DHSC Evidence Summary: Autism, Mental Health and the Risk of Violence and Homicide

Overview – Evidence on autism

While research that implies an association between autism and violence exists, methodological flaws suggest this is an inconclusive relationship. **Much of the evidence suggests that autism does not cause violent behaviour**, but indicates that other factors such as comorbid psychopathology, bullying or one's environment may be risk factors.

Autistic people are more likely to be victimised than the general population, experiencing verbal abuse, bullying and physical attacks. However, challenges persist in reporting incidents to the police, due to a lack of awareness or training surrounding interacting with autistic people. Care and clinical settings could be crucial in reducing risk factors associated with violence in autistic people. Yet the conditions and practices of these settings, particularly within inpatient facilities can be detrimental to the wellbeing of autistic people, due to a lack consideration for their specific needs.

Autism and Violence

The evidence regarding the relationship between autism and violent behaviour is inconclusive. A review of research on the prevalence of violence in autistic individuals has demonstrated wide variability, with studies estimating a prevalence of 1.5%,7%, and 67%. These wide differences in prevalence estimates reflect their lack of reliability and generalisability to the autistic population resulting from methodological variation and the use of highly specialised samples (Del Pozzo et al., 2018)[1]. It also clarifies that while research on child psychiatric inpatients suggests a higher prevalence of other crimes such as arson in autistic people, research on non-forensic samples suggest no significant differences (Blackmore et al., 2022)[2]. The review emphasises that there may be an overrepresentation of autistic people in forensic settings that may exaggerate the prevalence rate of violence and offending in autistic people and concludes that autism does not cause violent behaviour.

Some research has identified an association between autism and homicide, but not one that could be definitively established due to risk factors. One systematic review (Allely et al., 2014)[3] that garnered significant media attention , estimated that more than 10% of serial killers and mass murderers have a diagnosis or probable diagnosis of autism, which is significantly higher than the prevalence of

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[1] Del Pozzo, J., Roché, M. W., & Silverstein, S. M. (2018). Violent behavior in autism spectrum disorders: Who's at risk?. *Aggression and violent behavior*, *39*, 53-60.

[2] Blackmore, C. E., Woodhouse, E. L., Gillan, N., Wilson, E., Ashwood, K. L., Stoencheva, V., ... & Daly, E. (2022). Adults with autism spectrum disorder and the criminal justice system: An investigation of prevalence of contact with the criminal justice system, risk factors and sex differences in a specialist assessment service. *Autism*, *26*(8), 2098-2107.

[3] Allely, C. S., Minnis, H., Thompson, L., Wilson, P., & Gillberg, C. (2014). Neurodevelopmental and psychosocial risk factors in serial killers and mass murderers. *Aggression and violent behavior*, *19*(3), 288-301.

autism in the general population. However, the study emphasised that a direct association could not be definitively established as the majority of individuals also experienced psychosocial risk factors, such as major surgery, parental divorce, and physical or sexual abuse during childhood.

Other research has explored whether autistic traits are associated with susceptibility to radicalisation. Interview studies conducted with professionals with experience of radicalisation revealed concerns that traits of autism such as circumscribed interests, which are characterised by strong preoccupations on specific and niche topics (Lam et al., 2008)[4], could result in a greater susceptibility to radicalisation (Walter et al., 2021)[5]. However, research has suggested that while circumscribed interests in violence is evident in offending autistic individuals, it does not appear to show any relationship with the type of crime they commit (Woodbury-Smith et al., 2010)[6]. Thus, it's highlighted that there is currently no evidence to support the notion that traits of autism result in greater susceptibility to extremism or radicalisation than others (Allely, 2024)[7]. Professionals who had previously carried out work related to extremism also caution that media coverage sensationalizing cases of radicalised individuals who have an autism diagnosis may lead to incorrect labelling of autistic people as being more vulnerable to committing terrorist acts (Walter et al., 2021)[8].

Subsequent systematic reviews have called into question the quality of research linking autism to violence, and supported the finding that autism does not cause violence. Prior research has concluded that prevalence studies lack any persuasive evidence of higher rates of violence in autistic individuals. Studies suggesting an association between autism and violence very often exhibit significant methodological flaws, such as selecting biased samples, omitting the use of control groups, or both. Those that show greater methodological accuracy with the inclusion of control groups and more representative samples often show either no differences in rates of violence between autistic and non-autistic individuals, or lower rates of violence in autistic individuals (Im, 2016; King, & Murphy, 2014)[9][10] Despite

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[4] Lam, K. S., Bodfish, J. W., & Piven, J. (2008). Evidence for three subtypes of repetitive behavior in autism that differ in familiality and association with other symptoms. *Journal of Child Psychology and Psychiatry*, *49*(11), 1193-1200.

[5] Walter, F., Leonard, S., Miah, S., & Shaw, J. (2021). Characteristics of autism spectrum disorder and susceptibility to radicalisation among young people: A qualitative study. In *Violent extremism* (pp. 145-166). Routledge.

[6] Woodbury-Smith, M., Clare, I., Holland, A. J., Watson, P. C., Bambrick, M., Kearns, A., & Staufenberg, E. (2010). Circumscribed interests and 'offenders' with autism spectrum disorders: a case-control study. *The Journal of Forensic Psychiatry & Psychology*, *21*(3), 366-377.

[7] Allely, C. S., Jouenne, E., Westphal, A., Staufenberg, E., & Murphy, D. (2024). Autism spectrum disorder, extremism and risk assessment. *Criminal Behaviour and Mental Health*, *34*(2), 182-196.

[8] Walter, F., Leonard, S., Miah, S., & Shaw, J. (2021). Characteristics of autism spectrum disorder and susceptibility to radicalisation among young people: A qualitative study. In *Violent extremism* (pp. 145-166). Routledge.

[9] Im, D. S. (2016). Template to perpetrate: An update on violence in autism spectrum disorder. *Harvard review of psychiatry*, *24*(1), 14-35.

[10] King, C., & Murphy, G. H. (2014). A systematic review of people with autism spectrum disorder and the criminal justice system. *Journal of autism and developmental disorders*, *44*, 2717-2733.

recommendations to improve the methodological accuracy of subsequent research conducted on autism and the criminal justice system, a recent review of studies carried out since 2013, demonstrated that there has continued to be a limited amount of good quality research, with most displaying unrepresentative samples, no matched comparison samples, reliance on retrospective data or a lack of standardized instruments (Collins et al., 2023)[11].Nevertheless, various research has supported the assertion that autism in and of itself does not cause violence, but indicate that other factors such as comorbid psychopathology, bullying, or one's environment may contribute to the risk of violence in autistic people(Del Pozzo et al., 2018; Im, 2016; Allely et al., 2014)[12][13][14]

Autism and Victimisation

Autistic individuals are at a higher risk of victimisation to both violent and non-violent behaviour, compared to the general population. In a meta-analysis of 34 studies, with a total sample of over 600,000 participants internationally, including from the U.K., a pooled prevalence rate for victimisation in autistic individuals was reported at 44%, compared to the general population where it was 14% (Trundle et al., 2023)[15]. At a national level, an analysis of calls to the Helpline of the National Autistic Society (UK) similarly revealed that 44% of individuals were experiencing victimisation, including bullying, physical attacks and abuse (Beadle-Brown et al., 2014)[16]. Such findings suggest a high and consistent prevalence of victimisation in autistic people, both globally and within the UK. The impact of victimisation can be life-altering: a survey distributed in Medway, Kent, to autistic individuals and/or people with a learning disability, revealed that among 116 respondents that had experienced victimisation, 65% percent of such individuals reported they avoid people and places where the incidents happened, 32% had to move house, and 26% don't go out on their own as much (Beadle-Brown et al., 2014)[17] . The most common places these experiences occurred were at schools, colleges or day centres (43%). Despite the considerable impact of these experiences, various barriers to reporting the behaviour to the police were identified, including being scared, concerns about being unable to explain, and the worry of being arrested themselves.

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[11] Collins, J., Horton, K., Gale-St. Ives, E., Murphy, G., & Barnoux, M. (2023). A systematic review of autistic people and the criminal justice system: an update of king and murphy (2014). *Journal of Autism and Developmental Disorders*, *53*(8), 3151-3179.

[12] Del Pozzo, J., Roché, M. W., & Silverstein, S. M. (2018). Violent behavior in autism spectrum disorders: Who's at risk?. *Aggression and violent behavior*, *39*, 53-60.

[13] Im, D. S. (2016). Template to perpetrate: An update on violence in autism spectrum disorder. *Harvard review of psychiatry*, *24*(1), 14-35.

[14] Allely, C. S., Minnis, H., Thompson, L., Wilson, P., & Gillberg, C. (2014). Neurodevelopmental and psychosocial risk factors in serial killers and mass murderers. *Aggression and violent behavior*, *19*(3), 288-301.

[15] Trundle, G., Jones, K. A., Ropar, D., & Egan, V. (2023). Prevalence of victimisation in autistic individuals: A systematic review and meta-analysis. *Trauma, Violence, & Abuse*, *24*(4), 2282-2296.

[16] Beadle-Brown, J., Richardson, L., Guest, C., Malovic, A., Bradshaw, J., & Himmerich, J. (2014). Living in Fear: Better outcomes for people with learning disabilities and autism.

[17]Beadle-Brown, J., Richardson, L., Guest, C., Malovic, A., Bradshaw, J., & Himmerich, J. (2014). Living in Fear: Better outcomes for people with learning disabilities and autism.

Autism and Institutional Support

Such challenges highlight the need for greater support in protecting autistic people when reporting crimes within the criminal justice system. For example, interviews with 120 UK police officers revealed that 40% did not recognise the term "developmental disorder" and self-reported their ability to "deal with" autistic people at an average of 2.63 (1 being least and 5 being most competent) (Chown, 2010)[18]. While some evidence has suggested that autism-specific training has helped to inform the police on how to adjust their approaches when interacting with autistic people (Crane et al., 2016)[19], other research suggests the majority of staff have no autism-specific training at all (Richardson et al., 2016)[20]. The impact of this is reflected in studies reporting breakdowns in communication, unprofessional behaviour (Edworthy, & Hylton, 2010)[21], and unsatisfactory interactions with law enforcement (Allen et al., 2008)[22].

Care and Clinical settings play a vital role in supporting autistic individuals that have comorbid disabilities or psychopathologies. Not only are autistic people more likely to experience victimisation compared to the general population, but they also have higher rates of comorbid conditions, such as anxiety (Van Steensel et al., 2011)[23], depression (Hudson et al., 2019)[24] and OCD, as well as sleep disorders, ADHD (Houghton et al., 2018)[25] and learning disabilities (NHS England, 2020)[26]. Therefore, it is important that autistic people have adequate and timely access to care. While victimisation prevalence is lower in clinical samples (39%) than in local community samples (54%) (Trundle et al.,2023)[27], it is still high and improvement is required from within such settings. Interventions from care and clinical setting could play an important role in reducing risk factors associated with violence in autistic people. Focus groups carried out with those with learning

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[18] Chown, N. (2010). 'Do you have any difficulties that I may not be aware of?'A study of autism awareness and understanding in the UK police service. *International Journal of Police Science & Management*, *12*(2), 256-273.

[19] Crane, L., Maras, K. L., Hawken, T., Mulcahy, S., & Memon, A. (2016). Experiences of autism spectrum disorder and policing in England and Wales: Surveying police and the autism community. *Journal of autism and developmental disorders*, *46*, 2028-2041.

[20] Richardson, Lisa, Julie Beadle-Brown, Jill Bradshaw, Colin Guest, Aida Malovic, and Julian Himmerich. " "I felt that I deserved it" -experiences and implications of disability hate crime." *Tizard Learning Disability Review* 21, no. 2 (2016): 80-88.

[21] Edworthy, A., & Hylton, C. (2010). Brain-injured children and the police. *Journal of Learning Disabilities and Offending Behaviour*, *1*(3), 40-48.

[22]Allen, D., Evans, C., Hider, A., Hawkins, S., Peckett, H., & Morgan, H. (2008). Offending behaviour in adults with Asperger syndrome. *Journal of autism and developmental disorders*, *38*(4), 748-758.

[23] Van Steensel, F. J., Bögels, S. M., & Perrin, S. (2011). Anxiety disorders in children and adolescents with autistic spectrum disorders: A meta-analysis. *Clinical child and family psychology review*, *14*, 302-317.

[24] Hudson, C. C., Hall, L., & Harkness, K. L. (2019). Prevalence of depressive disorders in individuals with autism spectrum disorder: A meta-analysis. *Journal of abnormal child psychology*, *47*, 165-175.

[25] Houghton, R., Liu, C., & Bolognani, F. (2018). Psychiatric comorbidities and psychotropic medication use in autism: a matched cohort study with ADHD and general population comparator groups in the United Kingdom. *Autism Research*, *11*(12), 1690-1700.

[26] NHS (2019). People with a learning disability, autism or both. Accessed here.

[27] Trundle, G., Jones, K. A., Ropar, D., & Egan, V. (2023). Prevalence of victimisation in autistic individuals: A systematic review and meta-analysis. *Trauma, Violence, & Abuse*, *24*(4), 2282-2296.

disabilities and autistic people (Beadle-Brown et al., 2014)[28], reveal that reports of abuse are often withheld until reaching 'breaking point. Hence, support for the wellbeing of autistic people in clinical settings incidents of victimisation, as well as in reporting incidents of victimisation could ameliorate risk factors to violence surrounding retaliation.

However, care and clinical settings require strong improvement to ensure the needs of autistic people are met. There is evidence of inequalities existing within inpatient facilities for autistic people, in which it has been shown that autistic people experience more frequent and longer durations of short-term and long-term seclusion compared with non-autistic individuals (Murphy et al., 2017)[29]. Such practices and the settings they take place in have been found to show little adaptation to the sensory needs of autistic people, causing iatrogenic harm (Care Quality Commission, 2020)[30]. Their distress, caused by this lack of adaptation, can be viewed as poor behaviour, or worsening of a mental health issue, rather than being a consequence of their environment (Williams et al., 2023)[31]. Thus, more is needed to be done to improve these settings for autistic people.

Overview – Evidence on Mental Health

In summary, mental health is an umbrella term, and mental health disorders include many different conditions. The risk of violence and homicide varies markedly across conditions, and as such there is no single "relationship" between MH and homicide, furthermore any association does not mean causation. While there is some association between Mental Health conditions and homicide, the overall risk remains low. Risk varies by condition, with schizophrenia carrying the highest risk, but other factors such as substance abuse and adverse childhood experiences contribute to both mental health conditions and violence. Given these overlapping influences, it is important to avoid oversimplifying the link between mental health and violence/homicide[32]. Evidence shows that effective treatment and support reduces the risk of violence and reoffending in particular disorders.

Data collected between 2008-18 (since decommissioned) suggest 11% of people convicted of homicide were patients under MH care and that the rate fell over that period (NCISH, 2020)[33]. Between 2008-18 in the UK there were c.700

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[28] Beadle-Brown, J., Richardson, L., Guest, C., Malovic, A., Bradshaw, J., & Himmerich, J. (2014). Living in Fear: Better outcomes for people with learning disabilities and autism.

[29] Murphy, D., Bush, E. L., & Puzzo, I. (2017). Incompatibilities and seclusion of patients with an autism spectrum disorder detained in high-secure psychiatric care. *Journal of Intellectual Disabilities and Offending Behaviour*, *8*(4), 188-200.

[30] CQC (2020) Out of sight - who cares? Accessed here.

[31] Williams, G., Corbyn, J., & Hart, A. (2023). Improving the sensory environments of mental health in-patient facilities for autistic children and young people. *Child Care in Practice*, *29*(1), 35-53.

[32] Fusar-Poli, P., Sunkel, C., Larrauri, C. A., Keri, P., McGorry, P. D., Thornicroft, G., & Patel, V. (2023). Violence and schizophrenia: the role of social determinants of health and the need for early intervention. World psychiatry, 22(2), 230.

[33] NCISH (2021). Annual report 2021: England, Northern Ireland, Scotland and Wales. Accessed here. NCISH no longer collects data on homicide and so these figures will not be updated.

patients under the care of MH services convicted of a homicide, which is 11% of all c.6,400 homicide convictions and an average of 64 per year. This decreased from c.90 in 2008 to c.40 in 2018 (most recent data available). The proportion of total convictions also fell over that period. These figures represent a small fraction of all those receiving MH care. In 2023/24 1.26m referrals accessed NHS Talking Therapies for conditions such as depression and anxiety and c. 3.8m people were in contact with NHS funded secondary MH, learning disabilities and autism services in England.[34]

Studies suggest there may be some association between having a mental health disorder and perpetration of violence and homicide, but this is not the case for all disorders.[35] Most homicide victims of mentally disordered offenders are family members (73%) and stranger homicide are relatively rare in this population (15%) (Deshpande, to be published). Schizophrenia spectrum, personality, and substance use disorders, are clearly associated with increased relative risks of violence.[36] However, the association for many is likely to be mediated through shared risk factors for violent offending and mental health.[37] For homicide, only its association with schizophrenia has been well researched. The meta-analysis found the odds for individuals with schizophrenia committing homicide were around 19 times higher than otherwise similar individuals.[38]

The absolute risk of violence associated with mental ill-health is very low. Only a small number of homicides are committed by those with MH conditions and equally, only a small number of those with MH conditions commit homicide. The 2020 review showed that while the relative risk for schizophrenia was high, only 0.3% of individuals with schizophrenia were estimated to commit homicide in their lifetime.[39]And while about 1 in 3 people (31.6%) aged 16 and over in England were identified as having a possible MH condition in 2014, only 0.7% were estimated to have a psychotic disorder like schizophrenia.[40] Taken together these two statistics (absoluter risk and prevalence) equate to about 20-30 homicides per year committed

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[34] NHSE (2024). NHS Talking Therapies, for anxiety and depression, Annual reports, 2023-24. Accessed here. And Mental Health Bulletin, 2023-24 Annual report. Accessed here.

[35] The 2020 systematic review found studies for nine MH conditions and concluded that most of these had higher risk than the general population, including after controlling for substance abuse and demographic factors in some cases.

[36] Whiting, D., Lichtenstein, P., & Fazel, S. (2021). Violence and mental disorders: a structured review of associations by individual diagnoses, risk factors, and risk assessment. The Lancet Psychiatry, 8(2), 150-161.

[37] Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C., ... & Dunne, M. P. (2017). The effect of multiple adverse childhood experiences on health: a systematic review and meta-analysis. The Lancet public health, 2(8), e356-e366.

[38] Whiting, D., Lichtenstein, P., & Fazel, S. (2021). Violence and mental disorders: a structured review of associations by individual diagnoses, risk factors, and risk assessment. The Lancet Psychiatry, 8(2), 150-161.

[39] Whiting, D., Lichtenstein, P., & Fazel, S. (2021). Violence and mental disorders: a structured review of associations by individual diagnoses, risk factors, and risk assessment. The Lancet Psychiatry, 8(2), 150-161.

[40] Bebbington, P. E., & McManus, S. (2020). Revisiting the one in four: the prevalence of psychiatric disorder in the population of England 2000-2014. The British Journal of Psychiatry, 216(1), 55-57.

by people with schizophrenia.[41] Risk of homicide perpetration for those with depression is unknown - not enough studies have been done. Studies on violence generally show lower risk than for schizophrenia[42] (although even for schizophrenia the causal pathways are still unknown), but the prevalence of depression is higher. A Swedish study (Fazel et al. 2015) did report a c.3 x increased likelihood of violent offending after depression diagnosis compared with the general population.[43]

MH conditions often cooccur with other homicide/violence risk factors, notably substance abuse.[44] Of 1,457 homicide perpetrators in contact with MH services from 1997 to 2016, 89% had co-existing drug or alcohol problems.[45] Substance abuse has a stronger association with violence/ homicide than MH and those with both have the highest risk. A 2020 systematic review found that substance abuse was associated with a higher relative risk of violence than any MH conditions tested (Whiting et al. 2020).[46] Substance abuse has also been estimated to double the risk of violence perpetration in those with MH conditions[47] and the relationship between MH conditions and violence is markedly reduced when substance abuse is controlled for. Furthermore, substance misuse also increase disengagement from services including MH services.

Individuals with MH conditions are also at greater relative risk of becoming *victims* of violence/homicide. Khalifeh et al. (2015) reported 5-times higher relative risk rates of victimisation for those with severe mental illness.[48] This has been shown to be true for general violence/crime[49] and for domestic violence.[50]

There are many shared risk factors between mental illness and perpetration of violence which mean that the observed association between the two cannot

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[41] Senior, M., Fazel, S., & Tsiachristas, A. (2020). The economic impact of violence perpetration in severe mental illness: a retrospective, prevalence-based analysis in England and Wales. The Lancet Public Health, 5(2), e99-e106. and the NCISH study found that from 1996-2016, the most common primary diagnosis for homicide perpetrators with MH conditions was schizophrenia and other delusional disorders. There were 411 such perpetrators over the 20-year period, about 20 per year.
[42] Whiting, D., Lichtenstein, P., & Fazel, S. (2021). Violence and mental disorders: a structured review of associations by individual diagnoses, risk factors, and risk assessment. The Lancet Psychiatry, 8(2), 150-161.
[43] Fazel, S., Wolf, A., Chang, Z., Larsson, H., Goodwin, G. M., & Lichtenstein, P. Depression and violence: a Swedish population study. Lancet Psychiatry. 2015; 2 (3): 224-32.
[44] Oueslati, B., Fekih-Romdhane, F., Mrabet, A., & Ridha, R. (2018). Correlates of offense recidivism in patients with schizophrenia. International journal of law and psychiatry, 58, 178-183.
[45] NCISH (2018) National Confidential Inquiry into Suicide and Safety in Mental Health Accessed here.
[46] Whiting, D., Lichtenstein, P., & Fazel, S. (2021). Violence and mental disorders: a structured review of associations by individual diagnoses, risk factors, and risk assessment. The Lancet Psychiatry, 8(2), 150-161.
[47] Fazel, S., Wolf, A., Palm, C., & Lichtenstein, P. (2014). Violent crime, suicide, and premature mortality in patients with schizophrenia and related disorders: a 38-year total population study in Sweden. The lancet psychiatry, 1(1), 44-54.
[48] Khalifeh, H., Johnson, S., Howard, L. M., Borschmann, R., Osborn, D., Dean, K., ... & Moran, P. (2015). Violent and non-violent crime against adults with severe mental illness. The British Journal of Psychiatry, 206(4), 275-282.
[49] Maniglio, R. (2009). Severe mental illness and criminal victimization: a systematic review. Acta Psychiatrica Scandinavica, 119(3), 180-191.
[50] Trevillion, K., Oram, S., Feder, G., & Howard, L. M. (2012). Experiences of domestic violence and mental disorders: a systematic review and meta-analysis. PloS one, 7(12), e51740.

readily be interpretated as causal. For example, adverse experiences in childhood increase risk of mental illness and violence perpetration in later life, as well as substance misuse. A 2017 systematic review (Hughes et al. 2017)[51] found that individuals who experienced more than four adverse childhood experiences, such as physical or emotional abuse, neglect, or exposure to parental incarceration, substance misuse, mental illness or divorce in the home, were up to six times more likely to develop an MH problem and over seven times more likely to commit interpersonal and self-directed violence, as well as problematic drug use. Many of the relative risk studies in the 2020 systematic review do attempt to control for other correlates of violence/homicide (like being male, ACEs and substance abuse).

Mental health treatment has been shown to reduce rates of violence and general re-offending. Studies show that prescription of certain psychotropic medications (specifically antipsychotics, stimulant medications and addictions treatment but not antidepressants) reduces violence[52] and violent reoffending[53]. Further research is needed to understand the causal nature of this association[54]. Violent patients detained under the Mental Health Act have a substantially lower likelihood of reoffending post-release than offenders in general. Only 3%-6% of "restricted patients" discharged annually between 2010 and 2016 were cautioned or reconvicted within 12 months of release. This compares with a reoffending rate of around 30% among all adult offenders and about 50% among all ex-prisoners over the same period.[55] Furthermore data from the National Confidential Inquiry into Suicide and Homicide by People with Mental Illness shows that 48% of MH patients convicted of homicide were non-adherent with treatment or had lost contact with services.[56]

Mental health and radicalisation

A 2021 umbrella review of the relationship between mental illness and radicalisation found the relationship is to be complex and multi-faceted. Mental health problems often co-occur with other experiences which increase the risk of radicalisation such

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[51] Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C., ... & Dunne, M. P. (2017). The effect of multiple adverse childhood experiences on health: a systematic review and meta-analysis. The Lancet public health, 2(8), e356-e366.

[52] Bhavsar, V., Kosidou, K., Widman, L., Orsini, N., Hodsoll, J., Dalman, C., & MacCabe, J. H. (2020). Clozapine treatment and offending: a within-subject study of patients with psychotic disorders in Sweden. *Schizophrenia bulletin*, *46*(2), 303-310.

[53] Chang, Z., Lichtenstein, P., Långström, N., Larsson, H., & Fazel, S. (2016). Association between prescription of major psychotropic medications and violent reoffending after prison release. Jama, 316(17), 1798-1807.

[54] Chang, Z., Lichtenstein, P., Långström, N., Larsson, H., & Fazel, S. (2016). Association between prescription of major psychotropic medications and violent reoffending after prison release. Jama, 316(17), 1798-1807.

[55] Ministry of Justice (2018) Annex A: Proven reoffending rates for restricted patients statistics tables, 2010 to 2016. Accessed here. "

[56] NCISH (2021). Annual report 2021: England, Northern Ireland, Scotland and Wales. Accessed here.

as chronic stress, recent life changes, history of trauma, poor relationships, and/or being a victim of perceived injustice or discrimination.[57]

Evidence surrounding mental illness and radicalisation is mixed. Whilst Gil et al. (2021) suggests that 40% of those in radicalised groups have a diagnosed mental illness[58], others have found no such difference (Campelo et al., 2020[59]; Christmann et al., 2012[60]). Lone-actor terrorists are 13 times more likely to have a diagnosed mental illness than group-actors (Misiak et al., 2019[61]). This effect is extended to the ideology of the terrorists, with single-issue motivated terrorists more likely to have a history of mental illness than those with a broader ideology (Misiak et al., 2019).

Depression appears to be the most frequently studied mental illness in the radicalisation literature reviewed[62]. Misiak et al.'s (2019) review found mixed evidence for a link between depression and radicalisation, with some reviews even finding depression to be a protective factor against radicalisation (Wolfowicz et al., 2020[63]), however this effect size was small. Gill et al. (2021) suggest that, whilst depression may contribute to extremist support, it inhibits the violent expression of such ideals.

Evidence has suggested that psychotic disorders are elevated in radical populations but that many of the studies are of poor methodology and so should be interpreted with caution. Reviews have found prevalence rates ranging from 2% - 47% (Gill et al., 2021; Trimbur et al., 2022[64]), compared to a general population prevalence of 0.7% (Weenink, 2015[65]). However, Trimbur et al (2022) found that many of the studies had poor methodology which resulted in large differences in prevalence rates and contradictory findings, meaning they did not find a significant association between radicalization, terrorism, and psychiatric

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[57] Brooks, S. K., & Greenberg, N. (2021). Mental health, complex needs and vulnerability to radicalisation.

[58] Gill, P., Farnham, F., & Clemmow, C. (2021). The equifinality and multifinality of violent radicalization and mental health.

[59] Campelo, N., Oppetit, A., Neau, F., Cohen, D., & Bronsard, G. (2018). Who are the European youths willing to engage in radicalisation? A multidisciplinary review of their psychological and social profiles. European psychiatry, 52, 1-14.

[60] Christmann, Kris (2012) Preventing Religious Radicalisation and Violent Extremism: A Systematic Review of the Research Evidence. Research Report. Youth Justice Board

[61] Misiak, B., Samochowiec, J., Bhui, K., Schouler-Ocak, M., Demunter, H., Kuey, L., ... & Dom, G. (2019). A systematic review on the relationship between mental health, radicalization and mass violence☆. European psychiatry, 56(1), 51-59.

[62] Brooks, S. K., & Greenberg, N. (2021). Mental health, complex needs and vulnerability to radicalisation

[63] Wolfowicz, M., Litmanovitz, Y., Weisburd, D., & Hasisi, B. (2020). A field-wide systematic review and meta-analysis of putative risk and protective factors for radicalization outcomes. Journal of quantitative criminology, 36, 407-447.

[64] Trimbur, M., Amad, A., Horn, M., Thomas, P., & Fovet, T. (2021). Are radicalization and terrorism associated with psychiatric disorders? A systematic review. Journal of psychiatric research, 141, 214-222.

[65] Weenink, A. W. (2015). Behavioral problems and disorders among radicals in police files. Perspectives on terrorism, 9(2), 17-33.

disorders.[66] Misiak et al. (2019) further found that those who injured others in a violent attack were 12x more likely to have a schizophrenic spectrum disorder. As with general mental health, these prevalence rates seem to depend on whether the individual acted alone, with one study finding a lone-actors had a 14% prevalence of schizophrenia compared to 3% of group-actors (Gill et al., 2021).

However, these are simply prevalence rates, and do not establish a causal link between mental illness and radicalisation. Misiak et al. (2019) have indicated that '*caution should be taken on how the association between 'mental health' and 'radicalization' is being claimed, because of limited evidence so far, and a number of methodological limitations of studies addressing this issue'.* Gill et al. (2021) found that radicalised individuals with a history of mental illness were also more likely to report being a victim of prejudice, experiencing stress, going through a recent life change and abuse, suggesting that these factors may also play a role. Other distal factors, such as access to the internet (Kenyon et al., 2022[67]) and socio-economic status (Brooks & Greenburg, 2021[68]), which have been linked to both mental illness and radicalisation, are also theorised to contribute to this relationship.

[66] Trimbur, M., Amad, A., Horn, M., Thomas, P., & Fovet, T. (2021). Are radicalization and terrorism associated with psychiatric disorders? A systematic review. Journal of psychiatric research, 141, 214-222.

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