



Intersections between Neurodiversity & Crime:

Relevance to Youth and Emerging Adults

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What is the Relationship Between ND & Crime in Young People?

- **Prevalence?**

- Varies across studies - samples, LD/none, age, offences, settings – methodological limitations (+dx unreliable)
- ASD: 0.2-63%; ADHD: 8-25% or 45% in YP

- **Relevance?**


- Knowledge from Outside Forensic:
 - ND can make developmental challenges of adolescence even more complex to navigate
 - Adolescence can make ND challenges more complex to navigate
- Forensic: No coherent nuanced understanding of the many complex ways in which ND may link to risk (or protection) in YP
- Whilst there may be wide consensus that ND adolescents are vulnerable – the relationship with risk is not well understood
- Existent literature/research – many limitations, gaps, oversimplifications and mis-conceptualisations
→ contaminating medico-legal, risk assessment and rehabilitative practice

Gaps in Forensic Field of ND, YP & Crime

- Narrow focus on **reactive** aggression – neglecting **instrumental** offences (even though numerous studies report higher prevalence of ND in cohorts who carry out sexual offences, arson, hacking, mass/school attacks, and terrorism)
- Conflations of **ND** with **ND+LD** (latter is only part of ND & forensic cohorts → significantly limiting our understanding of ND-risk)
- Conflation of **developmental progression** with **developmental delay**
- Conflation of **difference** (including in advanced skills & strengths) with **deficit**
- For this talk – I will redress this balance and try to fill some of the gaps, by focussing on:
 - 1) ND YP without ID
 - 2) Instrumental offending
 - 3) Vulnerability linked to developmental progression
 - 4) Vulnerability linked to strengths / skills (& differences)

Aims

- Unpack the complex relationship(s) between ND & offending in YP, structured around:
 - 5 areas of Autism
 - ADHD
 - Mental Illness (co-existing with ND)
 - Online Space
 - Culture
 - Social Adversity & Strain
- Examine Implications for Risk Assessment & Rehabilitation



Relationship Between ND & Crime in Young People

1. Autism

Interests & Fantasy (FARAS 1 & 2)

- Interests & Pre-occupations – obsessional, immersive, sophisticated, intricate knowledge, detailed research
→ optimal level of functioning (detailed planning, pattern recognition, factual and technical knowledge & communicative fluency)
- Ego-syntonic (pleasurable topics) & Ego-dystonic (upsetting pre-occupations)
- Very strong positive reinforcement & negative reinforcement
- Meet all (GLM & ASD) needs – sooth, regulate, stimulate, mastery, creativity, agency – source of identity & social connection
- Adolescents – topics differ from peers (politics, current affairs, philosophy, history, science, technology, true crime, ‘unexplained’)
- Fantasy – inner/mental aspect of interest – serves same functions (can process/regulate & meet needs) – vivid, rich, detailed, compelling

Adolescence – interests & fantasy become critical to wellbeing and intense. Pre-occupations become more intense/emotionally activating

- Offence may incorporate one or several interests (and associated fantasy):
 - MO, type of crime, notorious crime/criminal, weapon, event, victim(s) – egosyntonic fascination & egodystonic fixation
 - Social connection around (harmful) interests is deep (co-enthusiasts) – even if have other prosocial connections
- Offence - research in detail, rumination, communicate/share knowledge – detailed planning. Can lead & instruct groups

2. Autism

Need for Order/Predictability & Obsessiveness (FARAS 3 & 4)

- Need for order, structure, predictability, routine
- World/people need to be orderly, predictable & follow rules. Change/unknowns trigger anxiety
- Adolescence = avalanche of change - Biological, Emotional, Social, Moral Cognitive
- Secondary school (social rules are ever-changing). Transition to adulthood / 'unsupervised' lifestyle
- Obsessiveness (pedantry, repetition & rituals)
- Perfectionism & moral pedantry – justice sensitivity – life is stressful, agitating & morally injurious
- Intense rumination, repetitive analysis & need for detail/logic – ego-dystonic/syntonic fixations
- Adolescence is stressful - rules change/broken. Moral development heightens 'justice sensitivity'
- **Offence – interest that offers order - or - fixation on injustice/revenge**
- **Offence - precision, detailed research and planning, collections/items, repetitive/sustained attention**

3. Autism

Social Communication & Interaction (FARAS 5)

- 'Verbal fluency' and social 'motivation' may be high V Social competence (softer skills, unspoken rules, implicit cues) may be impaired or different
- People are hard to read – **adolescent relationships** become more complex, dynamic and implicit & social rules change
→ people & their expectations/appraisals of us, are hard to predict and they continuously change with age → over-analyse, plan & critique self/others
- New types of relationships, frames of reference (peers) & emotional/social meaning (romantic/sexual) → unknown rules/structures/scripts → feel uncertain
- Peer acceptance is critical source of self-image - Constantly attend to own social 'errors' (want to socially get 'things right') or peers' inconsistencies and infidelities
- Mimic & camouflage – to fit in (copying doesn't mean do not understand) → exhaustion, imposter syndrome
- Social conflict/disappointment, rejection, isolation, humiliation & fatigue → low self-esteem, agitation, low mood, anger. At the very least, peers unrelatable & fatiguing
- **Anger and dejection may push towards harmful/destructive interests. Sexual frustration/needs may merge with these to shape harmful sexual interests**
- **May see crime as social revenge/restoration of justice. Crime may also be to communicate & stand out, when feeling unheard/unseen ('invisible')**
- **May be accepted and praised for criminal skills. Can belong, lead, have power and status, and influence with skills linked to interests**
- **Not 'suggestible' to people but may want to fit in (crime groups) & overlook others' agendas. May hypercritique illogic/infidelity of mainstream peers → anxiety/anger**
- **Autonomous (attracted to autonomous identities) & this heightens during adolescence – may pursue identity and peers linked to rebellious 'alt' (offence) interests**

4. Autism

Neurocognitive Styles & Differences (FARAS 6)

- Difference not deficit – may be highly intelligent – but due to environment, may underachieve (socially, academically & occupationally). Feel unskilled/low self-esteem → sense of injustice
- Even if socially accepted & high achieving – may feel different – ‘see the world differently’ & ‘think outside the box’ (born in the wrong place/time) – may seek alternative identities/spaces/peers → especially important to have difference and uniqueness affirmed during adolescent identity development
- Compensate for deficits using strengths (academically gather ‘data’ on people & social rules) → fatigue and irritation by human illogic and inconsistency
- Systemising v Empathising – logic, ‘how things work’, pattern recognition, facts, theories and detail analyser (find implicit social world exhausting/stressful – use systemising to compensate)
- Theory of Mind, Social Imagination & Context Blindness (unseen/abstract/implicit harder to detect) – reduced abstract/social cues → may blame peers, come into conflict or feel nihilistic
- Local Coherence v Central Coherence – analyse world & own behaviour in detail → perfectionism & hyper-diligence → need people/life to be logical. People aggravating & miss bigger picture
- Hyperfocus – attention shifting challenges – attention gets stuck on details of fascination/stressor – fixation on every stressor or topic of interest
- Cognitive development during adolescence – heightens analysis of details and patterns in world/others – question complex world, without life experience & abstract thinking (or advanced FE)
- Offence – overly intellectualising, planned in technical detail (including social engineering), fixated – but may lack social imagination or advanced consequential thinking
- Offence – may link to grievance with an illogical world, fixated grievances, patterned/factual interests – when world is confusing, immersion in detailed analysis and interests intensifies
- Can ‘compartmentalise’ harmful/immoral interest (offence) from morally exacting, routine-oriented pro-social lifestyle (Jekyll & Hyde) – lowers detection & splits risk appraisal after detection

5. Autism

Sensory Differences (FARAS 7)

- Hyper-sensitivity: may not function at best level and become generally & socially anxious
 - Secondary school and journey to it may cause fight-or-flight, fatigue & social anxiety
 - Puberty can heighten sensory discomfort and agitation
 - Sexual development may bring new / heightened sensory challenges
- Hypo-sensitivity: crave stimuli, to sooth – including online stimuli (more at times of stress)
- Sensory Acuity – Visual dominance & hyperphantasia – intrusive imagery/memory (+compelling vivid, immersive fantasy)
- Sensory motor differences (include dyspraxia, posture and gait) – may lead to social & romantic rejection
- Offences may sooth sensory agitation or serve to sooth sensory stress
- Offences may provide highly rewarding sensory stimulation (non-sexual & sexual offences)
- Offences may involve vivid fantasy (online/offline) & fantasy used to process anger/powerlessness and avenge social rejection
- Offence may be fuelled by anger and hopelessness at social anxiety and social rejection (e.g. Incel violence, school/mass attacks)

6. ADHD

- Core symptoms (FARAH): 1) Difficulty regulating attention, 2) Difficulty organising/planning multiple complex tasks, 3) impulsivity, short-term reward-seeking & risk-taking, and 4) motor hyper-activity and restlessness
- Associated features (FARAH): 1) Mood dysregulation, 2) sleep disorders/difficulties, 3) bingeing on instant reward activities, and 4) hyperfocus or short-bursts of good or intense focus and motivation
- Secondary sequelae and challenges (FARAH): 1) Alcohol & drug use, 2) anxiety & depression, 3) biological harm & physical risk to self, and 4) long-term impact on lifestyle, behaviour, functioning & personality patterns
- Adolescence & puberty – can heighten impulsivity, FE demands, agitation & dysregulation → heighten need for stimulation/immediate reward
- Bored, stressed/overwhelmed by demands, social risk-taking & keen to fit in by hiding difference → may adopt ‘class clown’ or criminal role amongst peers (+used by peers) – or deviant shocking/taboo identity → **antisocial, risk-taking & harmful topic/crime to express identity**
- Feel under-stimulated (ADHD) & over-stimulated (ASD) – **sooth through risky/intense ‘edgy’ restricted interests (mental, sensory & social stimulation)**
- Stimulation need & desensitisation – shock & gore, taboo, notorious, transgressive & ‘edgy’ topics (become ASD Interests, fixation and strong reward) → **harmful) interests appeal, escalate and diversify** (ADHD habituation & novelty-seeking) → **multiple harms, online or offline**
- ASD offers detailed planning/technical skills & ADHD creates need for intense/risky/taboo topics & behaviour = **instrumental complex & taboo crime**
- Combination AuDHD (+mix of full disorder and phenotypes) – ASD restricted interests & ADHD risk-taking **gone online** - the least well researched (pre 2013 DSM AuDHD did not exist) – can mutually mask & add to wellbeing burden/MH → **the ND, its challenges & links to risk may be hidden**

7. Mental Health

- Sleep disturbance and physical ill=health (dermatological, auto-immune/inflammatory, pain) = common in ND
- Fatigue and burnout of compensation, masking & camouflaging (+identity confusion)
- Mood/stress/distress can be intense & easily, quickly and strongly activated
- ND YP are more sensitive to hormonal changes – puberty can bring very intense mood changes, dysregulation & sensitivities
→ MH challenges increased + ASD & ADHD features may all be amplified
- Anxiety, depression, trauma/PTSD, OCD, eating disorders, body dysmorphia (InceIs/macho persona), gender dysphoria, addictions, psychosis → interests, pre-occupations & fantasy become more threat/anger/destructiveness/dark/morbid/nihilistic themed, obsessive, repetitive/fixated & immersed in to restore order (e.g. bullying/injustice)
- Interests can take on a behavioural addiction quality – in some with ASD/ADHD/MI – (offence) behaviour is highly rewarding
- Callous/unemotional & paranoid traits may be emerging alongside ND (shape interests, social behaviours & feelings + risk)
 - Heightens stress, threat & anger at others
 - Heightens appeal of harmful topics/powerful crimes & Lowers inhibitions against such crimes/harm
- MI can heighten online immersion – mental health forums, explanations for distress / difference & ‘solutions’ (including harmful)

8. Online Space


- Online space can also be a space to navigate developmental milestones (social, identity, moral and biological/sexual development)
- Can also be a source of distress (e.g. moral injury) & source of vulnerability/risk. **Algorithms** can reciprocally feed pre-occupations/fixations/repetition
- Cyberpsychology – reduced inhibition, anonymity, dehumanise, quick reward & low perceived consequence, greater risk-taking and lower perceived risk
- Best fit for ND needs/strengths (ASD skills and interests & ADHD rewards) – can be most competent, influential and skilled (incl at evading detection)
- ND YP – not only digital natives by virtue of age but exceptionally skilled and masterful by virtue of ND - agency, influence, mastery & emotional regulation
- Can be harmful content creators, technical/factual knowledge leaders, influencers. Criminally capable → Can access and lead in unregulated spaces
- Risks are not seen or understood by adults who are unfamiliar with online spaces and sub-cultures
- Online sub-cultures & Gaming – can be entry points to risks → communications & gamification of violence/harm – overlapping online eco-systems
- Harmful sub-cultures – created and run by adolescents - school shooters (Columbiners), mass shooters, extreme violence, NVE, coms networks
- Where alienated from offline society/socially detached – can become immersed in and strongly identified with online alternative subcultures → meet all adolescent developmental needs & redress neurodevelopmental challenges

9. Culture

- ND manifests differently in different socio-cultural contexts & may be masked or its challenges exacerbated by such contexts
- Collectivist communities – may mask ND due to social wrap-around, explicit social rules and role structures (e.g. under-diagnosis)
- Socio-ecological and socio-economic factors impact ND challenges (e.g. over-crowded urban v spacious rural; cost of interests)
- Understimulating (ADHD/high intelligence) or overstimulating (ASD) environments can create agitation – e.g. secondary school
- Gendered norms – e.g. boy with body dysmorphia/MH may be diverted to fitness, **hostile masculine or Incel Red/Black pill culture**
- Criminal lifestyles (peers/family) – ND may not be identified (e.g. **gang context & anti-social 'confidence' and skills mask ND**)
- Political/moral spaces for adolescents – largely unavailable offline in Western societies – **turn to online fringe/unregulated spaces**
- Identity search/development – alienated from family, peers or community (minority/majority) → **seek counter cultures (harmful)**
- Discrimination, racism, intergenerational trauma – exclusion, disempowerment & injustice → **distrust in mainstream culture**
- 'Relative deprivation' & radical or extremist 'narratives' for it → anger, injustice & identity threat → **identity politics & anti-authority**
- **Socio-cultural contexts can 1) exacerbate push factors towards crime & criminogenic risks, 2) reduce protection & 3) mask ND**

10. Social Adversity & Strain

- Exclusion, Isolation, Rejection & Humiliation – peer bullying, lack of inclusion & lack of access to friendships or romantic partners due to ND differences/challenges
 - ND social impairments heightened at a developmentally critical time for social & emotional development – feels catastrophic
- Stress (psychosocial included) – heightens all ASD and ADHD challenges & increases MI risk
- Distress & social needs – addressed by online communities & through interests (incl. offence related interests)
- Social isolation – need to navigate psycho-social/psycho-sexual needs/changes – absence of healthy peers can create vulnerability to **harmful peer groups/social identities**
- Anger, grievance, revenge & injustice can all become fixated & **redressed through harmful interests (offences)**
- Threat, powerlessness – need met through **online/offline crimes that subjugate others or offer power** by notoriety
- ‘Deviant identity’ to fit in, fend off others from targeting/bullying, or feel unique/impactful (e.g. **mass killer, school shooter, terrorist**)



Implications for Risk Assessment & Rehabilitation

Implications for Risk Assessment & Formulation

- **Vulnerability & risk are not mutually exclusive** – some young ND people may be highly vulnerable + risky
- **ND does not in itself reduce or increase level of risk, nor negate culpability**. ‘Understanding wrong’ not inevitably impaired. ND=‘Why’ NOT ‘how much’ of risk
- ND can impact **risk, need & responsibility**
- Not **causal** but **contextual, functional** links (in ND offenders only, not in general population) - Functions of risky behaviour may be idiosyncratic/different
- Developmental **progression** not delay may become a vulnerability point
- **Strengths** as well as deficits may become linked to vulnerability & risk – e.g. cognitive skills & capabilities (+social autonomy) may shape risk pathway
- Can have **‘spiky’ profile** – avoid global ability/capability assessments (& use IQ and educational performance cautiously - misleading measures of ability)
- May **compartmentalise** harmful interests/offences from highly rule-adhering prosocial life and hyper-morality (pro-social profiles of YP committing crime)
- **Individual case formulation**
 - Every young ND person has a very different profile of autism/ADHD which interacts with many unique bio-psycho-social factors
 - Every aspect of ND can afford strengths and be diverted to protective factors ([See FARAS](#))

Implications for Interventions & Support

- General **rehabilitative frameworks and philosophies** can apply – e.g. GLM
- **ASD - 3 pillars of wellbeing/needs** – interests, predictability/order & sensory regulation
- **ADHD – 3 pillars of wellbeing/needs** – healthy stimulation, rewards, and cuing/structure/organisation support (FE coaching)
- Treat as fellow **intellectuals & SMEs**. **Reward/stimulation**. Address paradoxical needs for **autonomy and structure/rules** (provide structure/logic + choices/agency)
- **Cognitive approaches** – explicit/specific, not simple! How things/people work. Make unpredictable predictable (logical/structured). Put chaos into order
- **Social-cognitive approaches** – develop knowledge of people & own emotions (behavioural science of people) – analysis & practice (not simple explanations/skills)
- **Social imagination** – may struggle to generalise theoretical learning about past/present to new future contexts - practice skills/insight application in new contexts
- **Relapse Prevention** – stress/change can lead to relapse, in spite of therapeutic progress and motivation to desist from offending
- **Emotional regulation and stress management**. **Sleep** interventions & **Mental health** support (need ND adaptations – Not ID adaptations)
- **Online** life, **social** and **cultural** contexts of YP need to be considered in planning support and interventions (support family, school & peers to understand/support)
- All cases - Prepare and plan for **transitions** (in social rules/structures/relationships & environments) – progression (release) can be an anxiety-provoking change

Horizon Scanning

- Online harms & hybrid harms/crimes → YP led, international ripple of harms
- VFI, school shootings, mass attacks, terrorism, IED-related, poison-related, cyber-crime – high impact/low probability offences = highest sophistication
- Broad Autistic Phenotype, ADD and subtle AuDHD profiles – whilst ‘severity’ of external symptoms/behavioural difference may be lower, ‘forensic relevance’ may be equal or even higher
- Girls & non-binary – small numbers does not mean irrelevance (forensic research remains male biased; even as dx bias reduces)
- Under-diagnosis/misdiagnosis has been focal outside forensic – forensic is behind (especially in AuDHD, ND profiles without ID, minorities & girls) – we need to review ‘treatment resistant’ cohorts, train forensic clinicians in ND & rethink risk formulation and rehabilitative approaches
- Neurodiversity movement – forensic is behind - ND is used by defence to focus only on deficits & little is published on skills/strengths or protection

Summary and Conclusions

- Neurodiversity can be '**prevalent**' in young people involved in crime. But there is little emphasis on its '**relevance**' in forensic research and practice.
- Where relevance is addressed, it may be reduced to reactive aggression, ND+ID profiles, analysis of deficits & developmental delay → today we shifted focus onto instrumental offending in non-ID ND cohorts, with particular emphasis on analysing strengths/skills and developmental progression as contexts for vulnerability and risk.
- Different features of ND intersect with many developmental needs, and a range of other bio-psycho-social factors (including online space) to shape risk pathways. Such intersections are **functional, contextual, dynamic** and **individual**.
- All ND features, skills and developmental opportunities can be diverted towards **protective factors, resilience and thriving**.
- Developing a nuanced understanding of the many complex intersections between ND, developmental needs, and crime, has implications for all aspects of risk assessment and rehabilitation as it impacts **risk, need and responsivity**.
- **ND-informed, developmentally sensitive, individual case formulations** can be developed as an integral part of standardised risk assessment and forensic rehabilitation.



Thank you

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