demographic data relating to the cases (age range, gender identity, diagnoses, case status/outcome, offences, criminal history, group affiliation, extremist motivation, targets, and any other relevant information). Data coders were then asked to summarise the overall case in approximately one paragraph. Finally, coders were asked to provide a formulation of the case using the FARAS (Al-Attar, 2018a, 2019b). As aforementioned, this framework groups autism symptoms into seven broad facets that may contextualise risk and offending. The formulation was structured according to these facets, where practitioners were instructed to provide between one paragraph and a page of narrative text for each facet. Coders received training in the FARAS from ZA (who authored the FARAS) prior to coding the data. The case summaries received ranged between 11 to 22 pages in length.

ANALYSIS

Using the provided data coding template ensured that the data was received in analysable form in line with the FARAS' seven facets, thus providing a theoretical grounding for the subsequent analysis and interpretation. During the analysis, cases were coded individually using Atlas.ti to collate the FARAS themes and subthemes, as well as additional emergent themes. These cases were subsequently synthesised

and aggregated, informed through cross-case synthesis approaches described by Yin (2017). Through synthesising multiple cases in this way, this study enables the analysis of a more diverse range of cases to identify common patterns (as well as differences), whilst maintaining the anonymity of the individuals.

POSITIONALITY AND REFLEXIVITY STATEMENT

No research is completely free of subjectivity (Braun & Clarke, 2019); researchers with different backgrounds and experience may have adopted different data collection approaches and identified different themes arising from the data. It is therefore important to acknowledge where the researchers' backgrounds and identities (i.e., their positionality) may have influenced decisions made in relation to data collection, analysis, and interpretation of the data.

The study was designed by NS and ZA with assistance from all researchers. NP, DS, and MI assisted with data collection, transfer, and agreements with public authorities. ZA checked all cases received and assisted with summarising and structuring relevant data to ensure its consistency with the FARAS items. The analysis was subsequently conducted by NS, with support and consensus from ZA. The positionality of these two authors is therefore considered most relevant to this analysis.

NS and ZA are both based in the UK. NS is a researcher with a focus on violent extremism risk assessment and practitioner judgment and decision-making. She also identifies as neurodivergent. ZA is a researcher, lecturer, and practicing clinician and forensic psychologist, who specialises in terrorism and mental health. She is also a Consultant Psychologist in a neurodevelopmental disorder and psychiatric diagnostic service, and adjunct professor in Australia, working in the field of terrorism and mental health. She authored the FARAS which informed the data collection approach and thematic analysis framework, has authored publications on

this topic, and has trained extremism practitioners internationally in the field, including the practitioners who provided the case data for this analysis.

The principle of reflexivity encourages researchers to reflect on both their positionality and interpretation of findings throughout qualitative research (Braun & Clarke, 2019). In line with this principle, this research adopted additional measures to enable the authors to reflect on their interpretation of the findings. The data was coded by different people, thus providing multiple perspectives from diverse experienced practitioners. The practitioners themselves had in-depth knowledge of the cases provided, informed through access to confidential case files. By using a team of diverse researchers and coders, most of whom are not directly affiliated with the FARAS, this research therefore attempts to provide a more independent and reflective approach to using this framework. The analysis also includes a reflection on the appropriateness and applicability of the FARAS to different cases, contexts, and when applied by different individuals.

During the study design, data collection and analysis, the researchers consulted with each other to establish consensus between team members. As well as consulting within the research team, the study design and analysis framework is informed through previous data, theory, and clinical experience. Through the triangulation of the data and analysis with the previous literature, consensus could be built both between the researchers and with the wider existing literature and knowledge.

RESULTS

CASE SUMMARY

Aggregate case characteristics are provided in *Table 2*. Characteristics were aggregated to ensure the anonymity of the cases provided. This table shows that the cases included a variety of different ideologies, behaviours, motivations, and targets. As shown in this table, the majority of the sample were also diagnosed with (or suspected to have) other forms of

neurodivergence (e.g., ADHD), or mental ill health (e.g., depression). The ‘other’ category included suspected PTSD, body dysmorphia, oppositional defiant disorder, and unspecified disorders. In addition to these characteristics, three individuals had a previous criminal history. This included a history of family violence, sexual offences, drug possession, and weapon possession.

Characteristic		N
Comorbidities	Diagnosed	12
	Suspected	4
	No/Unknown	2
Comorbid conditions	Anxiety	8
	Depression	7
	ADHD	5
	OCD	5
	Learning difficulties	5
	Auditory/sensory processing disorders	3
	Substance use disorder	2
	Other	6
Case outcome	PCVE Programme Referral	13
	Cautioned/Written Warning	2
	Charged (pending trial)	2
	Convicted	1
	No further action	1
Group affiliation	Yes	2
	No	13
	Unknown	3
Extremist motivation	Ideologically motivated (e.g., far right)	7
	Religiously motivated (e.g., Islamist)	4
	Mixed/unclear/unknown	7
Terrorism-related behaviour/ concern	Access/possession/distribution of violent extremist materials	16
	Violent ideation	15
	Threats/incitement	9

Terrorism-related behaviour/concern	Bomb-making or materials/manuals	7
	Weapon possession	3
	Foreign terrorist fighter concerns	2
	Violent attack	1
Target group	Ethnic minorities	6
	School	5
	Muslims	3
	Political figures/government/monarchy	3
	LGBTQ+ people	2
	Jewish people	2
	Women	1
	Journalists	1
	Westerners	1
	Other (e.g., “morally inferior”)	4

Table 2. Summary table of case characteristics.
Note. Cases may have had multiple comorbidities, outcomes, behaviours/concerns, and target groups.

FARAS ANALYSIS

As detailed previously, the results presented here are structured according to the conceptual framework provided by the FARAS. Within this framework, data are synthesised and aggregated across cases to facilitate a cross-case thematic analysis. In doing so, this analysis identifies common patterns (and some differences) across cases, rather than individual case study analyses or quantitative interpretations. These are supported through deidentified examples from the cases.

FACET 1: CIRCUMSCRIBED INTERESTS

One of the core diagnostic features of autism includes the repetitive and restricted pursuit of specific interests that may not be typical for the individual’s age or context (World Health Organisation, 2019a). Whilst such interests are usually harmless in the wider population with autism, the FARAS notes that an autistic offender may have a ‘harmless interest that develops into a harmful offshoot’, a “relatively harmless interest that when acted out becomes illegal”, or “develop an inherently harmful or illegal interest” (Al-Attar, 2019b, p. 4). All of the individuals studied showed evidence

of specific interests that became associated with violent extremism. These interests included interests in computers or technology, history (particularly military history), politics, religion, weapons or bombs, and gore, mass shooting, and violence.

Circumscribed interests can serve important functions for individuals with autism, including the individuals studied here. In several of the cases, it was noted that the individuals retreated to their interests at times of stress to alleviate distress and anxiety; in some cases, this also became a means of channelling anger. Engaging in these interests was also noted to provide a sense of purpose, identity, mastery, creativity, and enjoyment to these individuals – particularly where they encountered difficulties in other aspects of their lives. Thus, maintaining these interests appeared in many cases to be integral to the individuals’ sense of wellbeing. Consequently, some of these individuals became distressed and aggressive when prevented from engaging in their interests. For example, in two of the cases, attempts to remove internet access prompted threats and violence towards family members.

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As noted in the FARAS, some of these interests – particularly those in politics and history – may be considered a harmful offshoot of interests that could otherwise be harmless or even prosocial. For example, in several cases where interests in the military were described, it was noted that the individual had ambitions of joining the police or military. In one case, the individual's parent noted that their child had a better subject knowledge of politics than many adults.

A repeated pattern was that ideological interests initially started innocuously through engagement in mainstream news, followed by a sense of wider curiosity, self-directed intensive online research about current affairs or political events, which subsequently led to more extreme fringe politics, ideologies, conspiracy theories, or extreme religious interpretations. These ideologies included neo-Nazi ideology, the Great Replacement, and extreme Islamist narratives. The individuals were meticulous in their research, becoming very knowledgeable about these ideologies. While the research usually started through self-initiated searches through Google and mainstream social media, the individuals found themselves signposted by others in the online space to unregulated fringe platforms with more extreme content, such as Telegram and Discord. Social media algorithms may have played a role in maintaining or encouraging engagement through repeated exposure to similar extreme content and narratives. Alternative triggers for these interests in some cases involved an influence from other family members who held more extreme views, while some evolved from interests in gaming, particularly war-related games like Call of Duty. These interests were not always permanent or stable; several individuals had reported changes in interests over time, or becoming engrossed in a particular offshoot (e.g., extremism related interest) of a primary interest (e.g., politics).

Often, this chain of events was sparked by wider socio-political events, such as the Covid-19 pandemic, the Black Lives Matter movement, US political events and figures such as Donald Trump, and wars. Some

started with a curiosity about a specific narrative around these events, such as anti-lockdown narratives. In some cases, this led to a more general interest in extremist narratives, and how other groups respond to them – such as the opposition between far-right anti-Muslim ideologies, and extreme Islamist ideologies. In several cases, the individuals felt under threat from one of these narratives and believed that the alternative provided an answer. Similarly, some narratives appealed to a sense of injustice or grievance. In cases where this occurred, there appeared to be more violent ideation. For example, one case believed that Muslims had been unfairly targeted by a 'war on Islam' and saw it as his responsibility to support Muslims through violent means. Some of these grievances can be more personal. For example, one of the individuals who experienced bullying by peers of ethnic minority expressed a need to 'get back at them', while another found that incel ideology resonated with his experience of romantic rejection. However, whilst several individuals expressed a specific interest in violence, some claimed to not condone it – although their online behaviours and rhetoric may suggest otherwise.

Interests in computers, technology, weapons, or bombs, often spoke to a degree of capability, which in some cases led to engagement in illicit behaviours, such as hacking, moderating extremist forums, or bomb-making. In some cases, this capability related to an interest in 'how things work', rather than an intent to cause harm to others – although it did still result in the acting out of illegal behaviours. One case also described how their interest in bomb-making stemmed from a wider interest in fireworks and explosions. In some cases, demonstrating capabilities in these areas conferred a sense of power and mastery. For example, one individual with an interest in computers and programming noted feeling a sense of power from their hacking ability and gaining access to others' online accounts.

In some cases, the convergence of multiple interests became linked to an extremist ideology and harmful intent, particularly when these more technical interests

and capabilities combined with an additional interest in politics, religion, or an ideology. Similarly, in some cases, these capabilities were noted to present a vulnerability to recruitment or collaboration with others who would seek to leverage these skills. This could be a particular vulnerability in the online space; almost all the cases described engaging in their interests online, particularly seeking out ‘like-minded individuals’ with whom to share their interests.

Several of the individuals expressed difficulties in sharing their interests with others offline because others were simply not interested, or did not understand the subject to the required level. Thus, in searching for ‘like-minded individuals’ online, they were able to engage in their interests unchecked. As well as the reward of engaging in their interests, some cases noted that the pursuit of knowledge that others do not have created a sense of excitement, as well as superiority, mastery, and achievement. This in turn made the taboo and secrecy more compelling. Online communities further reinforced these rewards, where exchanging rare and extreme content is seen as a social currency.

Thus, many of the cases were detected through their behaviours in engaging in these interests. This included the downloading and sharing of extreme or illicit content (which was subsequently discovered by parents or their school) or expressing narratives relating to extremist ideologies in school or work settings.

FACET 2: VISUAL FANTASY AND IMPAIRED SOCIAL IMAGINATION

The FARAS notes that circumscribed interests may relate to vivid fantasies that are “captivating, compelling and may become obsessive and addictive” (Al-Attar, 2019b, p. 7). These were described in many of the cases, where offence related interests and fantasy seemed to serve many functions for the individuals. Like engaging in their special interests, engaging in these fantasies could be a form of escapism, a mechanism to self-soothe and alleviate negative emotions (especially at times of change and stress), as well as providing a source of pleasure, intellectual

stimulation, excitement, and a sense of mastery or social power that may not exist for the individual in the real world.

The most common fantasies observed related to enacting violent acts such as beheadings and shootings. In some cases, violent fantasies included suicidal ideation, while others were of an extreme sexual nature. These fantasies were often based on violent imagery and videos viewed online, as well as written propaganda and books. In many of the cases, it was noted that these violent fantasies did not deviate from the source content, while in a minority of cases, new fantasies were inspired by the combination of multiple sources. In some cases, these fantasies were accompanied by drawings or designing violent video games that visualised them. As with their interests, some of the individuals sought out ‘like-minded individuals’ with whom they could share these fantasies, drawings, and content that they could not share with others in the offline world.

In many cases, violent ideation and fantasies appeared to address issues of anger and feelings of distress and injustice – not necessarily for political gain, but rather out of personal grievance, resentment and wanting revenge. For example, some of the cases included fantasies about killing school peers or bullies in graphic detail as a result of feeling rejection and alienation, while another fantasised about shooting journalists. Some specifically noted fantasies of punishments to invoke justice. In some cases, these fantasies involved very potent visual imagery relating to blood, dismemberment, and the effect of different weapons. It was noted that these fantasies intensified at times of increased stress, becoming more violent and morbid, and accompanied by more extreme rhetoric. In some cases, comorbidities, such as depression and symptoms of paranoia, may have further exacerbated the potency and quality of these fantasies. These fantasies were described as stimulating or soothing; they alleviated distress and redressed feelings of disempowerment and anger. The rewards of these fantasies may also have increased the disinhibitions for offending behaviour.

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Some noted no intent to act on their fantasies, while in other cases it appeared that over time, the mental pursuit of the fantasy alone, or viewing violent content, was insufficient; they craved more as they became desensitised to this violent content and fantasy. In one case, this progressed to the individual engaging in hostile reconnaissance, looking at significant buildings and fantasising about attacking them. In another, the individual's interests and fantasies of becoming a mass shooter escalated to arranging travel to the US, purportedly with the intention of purchasing a gun and carrying out an attack.

Others fantasised about a world in which their political views are enacted, or where there is more structure and order. For example, in some cases, this included imagining a world in which Western European countries are completely white, where all immigrants have been 'repatriated' or killed, or where gender roles were more clearly defined. In some cases, this took on a more violent quality, such as fantasies about a race war. Meanwhile, other fantasies included a world where perceived injustices did not take place, and the individual experienced more kindness. Some were more mundane, in which the individual simply fantasised about going home to pursue their special interest, providing a sense of purpose and excitement. Such fantasies may represent a form of escapism from real world challenges and perceived injustices in the world.

Similarly, some individuals experienced grandiose fantasies of themselves, either as more powerful versions, or as Nazi or ISIS soldiers. In these cases, they sometimes engaged in role playing behaviour, such as dressing in Nazi uniforms. These grandiose fantasies became more compelling than the individuals' reality, providing them with a sense of purpose and identity.

Some cases were described as living in a fantasy world (especially through their online engagement), where they had become so entrenched in the fantasies created by extremist ideologies that they were detached from the real world. This was particularly the case where the

fantasy world was more compelling than the challenges of the real world; the individuals would retreat into their fantasies, particularly during difficult times, periods of social isolation, or periods of boredom, particularly during the Covid-19 pandemic.

Conversely, some visual imagery and fantasies were triggered externally, for example, one individual described threatening imagery being triggered by seeing individuals of a different ethnicity, whereby he was able to "visually see the Great Replacement taking place". Thus, experiences of visual imagination may also contribute to a sense of threat and grievance.

FACET 3: NEED FOR ORDER, RULES, ROUTINES, AND PREDICTABILITY

The FARAS highlights that individuals with autism need a sense of order, rules, routines, and predictability, including in the social and moral world, and may find a lack thereof stressful and anxiety-provoking. This may in turn push individuals to retreat to their interests and online spaces away from the 'chaos' of the world, or seek out groups and ideologies that purportedly restore a sense of justice and moral order (Al-Attar, 2019b).

This strong need for order and routine was demonstrated in many of the cases analysed, who were reported to have rigid daily routines in place and relied on a sense of structure and order in their home life that they either maintained themselves or relied on others (e.g., parents) to maintain. These individuals felt that this type of predictability was not available in the outside world, which was described as feeling 'chaotic'. This included stressors from the unpredictability of social interactions, especially unwritten social rules, as well as the challenges of school and work environments. One individual particularly expressed frustration with the differing application of rules, where his family expected him to uphold traditional Muslim norms, which he found difficult to reconcile with Western society's expectations. Several of these individuals therefore found themselves retreating from society and isolating themselves in the safety and predictability of the home environment, their special interests and

fantasies, and online spaces. As aforementioned, the fantasy world also served to provide order, rules, routine, and predictability, interacting with their special interest to create a more structured and predictable world.

This need for predictability appeared to be exacerbated in response to life stressors and traumas, such as bullying, or difficulties at home. Several of the individuals demonstrated extreme stress and anxiety when their routines were disrupted, sometimes leading to violent outbursts and threats, as well as greater immersion in risky interests. The destabilising effect of the COVID-19 pandemic was noted in several cases, where the change in routines, social isolation, lack of predictability, and greater exposure to familial stressors heightened vulnerability and engagement in these interests. Other destabilising events that created a disruption to routines included moving home, transitional life periods (e.g., from secondary school to college, or leaving school), and some interventions, such as being taken into custody. Leaving school, or being excluded, was noted to lead to a loss of structure and routine, which subsequently intensified interests and led to the pursuit of more extreme content.

The difficulties around the lack of predictability of the outside world, or the loss or disruption to routines, acted as a push factor for individuals seeking predictability and order in the online space. They felt that being able to communicate in specific forums with ‘like-minded individuals’ meant that they knew what to expect, without the unpredictability of physical interactions.

The chaos of the outside world also meant that many of the individuals were motivated by a search for meaning and making sense of the world and other people. Extremist ideologies appeared to offer an orderly solution to the chaos of the world, by presenting predictable, black and white, dichotomous narratives – such as those presented by far-right ideologies. Similarly, in one of the cases, incel ideologies which clearly defined gender roles were appealing. Viewing

some extreme content may also have reinforced and shaped the individuals’ need for rules and order, for example, through demonstrating clear punishments for rule-breaking or moral transgressions, or through gender roles shown in extreme pornography.

Religious narratives were also compelling to some individuals, as they provided a sense of endorsing the ‘natural order’, justice, and rules. For example, one individual believed that Sharia provided an explicit ‘rulebook’ for society and people, where the consequences for deviating were very clear, while another felt that religion provided a sense of calmness, solace, and structure to the chaotic world he found himself in. Some of the cases showed evidence of ritualistic behaviours when engaging in their extremism-related interest, particularly when this was couched in a religion. This was demonstrated through some individuals’ strict adherence to Islamic prayers – becoming distressed when these were disturbed – as well as one individual’s engagement in Satanist rituals.

Several individuals expressed grievances related to perceived unfairness, injustice, or rule violations, leading to a strong desire for punishment to restore order. Personal grievances deserving of punishment included experiences of bullying, as well as perceived discrimination at work. Some also felt aggrieved by the stress and anxiety they experienced through not understanding unwritten social rules, and the variations in applications of these rules which led to the individual being reprimanded. Some individuals subsequently fantasised about exacting revenge on those they felt had wronged them, for example through fantasies of attacking school peers. In some cases, this was bolstered through the identification with others who were perceived to experience similar struggles, such as mass shooters. Thus, the shared victim mentality present in some ideologies was appealing.

Grievances, injustices, and rule-breaking perceived in wider society also played an important role for some individuals. This was particularly exacerbated through media reporting of unpunished crimes, especially

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during the Covid-19 pandemic. For example, some attributed criminality to black communities, relying on (often dubious) statistics from the US to prove such associations. Similarly, some felt that the Western world should be white, and that the presence of other ethnicities disrupted this order. Thus, far-right ideologies that claimed to restore this order, redress injustices, and punish or remove rule-breakers were appealing. Similarly, extreme Islamist narratives offered opportunities to redress perceived injustices towards Muslims, Palestinians, and the Arab world. As well as providing opportunities to restore order, such dichotomous narratives fuelled feelings of disorder and chaos in the world, thus increasing their appeal. Applying logical approaches to punishment for ‘rule-breakers’ further fuelled interest in violence as a means of punishment. For example, one individual advocated violence towards the LGBTQ community for going against the ‘natural order’ and viewed violent content online to demonstrate ways in which such ‘rule-breakers’ could be punished.

However, it was notable that in some of the cases, this need for order, rules, routines, and predictability may be considered a protective factor. For example, some noted that they felt it was important to abide by laws, and thus had no intent to engage in illicit activities. One individual also noted that he disengaged from interests when he discovered that they were flawed. Some individuals also found the military extremely appealing because it provided a clear set of rules and structure. Finally, some welcomed the involvement of police, for example, one individual associated police with a sense of safety, order, and justice, and subsequently referred himself to counterterrorism police.

FACET 4: OBSESSIONALITY, REPETITION, AND COLLECTING

The FARAS notes that “individuals with autism may develop an intense focus on issues of interest, persons of interest or inaccuracies, injustices or rule violations made by others” (Al-Attar, 2019b, p. 14). This may include collecting behaviours related to their special interests, as well as obsessive rumination on grievances

and injustices. These behaviours may intensify at times of stress and anxiety.

As aforementioned, several of the individuals in the sample experienced a need to meticulously study and research their interests, specific topics, and ideologies of interest. Such obsessions appeared to strengthen their risky interests, whereby individuals developed a sense of tunnel vision, which subsequently reduced their inhibitions to accessing and downloading extreme and illicit content. As noted previously, in some cases such obsessions developed from (but later went beyond) harmless interests. For example, one individual’s interest in world events sparked a preoccupation with mass killers, which further evolved from sourcing and collecting information for a school assignment. While some individuals found specific ideologies compelling and intensively researched them, others developed a preoccupation with picking apart ideologies and religions. In one case, this obsessional unpicking of Islam was linked to the individual’s engagement in far-right ideology.

All the individuals in the sample engaged in some form of collecting behaviour, usually linked to their special interests, including extremism-related interests. For some individuals, this included physical collections of materials for making explosives, weaponry, survivalist gear, and Nazi memorabilia. In one case, this intensive research and collecting of bomb-making materials was directly linked to his capability to create a functional bomb. More commonly, the individuals in the sample collected virtual content, such as videos, images, memes, and propaganda, which was often meticulously labelled, sorted, and catalogued on their devices. Such content often included graphic depictions of mass shootings, violence, beheadings, and extreme pornography – some of which included illicit content. In some cases, these were vast collections of thousands of files; this was reportedly easy to do, where downloaded zip files could contain thousands of documents without a need to download each file individually. The individuals reported feeling a sense of reward from collecting this content, in some cases

noting that they rarely accessed the items but having them on their computer provided a source of comfort, satisfaction, and reinforced their sense of identity. Having these positive psychological and physiological rewards meant that the individuals felt compelled to download and store large quantities of digital content.

Collections of digital content also appeared to serve a social function; content could be traded in the online space, rewarding the individual with a sense of status and ‘kudos’. One individual reported that he would specifically seek out content from sites that he believed would be taken down, meaning that he would have content that others could no longer access. He reported a sense of importance from the notion that people would have to come to him to obtain such material, thus providing a source of esteem, social role, and a sense of mastery. For others, possession of such content served as a cache of information for use in debates. This social affirmation of interests may have made them stronger and more rewarding, further strengthening the obsession. This collecting behaviour, particularly the possession and distribution of illicit content (such as propaganda, bomb-making manuals, and child pornography) is often what led to the individuals’ detection or referral to law enforcement. It appeared that much of this content also offered a sensory value, especially when attractive sensory stimuli served to maintain and captivate engagement, as well as feed into violent fantasy and ideation. This is discussed in more depth as part of Facet 7.

Some individuals demonstrated repetitive behaviours of obsessively watching extreme or graphic videos depicting violence – without necessarily downloading this content. In some cases, this viewing of content, or engaging with extremist groups, took on a repetitive and ritualistic quality, where the individuals became very distressed and sometimes violent when such rituals were disturbed. In some cases, this obsessional engagement in their interests led to a deterioration in school attendance and performance, particularly where the individuals adjusted their lives around collecting

content (e.g., staying up all night to access content from different time zones).

Similarly, as their interest increased, so did their collecting and obsessional behaviours. Periods of stress, change, isolation, and boredom (particularly during the Covid-19 pandemic) appeared to intensify obsessional fixations and repetitive behaviour, where these behaviours were often used to self-soothe. In some cases, law enforcement engagement and detention had a destabilising influence, leading to an increase in repetitive self-soothing behaviours. This was demonstrated in one case where a police visit triggered outbursts of repetitive statements relating to an extreme far-right ideology, while in another, the individual obsessively created and downloaded more extreme content whilst on bail. In this case, providing clear timelines and updates for the investigation helped to create more of a sense of predictability and order, in turn reducing these repetitive behaviours.

Some individuals demonstrated a fixation or preoccupation with specific grievances, or feelings of injustice and distress. Such fixated grievances appeared to be all-consuming, and described as ‘intolerable’, thus fuelling the intensity of engaging in special interests, as well as violent fantasies. For example, experiences of bullying were associated with an obsessiveness with school shootings and revenge fantasies. Such fixated grievances included obsessions with specific individuals that they felt wronged them. In one case, a grievance with a work colleague led to obsessiveness and stalking behaviour. In another case, the individual became fixated upon a peer who had romantically rejected him. These individuals reported being unable to desist from these fixations, because the situation felt ‘unresolved’, possibly linked to their need for order.

As aforementioned, other fixated grievances were noted on a wider scale, such as perceived injustices by the West towards Muslims, or perceived injustices and rule violations by ethnic minorities. Intensive engagement in news reporting further compounded

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these grievances, whilst the perception that a group could restore order appeared to contribute to a fixation on that group. In some cases, such fixations were transient, lasting from weeks to months. In one individual, these transient fixations were triggered by external factors, particularly media reporting.

These fixated grievances generally related to a sense of rumination, in which fantasies became obsessively rehearsed, and ideologies so relentlessly pursued that the individuals became ‘detached from the real world’. As well as the intensification during times of stress, such fixations and ruminations were exacerbated in individuals with other comorbidities, particularly OCD and symptoms of paranoia. In one of these cases, the individual experienced intrusive repetitive thoughts about becoming an attacker, despite reporting not having violent intent.

FACET 5: SOCIAL INTERACTION AND COMMUNICATION DIFFICULTIES

One of the core diagnostic criteria of autism includes difficulties in social interaction and communication (World Health Organisation, 2019a). The FARAS notes that these difficulties may lead to social rejection and isolation, as well as contributing to anxiety and exhaustion (Al-Attar, 2019b). In addition, some individuals may be vulnerable to exploitation from others through not understanding their hidden agendas (Al-Attar, 2019b).

Social Difficulties, Rejection, and Social Isolation.

Almost all the cases studied showed evidence of difficulties in social interaction and communication, including difficulty in understanding unwritten social rules, speaking in literal terms which was misinterpreted as rude or cold, and making comments or jokes that were perceived as inappropriate within those social contexts. Several of the individuals reported feeling ‘different’ or like they did not fit in. These difficulties led to low self-esteem, feeling socially undesirable, being chastised by family members or teachers, and consequently either isolating themselves or being forced into isolation through peer

and family rejection. Some of those who attempted to gain employment struggled with the social demands of the workplace, and therefore either left their jobs, or were dismissed for making inappropriate remarks. Others had been excluded from school for repeatedly making inappropriate comments. In one extreme case, the individual had not left their house for five years and was not in any education or employment. This exclusion from education and employment led to limited prosocial opportunities and an increased reliance on their special interests and the online space – in some cases, this became their sole focus in life.

Even for individuals who did not find themselves entirely socially isolated, the sense of being overwhelmed and stressed associated with social interactions and difficulties in understanding unwritten social rules acted as a push factor for engaging with their circumscribed interests and fantasies, and the online space to self-soothe and cope with social stress. This appeared to be particularly challenging for individuals during adolescence, when social interactions became increasingly intricate and complex. Thus, individuals described a lack of mastery in social settings, with one individual describing this as an “inability to operate at [his] optimum”. For one individual, the fantasy world took away the challenges of social interactions and provided an environment where others were kind and did not have any expectations of him that he could not fulfil, whilst in others it provided a way to redress social inefficacy, humiliation, or rejection. Similarly, the online space provided a domain of social competence where the individuals were able to rely on their cognitive strengths through engaging in and communicating about their interests.

Some social difficulties were exacerbated by the individuals’ circumstances, for example, one individual experienced difficulty in integrating with a new group following relocation, creating a sense of loss and a greater experience of ostracism. The Covid-19 pandemic similarly exacerbated some of these difficulties by imposing isolation (as well as changes in routines) on individuals. Social difficulties

and isolation were also reported to interact with comorbidities such as anxiety and depression by further increasing low mood and a greater sense of dejection. The comorbidities themselves in some cases created further barriers, leading to more of a retreat from society.

In addition, several individuals described difficulties with sharing interests with others. Several struggled with reciprocal communication, where they experienced extreme difficulty in communicating with others about topics that did not interest them. At the same time, they found that others were not interested in their interests; these interests were often ‘different’ from those of their neurotypical counterparts. Several of the individuals were described as unable to ‘read the room’ – they had difficulties in understanding that their interests were not shared by others and tended to overwhelm others with their interests without understanding their social setting. These behaviours, and the lack of reciprocal communication, caused difficulties in building and sustaining friendships, compounding experiences of rejection and isolation. Peers and colleagues often labelled these individuals as ‘weird’ or ‘odd’, and in some cases compared them to serial killers and mass shooters – often because of over-sharing their deviant interests.

Some of these social difficulties and experiences of rejection or chastisement compounded feelings of grievance and injustices. Some individuals felt a sense of injustice that they were reprimanded for behaviours that they saw in others, not understanding the differences in social contexts. Some experienced bullying and ostracisation at school, contributing to a sense of grievance and a desire for revenge. Meanwhile, other individuals who experienced difficulties at work due to social difficulties felt aggrieved by their dismissal. For example, one individual blamed a colleague with a strong accent for his difficulties at work, since this exacerbated his communication difficulties – subsequently becoming a point of fixation. Such grievances gave rise to revenge fantasies, often encompassing their extreme

interests, such as fantasies of school/mass shootings to kill those who had wronged them. Some of the individuals identified with mass shooters and their manifestos that they read online, which expressed similar anger and grievances.

The result of many of these difficulties and grievances was that individuals felt disempowered and aggrieved within the offline space. This meant that most individuals felt more able to engage socially in online spaces, where they experienced more social efficacy, skill, confidence, and belonging, especially as they could confine their social communication and interaction online to their interests and areas of mastery. In one example, it was noted that the individual had very limited functional skills outside of his abilities to access online material or communicate online. Some expressed that they could be a different person online, where they were provided status and were able to influence others through accessing and sharing (harmful) interests and materials, and in some cases, becoming an administrator for online groups. The individuals also felt that they had more control of the online environment (particularly through moderator roles), which took away from the difficulties of physical interactions, as well as providing a sense of order and structure. The online space provided them with fewer inhibitions in accessing and sharing extreme content, and a sense that others would not ‘judge’ them. Some also felt that they were able to communicate and share their anger and grievances through their online interests. While some were looking for a sense of social belonging online, this was not a driver for all the individuals; in many cases, the individuals were more interested in the content that others were providing, rather than an interest in the online social or emotional connections themselves.

Nevertheless, online communication provided a source of reward, excitement, and social reinforcement, where individuals were able to interact with other ‘like-minded individuals’ who shared their interests. This ability to socially connect through risky interests strengthened immersion in those interests, further

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compelling them along extremist pathways online. For example, one individual noted that to maintain and sustain these online relationships, he had to intensify his interest in ISIS related material, whereby comments and conversations became progressively more extreme in nature. However, this immersion also increased opportunities for detection, through leading individuals to sharing their offence-related interests with others both online and offline.

Difficulty in Understanding Others' Perspectives and Feelings (Impaired Empathising). Some individuals also reported experiencing social reinforcement and rewards through provoking reactions from others – both online and offline. This included provocative 'humour' and 'trolling' behaviour, from which some individuals derived a sense of satisfaction and enjoyment through seeing a social impact. In some cases, the individual did not seem to understand why others would be upset by these provocative behaviours, since they perceived these as 'jokes'. These reactions were not viewed from empathising perspective, and instead 'systemised,' particularly as the person could not be seen in physical space, and there were no face-to-face repercussions. In other individuals, it was reported that their difficulty in reading more subtle reactions and behaviours in others led them to forming connections by triggering a starker reaction, both in the offline and online space. This inability to read social and emotional cues was reported to have contributed to a lack of inhibition against harmful interests. Some of these individuals appeared to have some understanding that their behaviours were inappropriate, but nevertheless enjoyed the rewards from it. Some embraced their identity as someone perceived as a potential risk, as it provided a feeling of social impact.

For others, however, this provocative behaviour became a means to be removed from anxiety-provoking social situations in school or family settings. This included expressing extreme racist or misogynistic views in school settings, and challenging members of staff and other students on their opinions. In some cases, these provocative behaviours (both in the online and

offline space) and their associated interests became the context for the offence they were charged with. Some individuals were also detected through their candour in openly discussing their extreme interests. For example, one individual was aware that others responded negatively to his ISIS obsession, and made rudimentary attempts to be covert, but nevertheless openly discussed these interests.

Other individuals developed grievances from their inability to read others and rationalise their behaviour, especially when this had a negative impact. For example, two individuals who had experienced bullying by individuals of a different ethnicity were unable to rationalise this behaviour, thus attributing it solely to race. Other individuals were unable to understand why others did not share their views and provide an appropriate resolution to their grievances.

Vulnerability to Exploitation. All the individuals studied reported seeking out connections in the online space – primarily to find others that shared their interests, but without an appreciation of others' underlying agendas. Some individuals reported that they would believe everything that they read or spoke to others about in the online space – including conspiracy theories. Meanwhile, others reported feeling more understood in online spaces, and perceived others online as 'friends' – however, to sustain those friendships, they had to intensify their interests and share more extreme content.

When the online space was the only source of social contact, it was noted that some individuals were vulnerable to rote-learning social cues from individuals online. This meant that they learnt what was 'acceptable' from extremists (e.g., ISIS supporters) in the online space, and subsequently mimicked those behaviours. This sometimes led to offline jokes and humour based on content in the online space, which invoked negative consequences for the individuals, peer rejection, as well as subsequent referrals. Such rote-learning may also take place offline, for example, one individual described how his behaviours at school

attracted the attention of other ‘antisocial’ peers and teachers and other peers often grouped them together. These negative peer influences led to an intensification in risky behaviours.

However, in some cases, individuals’ cognitive rigidity, need for autonomy, and demand avoidance may have served to protect them from exploitation and influence. For example, one individual was reported to react negatively when he believed that others were trying to control him or make him do things that he did not want to do, especially when he perceived these demands as illogical. Thus, although at face value, some individuals may appear vulnerable to exploitation, it is important to consider their agency and other factors that may make them less susceptible to influence.

FACET 6: COGNITIVE STYLES (DIFFICULTIES AND STRENGTHS)

The FARAS identifies several cognitive difficulties and strengths that may be relevant to risk and protection amongst cases with autism.

Attention to Detail and Not Seeing the Bigger Picture and Context. According to the FARAS, while individuals with autism have a strong ability to notice and remember minute details, they may “struggle to see the bigger picture”, thereby missing the wider context, as well as the consequences of their actions (Al-Attar, 2019b, p. 21).

This overfocus on minute details without considering the bigger picture was demonstrated in several of the cases. Most individuals demonstrated evidence of good factual learning, organisational and technological skill, showing an extreme attention to detail in their special interests and fantasies. They were able to recall minute details, such as the dates of mass shootings, incarceration statistics, theological information, and details on types of weapons – but appeared not to fully appreciate the context and links between these interests and their consequences or implications. For example, some noted that they would become immersed in politics, details of an argument, and winning a

debate, without considering the wider implications or the impact of their comments or the content they distributed. There did not seem to be an appreciation of the wider social context, including victim harm, and there was limited appreciation of legal implications of their behaviour and views – particularly if they observed others engaging in the same behaviour online. The engagement in an online echochamber where these behaviours were reinforced also contributed to this lack of attention to the bigger picture. Meanwhile, some had an intense interest in the technical aspects of bomb-making but did not appreciate how this would be perceived by others. Some individuals therefore did not think that their offending behaviour would result in a significant outcome – especially since they had not experienced consequences previously. In some cases, this led to a progressive escalation in behaviour since this remained unchecked.

However, in many cases it appeared that this was not due to an inability to comprehend consequences or the bigger picture, but rather, not considering them, or not believing them to be relevant to them. In some cases, it was noted that once these consequences became more concrete through law enforcement intervention, the individuals disengaged from these behaviours. Others, however, did not fully understand the concerns around their behaviour, commenting that their behaviour reflected their ‘advanced technical skills’ and did not cause harm to others – thereby perceiving any concerns as illogical. Meanwhile, some struggled to engage with law enforcement as they fixated on any errors made by police.

This attention to detail could also be considered an important strength and a protective factor. For example, some noted that if they found a flaw in their interest, they would move on to another. For others, they demonstrated strong academic skills and abilities, providing prosocial opportunities. However, this was often domain-specific, where social difficulties and other cognitive challenges were significant barriers to their overall capabilities. Some individuals consequently reported that their

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attention to detail led to academic difficulties, where they took longer to complete tasks and became overly focused on the fine details of assignments. These difficulties, alongside aforementioned social difficulties, contributed to individuals' experiences of low self-esteem, a lack of mastery, and feelings of injustice. This contributed to disengagement from education and social settings, preferring to engage in activities in environments that they could control. For some, they felt that the only escape was to engross themselves in their interests and fantasies, fuelled by feelings of grievances, injustices, and the perception that others did not see the world in the same way. Others instead felt a sense of superiority about their intellectual abilities, and that their peers were unable to engage with them at their intellectual level.

Attention-Shifting and Processing Simultaneous Stimuli. According to the FARAS, individuals with autism may find themselves perseverating on issues due to difficulties in shifting their attention between topics or people. This can also cause difficulties in processing sensory input from multiple modalities, and in social settings involving multiple people (Al-Attar, 2019b).

As with the academic difficulties described above, these challenges in attention shifting can also cause difficulties at school and in the workplace. For example, it was noted in several cases that the individuals struggled with maintaining conversations with multiple peers, multitasking and switching tasks or topics, and finding their school or work environment overstimulating. These challenges compounded the difficulties they experienced at work and at school, and in some cases exacerbated difficulties with bullying and social rejection, thus further encouraging them to retreat from social settings and self-soothe through their special interests and extreme content. In some cases, these negative experiences and distress from the school environment also further contributed towards the formation of a grievance against their school and peers.

These difficulties also presented a more general social and communication challenge. In one case, the individual had very limited verbal communication abilities and struggled to listen to or process speech; despite having good written communication skills, he was unable to engage in conversations with police or intervention providers. In other cases with less severe communication difficulties, the individuals still often struggled to shift their attention and engage with any topics that did not directly relate to their topics of interest, presenting a challenge for intervention providers.

As aforementioned, the individuals' perseverance on issues in some cases linked to fixations on grievances and individuals, such as bullies and others they felt had wronged or rejected them. Some reported an inability to disengage from these thoughts. In one case, this patterned thinking, when coupled with a perceived threat, was suggested to heighten their susceptibility to paranoid and conspiratorial thinking. Some individuals' fixations on specific ideas, interests, and ideologies contributed to their apparent rigid thinking and cognitive inflexibility, where they were unable to switch to new ideas or topics.

Frontal-Executive Impairments. According to the FARAS, impairments in executive function can mean that individuals with autism may struggle with organisation, managing tasks (particularly those that are of less interest), and maintaining a focus on broader priorities (Al-Attar, 2019b). These impairments may also cause difficulties in self-regulating behaviours and impulsivity (Al-Attar, 2019b). Many of these challenges are also shared in ADHD (World Health Organisation, 2019b), which was present in some of the cases analysed.

Some of these difficulties have already been described, particularly in relation to managing school, work, and day-to-day tasks, in some cases relying on caregivers to help with planning and organising their lives. Some individuals felt that they were unable to meet their potential or fulfil expectations, contributing to feelings

of stress, inadequacy, and low self-esteem. These difficulties further pushed individuals to spend more time online engaging in their special interests where they felt more of a sense of mastery and fewer cognitive demands. In some cases, these difficulties, particularly when given multiple tasks and instructions, caused significant frustration and anger, leading to arguments and aggression towards others.

In some cases, difficulties with focus and prioritisation also meant that instead of focusing on their work or school tasks, the individuals instead prioritised and pursued their extreme interests. This appeared to be exacerbated during the Covid-19 pandemic as their activities were less closely supervised and organised by external routines.

Some individuals also demonstrated difficulties with self-regulation and impulsivity. For example, in one case, it was noted that although the individual was able to identify consequences of his actions, this did not diminish the overwhelming rewards from researching risky topics. Others made impulsive inappropriate comments that led to negative consequences – stating that they only became aware of those consequences afterwards. In one case, this inability to self-regulate contributed to the individual impulsively sexually assaulting a stranger.

Strong Visual Processing & Impaired Social Imagination. According to the FARAS, autistic individuals may be able to process and recall visual information in great detail, “but they may struggle to conjure up hypothetical ideas and to imagine hypothetical scenarios (especially those requiring social and emotional detail) that they have not seen before” (Al-Attar, 2019b, p. 22). This could contribute to difficulties in appreciating hypothetical consequences to their actions.

The strength in visual processing was evident in several of the cases, who were able to recall extremist imagery very vividly. This attraction to visual imagery is further examined in the next section. However,

this visual processing acuity led some individuals to perceive themselves as different from others, as they believed they viewed the world in a way that others did not. This further increased feelings of isolation and ostracisation.

As aforementioned, exposure to extreme content, particularly visual imagery, was linked to some extreme fantasies, in which the individuals would vividly recall gruesome details. However, in many cases, these fantasies were limited to content that had already been viewed, rather than the generation of novel ideas or hypothetical scenarios. One individual noted that he would often repeat the extreme right-wing narrative that he had viewed in the online space but struggled to conjure his own hypothetical ideas or imagine hypothetical scenarios. Another individual noted that he struggled to visualise a future, aims, or goals for himself. This may have contributed to a search for a sense of purpose or meaning, whereby extremist narratives provide a sense of a higher purpose and possibly images of what his life may look like.

As aforementioned, several individuals struggled with imagining the consequences of their actions. Some expressed confusion at police involvement, as they did not see themselves as dangerous, and could not imagine that their interests or online behaviours could have any negative consequences for themselves or others. Challenges around social imagination also presented difficulties during conversations with intervention providers, where the individuals would search for the logic of a narrative, rather than its wider moral social context. Some believed that all ideas had to be grounded in logic with a sound evidence base – and therefore struggled to speak about hypothetical situations or consequences.

Theory of Mind and Context Blindness. Autistic individuals may experience difficulties with theory of mind, that is, the ability to understand others’ perspectives, to understand that others do not have an insight into their thoughts, and to understand that behaviours and information may be perceived

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differently depending on the context and the perspective (Al-Attar, 2019b).

Most of these difficulties have already previously been discussed in relation to the cases analysed. This included difficulties in understanding why others do not share their extreme interests. For example, two individuals noted that they were unable to understand why the majority of Muslims did not support ISIS, because the ideology made sense to them. This inability to understand others' perspectives and that their interests are not shared contributed to peer rejection, being labelled as 'weird', and difficulties in forming relationships with peers, thus fuelling a need to find like-minded individuals in the online space. However, this behaviour also created opportunities for detection; several individuals were referred to law enforcement after showing others extreme content and talking about their risky interests, not anticipating that others do not share these interests and would perceive them differently.

As noted previously, impaired empathising meant that some individuals had difficulty in understanding the impact of their actions on others, such as online 'trolling' behaviour. In some cases, it was noted that the individuals struggled to empathise with others' suffering – such as victims in violent videos. Individuals also did not appreciate how making racist comments, repeating statistics, and making jokes in inappropriate contexts would be perceived differently by others to their own perception. In some cases they could not understand why they were being reprimanded, as they could not appreciate the context in which their behaviour was inappropriate, or why others would perceive 'facts' negatively. Similarly, several individuals could not understand how their behaviour was viewed by law enforcement, especially if they did not have violent intentions. Concerns around their behaviour were therefore labelled 'illogical' and resisted or dismissed.

As aforementioned, impaired empathising abilities also contributed to grievances towards others as the

individuals struggled to rationalise others' negative behaviour towards them (e.g., bullying, romantic rejection), or why others did not feel the need to resolve their grievances. This led to attributing behaviours to concrete factors and categories, such as race or gender, as well as fuelling feelings of anger and frustration.

Finally, through not understanding the perspectives and intentions of others, some individuals appeared to be vulnerable to influence. One individual admitted that he believed everything that he read or spoke to others about online and did not consider that they could be dishonest or have ulterior motives.

FACET 7: SENSORY HYPER- AND HYPO-SENSITIVITY

Individuals with autism may experience sensory difficulties including hypersensitivity (overly sensitive) and hyposensitivity (under-sensitive) to sensory stimuli (e.g., sound, light, smells, touch, and taste; Al-Attar, 2019b; World Health Organisation, 2019a). According to the FARAS, hypersensitivity is often linked to the avoidance of sensory stimuli, whilst hyposensitivity can be linked to seeking out sensory stimuli (Al-Attar, 2019b).

Sensory Hypersensitivity. Sensory hypersensitivity was reported in some of the cases, particularly sensitivities to noise, touch, light, and temperature. These were not necessarily directly linked to concerning behaviours but may have contributed to feelings of distress and chaos in the world. This was particularly evident when input from multiple sensory modalities was experienced in the outside world, which reportedly exacerbated other difficulties, particularly communication difficulties. This was particularly the case for school and workplace environments, which were often loud and brightly lit. This meant that some individuals reported feelings of anger, distress, anxiety, and exhaustion with being outside their home.

These difficulties in school and work environments due to sensory overwhelm led to barriers in achievement and feeling less of a sense of purpose. Individuals

also reported experiencing difficulties in living independently and completing day-to-day tasks such as shopping, due to these sensory sensitivities. For some, this was also a challenge in their home life. For example, one individual experienced distress at home due to arguments and shouting between his family members, while another described difficulty with noise generated by neighbours.

Thus, some became homebound and isolated, avoiding leaving the house or their room due to the sense of overwhelm they experience from the sensory and social environment, while others retreated to their special interests and fantasies to self-soothe. Several individuals reported that they felt they had more control over their environment at home or in the online space, as they could control noise levels, lighting, and the temperature. Some described this as a source of 'calm', 'solace', or 'peace'. Some individuals also appeared to use the virtual space to seek out alternative sensory stimuli that they found more comforting or within their control. In this more controlled environment, away from sensory overload, the individuals felt a greater sense of mastery and capability.

The relationship between sensory hypersensitivity and stress appeared to be bidirectional; as well as being a source of stress, hypersensitivities were reported to accentuate during times of stress, such as academic pressures and police visits. In some cases, it was noted that this had implications for interactions with intervention providers, where some individuals were unable to engage whilst feeling unsettled by sensory stimuli such as noises and lights.

Sensory Hyposensitivity. There was also evidence of sensory hyposensitivity and seeking out sensory stimuli amongst the sample. This included an interest in explosions and fire, an attraction to visual imagery used in propaganda, and an attraction to violent content. This attraction to sensory stimuli appeared to make risky behaviours more attractive and have a greater pull.

Some individuals reported enjoyment of loud noises associated with explosions and fireworks, which linked into interests in bomb-making. One individual reported an attraction to fire and described his interest in fire-setting as wanting to see the flames, rather than wanting to hurt people. Some also described a sensory attraction to physical objects such as firearms and weapons. For example, one individual described weapons as 'arousing', while another described them as 'cool'. This linked into collecting these weapons, as well as items such as uniforms and flags, as these items provided an aesthetic reward. These items were also described as soothing and a source of comfort.

Several individuals also reported pleasure in sensory stimuli provided by digital content, such as visually stimulating extremist propaganda. Propaganda videos were often described to be like social media videos, designed to be visually salient, while images were described as bright, colourful, and exciting, making them memorable and providing an aesthetic reward value in collecting and storing them. This visual material may in some cases have added to the concreteness and resonance of extremism related interests. Visual sensory stimulation was also linked with the appeal of video games and live streams. For example, one individual noted that he was attracted to the aesthetic of ISIS soldiers due to their resemblance with video game characters. Alongside the visual appeal of propaganda-related imagery, several individuals showed an acute interest in graphic videos of torture, fighting, gore, and extreme pornography. This imagery appeared to be particularly salient, with some describing a fascination with visualising blood and injuries, which for some became a source of inspiration for rich and compelling violent fantasies. The attraction to visual stimuli may also be linked to aforementioned visual processing strengths, whereby visual imagery may be even more potent and memorable for these individuals. For some individuals, this content was also described as 'soothing', as was the repetitive nature of curating collections of videos.

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However, in some cases, the consumption of violent extreme content may not have been linked to sensory hyposensitivity. One case described how his traumatic upbringing fuelled his interest in these videos to prove that others had experienced worse suffering. Meanwhile, others reported that they did not enjoy gruesome content, but did not report feeling distressed by it either; they either came across it whilst viewing other propaganda, or were expected to view this content to gain acceptance into some communities. One individual described this as a way to ‘harden’ people seeking to gain membership to extremist groups. For some, curating and sharing this graphic content instead appealed to a sense of mastery through being able to demonstrate their digital skills and intellect.

Some individuals also appeared to experience increasing desensitisation and disinhibition in relation to this violent content, where the individuals craved more content over time, escalating into increasingly violent content. This desensitisation also led individuals to become less inhibited in relation to accessing and sharing concerning material. This appeared to be reinforced through reward from others through sharing mutual interests in violent content, or experiencing a reward from provoking others by showing them graphic videos. This sensation-seeking through provocation was also evidenced in cases where individuals enjoyed provoking others online through trolling or ‘edgy humour’, where some individuals described a sense of satisfaction and reward from being perceived as a potential danger or risk. Some described an escalation in their behaviour – seeking out increasingly graphic stimuli – which in some cases led to concerns about escalation into acting out violent fantasies. Such sensation-seeking behaviours, habituation, and subsequent escalation appeared to be accentuated in cases with comorbid ADHD.

DISCUSSION

The findings from the cases analysed indicate that several features of autism may contextualise behaviours amongst autistic individuals with extremism-related concerns. It is important to emphasise that these do not represent risk factors among autistic individuals in the general population, but rather, can contextualise and explain some risk behaviours amongst those within extremist populations.

The findings suggest that circumscribed interests that are either inherently risky, or become associated with an extremist ideology, can form an important pull and maintenance factor in extremism engagement. Examples of these interests included bomb-making, the military, and fringe politics. These interests provided a sense of purpose, excitement, mastery, and a source of comfort and soothing, as well as social opportunities for individuals who may otherwise feel isolated. Associated visual fantasies may serve a similar function or act as a coping strategy, further maintaining extremism-related interests, particularly when these fantasies relate to violence. These interests may also be maintained through collections of extremist material and physical items such as weapons, which could enhance offending capability. However, these interests and collections may provide opportunities for detection and intervention. They may also be harnessed as prosocial opportunities through diversion to less risky offshoots (Al-Attar, 2020).

Another important broad theme found was the role of social difficulties and social isolation, both acting as a push and a pull factor towards extremism for these individuals. Individuals experienced peer rejection, ostracisation, and difficulties at work and school as a result of their social difficulties. This pushed them to retreat from social settings into the online world, limiting prosocial opportunities, and meant that online communities had a greater pull. For some individuals, social naïveté meant that they did not

anticipate that others in the online space may have malicious intent. Stress and deteriorating wellbeing appeared to be a push factor towards interests that served to soothe, with this becoming a risk due to those interests being harmful.

Individuals' cognitive styles, including their need for order, rules, and routines appeared to act as both a push and a pull factor. The chaos of the world, including the lack of order, predictability, and overwhelming sensory input, further pushed individuals to isolate themselves and retreat to the online world. Meanwhile, the sense of order and rules provided by extremist ideologies was appealing to the individuals studied. Other cognitive aspects, such as attention to detail, difficulties in attention-shifting, and frontal-executive impairments, contributed to difficulties in functioning at work and school, further pushing individuals into isolation and risky interests. Meanwhile, these cognitive styles were linked to obsessionality and rumination over grievances with others or society as a whole, while context-blindness, impaired empathising, and not seeing the bigger picture meant that individuals often did not fully anticipate the consequences of their actions or their impact on others.

Importantly, however, the individuals' experience of symptoms and characteristics of autism did not occur in isolation, but rather interacted with comorbidities, their social circumstances, and the wider socio-political environment. Individuals had experienced a number of adverse life events, such as abuse, bullying, displacement, and exclusion from school or work, all of which contributed towards their difficulties, grievances, and isolation. This appeared to be further compounded during the Covid-19 pandemic, which disrupted routines, created isolation, and created wider difficulties in the socio-political environment which captured the attention of several of the individuals studied. A minority of individuals also had a criminal

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background outside of extremism-related offences, particularly a history of domestic/familial violence. Meanwhile, comorbidities may have exacerbated some difficulties and behaviours – for example, ADHD may have contributed to difficulties coping with boredom and responding with impulsivity and sensation-seeking behaviours, whilst depression, anxiety, and stress may have increased feelings of isolation and grievance, and the need to self-soothe through risky interests. Violent revengeful interests may have had increased pull when they resonated with personal grievances.

These findings may present contextual considerations for understanding extremism engagement amongst autistic individuals, as well as opportunities for intervention and protection. Through better understanding the function that extremist behaviours and interests serve for the individual, as in the cases analysed here, assessors and intervention providers may better be able to understand the individual's drivers for engagement. By understanding factors that reduce or limit inhibitions against acting out extremist interests, practitioners can better understand intent. Finally, by better understanding the skillset that autistic strengths may contribute to, capability can best be delineated. Understanding the role that autism plays in contextualising an individual's risk can help inform ways in which they can be supported to disengage from extremism and engage in more prosocial behaviours and interests.

Although this study did not include a neurotypical comparison group, the focus on autistic features could suggest that extremist engagement, risk, and protection may present differently amongst autistic individuals, compared with their neurotypical counterparts. Practitioners therefore may benefit from autism-specific training, guidance, and resources, to help them to better understand extremism-related behaviours amongst autistic individuals of concern, and better support them to disengage and achieve positive outcomes – as highlighted in the recommendations for neurodiverse individuals in the criminal justice system in general (HM Inspectorate of Prisons et al., 2021).

The findings suggest that the FARAS may provide a useful framework to assist practitioners in analysing the behaviours and risks amongst autistic individuals with extremism-related concerns, by explaining how different facets of autism can contextualise these concerns, behaviours, and risks. Whilst this study did not directly seek to evaluate the FARAS, the relevant findings for each facet in line with the framework, which were consistent across multiple cases and coders, provide support for its relevance for autistic individuals with extremism concerns. Thus, this framework may be useful for practitioners to use alongside and to supplement existing risk and threat assessment instruments. However, it is important to note that the FARAS is not offence-specific, and thus, may need to be slightly adapted for use in extremism contexts (e.g., Al-Attar, 2019a, 2020). In addition, in some places the framework included repetition between facets, for example, where there was overlap between cognitive styles and other facets, and where some behaviours related to more than one facet. This may relate to the interaction between facets, and the different mechanisms and explanations that can underpin behaviours. However, this may be confusing for practitioners, especially if not adequately trained. The findings of this research suggest that in-depth training for practitioners, as well as the provision of examples such as the cases studied here, may facilitate understanding of the framework, and the nuances in the presentations of behaviour across each facet.

LIMITATIONS

Although this study presents the most comprehensive analysis of case studies of autistic individuals with extremism concerns to date, it is not without limitations. Importantly, the fact that the researchers conducting the analysis did not have direct access to the data subjects, or their original case files, presented an important limitation, relying on the interpretation of practitioners to summarise the data. This can also be considered a strength of this study; practitioners had direct knowledge and access to the cases, and clinical expertise and experience to aid in their interpretation.

However, whilst the positionality of the researchers has already been discussed, it is important to note that the practitioners' interpretations may have also been influenced by their experience, role, training, and the amount of information available to them for each case.

Relatedly, although this study gathered data from a larger sample than existing case study analyses, the sample is still limited and may not be generalisable to all autistic individuals with extremism concerns. In particular, the majority of cases in this sample were derived from individuals detected and referred within pre-crime contexts, which could mean that their behaviours may differ from individuals who successfully carry out a terrorism offence. Indeed, previous research suggests that there are behavioural differences between successful and thwarted attackers in general (Meloy & Gill, 2016). A similar limitation was that the cases sampled were mainly lone-actor extremists who were not part of a physical or formal group command structure. It is important for autistic individuals engaged in terrorist or extremist groups to be studied, as the role that autism features play in contextualising risk may differ. Similarly, other socio-psychological factors that interact with autism, such as co-morbidities and social adversities which may not be present in all autistic individuals engaged in terrorism offending. Future research may therefore benefit from examining higher risk samples, and samples including group actors, to examine whether the links and behaviours presented here are generalisable.

It is important to note that focusing specifically on facets relating to autism may have created a form of confirmation bias, by overestimating the relevance of autistic characteristics over other contextual and environmental factors that may have been more important. Indeed, Woodbury-Smith et al. (2022) argue that focusing on diagnostic labels rather than true risk factors may produce 'red herrings' – i.e., an emphasis on characteristics that are not necessarily relevant to the risk at hand. Thus, it is important to reiterate the importance of a holistic approach when examining individuals' behaviour, and the importance

of social factors and comorbidities discussed in this research. Future research may therefore also benefit from focusing upon other factors and comorbidities that may be relevant to risk and resilience amongst autistic individuals with extremism concerns.

IMPLICATIONS

It is important to reiterate that this research does not imply that autism or its facets are risk factors for extremist engagement in the general population. The current findings on the role of autism do not imply that the level of risk is any lower or higher, or that the autistic function of extremism risk behaviour negates its harm to victims. Autism-related functions help to inform the 'why' of risk rather than 'how much' risk; functional contextual links must therefore not be conflated with causal links and medico-legal mitigation. Thus, the key implication of understanding the contextual functional links is to inform risk management and rehabilitation approaches.

The current findings would suggest that risk management and rehabilitative approaches to extremism in autistic individuals need to be based on an individual case formulation that considers the role that the seven FARAS facets of autism, in interaction with other bio-psycho-social factors, plays in shaping risk and how these features can become a source of protection. The importance of nurturing healthy interests and fantasy life, instilling a sense of order and predictability, supporting the individual to manage their obsessionality and fixations, and to problem-solve when faced with injustices and experiencing grievances, and managing sensory needs in a safe way, are all key to rehabilitative support, based on the current findings. Also important is understanding the individual profile of cognitive strengths and challenges for each individual and how these can be turned into sources of achievement, as well as making interventions responsive to those cognitive styles (e.g., ensuring that counter-ideologies are systemising, deploy visual stimuli, and have the same pull factors as extremist ideologies). It is also important not to

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conflate cognitive ‘styles’ associated with autism which shape the type of information that is processed and stored, with learning disability and a lack of understanding of right and wrong, when designing support and interventions. Where mental health needs impact the individual, the effective treatment and support for those needs may need to be prioritised. Where social environments outside the home, such as school or place of employment, generate social and sensory stress, advocating for reasonable adjustments to reduce or make such stressors more manageable may be an important aspect of support. In summary, preventing and counter extremism approaches need to be individualised and where the individual is autistic, an individualised approach that takes into account autism as a source of strengths as well as vulnerabilities, is recommended. The current study has provided insights that could inform such an approach.

CONCLUSION

This research contributes findings from a novel dataset of 18 international case studies derived from closed-source case files of autistic individuals with extremism concerns. Overall, the findings suggest that the FARAS provides an appropriate conceptual framework to analyse the functional links, behaviours, and motivations that may be present amongst autistic individuals in extremism contexts. In particular, the findings highlight how individuals’ experiences of different facets of autism, within their wider circumstances, can contextualise pull or push factors towards extremist engagement. Through better understanding how these factors present amongst autistic individuals in these contexts, practitioners may better be able to understand vulnerability and risk in this population, which may subsequently present considerations for tailoring support to these individuals’ needs. The findings also highlight that a diagnosis alone does not create risk, but rather, combines with other comorbidities and wider social and environmental factors to contextualise individuals’ experiences, functioning, and behaviour in ways that may, in some individuals, exacerbate their vulnerability.

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