PSYCHOLOGY MISCELLANY

No.236 - Mid-April 2026

Mostly Mental Health

Kevin Brewer

ISSN: 1754-2200

orsettpsychologicalservices@phonecoop.coop

This document is produced under two principles:

1. All work is sourced to the original authors. The images are all available in the public domain (most from http://commons.wikimedia.org/wiki/Main_Page). You are free to use this document, but, please, quote the source (Kevin Brewer 2026) and do not claim it as you own work.

2. Details of the author are included so that the level of expertise of the writer can be assessed. This compares to documents which are not named and it is not possible to tell if the writer has any knowledge about their subject.

This document is presented for human readers.

Kevin Brewer BSocSc, MSc

An independent academic psychologist, based in England, who has written extensively on different areas of psychology with an emphasis on the critical stance towards traditional ideas.

A complete listing of his writings at http://psychologywritings.synthasite.com/. See also material at https://archive.org/details/orsett-psych.

CONTENTS

	Page Number
1. National Level Mental Health Promotion	4
2. Dissociation Measures	24
3. PTSD and Imagining the Future	27
4. Neuroimaging and Psychiatry	29
5. Anabolic-Androgenic Steroid Use Disorder	31
6. Prevalence Rates	33
7. Two New Treatments for Attention-Deficit Hyperactivity Disorder (ADHD)	52
8. Some Research on Depression	56
9. Longstanding Eating Disorders	71
10. Autism in Later Life	79

1. NATIONAL LEVEL MENTAL HEALTH PREVENTION

1.1. Introduction
1.2. Early, school-based and community interventions
1.3. Lessons learned and an example from Norway
1.4. Depression and suicide
1.5. Mental health promotion
1.6. Conclusions
1.7. Appendix 1A - Mental health literacy
1.8. Appendix 1B - Media guidelines
1.9. References

1.1. INTRODUCTION

The World Health Organisation's "Comprehensive Mental Health Action Plan" (WHO 2021) sought to promote for adults "a state of well-being in which the individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community", while for children there was an emphasis on "a positive sense of identity, the ability to manage thoughts, emotions, as well as to build social relationships, and the aptitude to learn and to acquire an education, ultimately enabling their full participation in society" (quoted in Fleming et al 2025).

Papola et al (2024) asserted: "Prevention is the cornerstone of public health and plays a key role in addressing the burden of both communicable and non-communicable diseases. Immunisation programmes, for example, are counted among humanity's greatest achievements, and campaigns to promote hygiene practices, access to clean water, and sanitation facilities have dramatically reduced the spread of communicable diseases... Lifestyle changes, including a healthy diet, regular physical activity, and smoking cessation, have been at the forefront of cardiovascular disease prevention efforts for decades, and have significantly improved outcomes" (p1).

Grummitt et al (2023) noted the large burden of mental disorders (eg: 13% of the population of the world or 970 million people in 2019), and that even in high-resourced health service countries the numbers are increasing and treatment cannot deal with all cases. The answer is, therefore, prevention [1].

[1] Ormel et al (2022) described the "treatment-prevalence paradox", specifically in relation to

"Accumulating research over the past three decades across fields of epidemiology, biology, neuroscience, genomics, and social sciences has shown that risk for disease, including mental disorders, is strongly shaped by an individual's early environment... In parallel, growing attention to the social and structural determinants of health has increased understanding that many non-medical factors are strong drivers of health, such as economic stability, discrimination, access to education and health care, housing, community, and the general anxiogenic environment" (Grummitt et al 2023 p1). This suggests that policies addressing the social determinants of mental health would be beneficial [2] [3].

In the same way as children are immunised against physical diseases, Grummitt et al (2023) argued for a government-led "national 'immunisation schedule'" for social determinants of mental disorders. Key ideas in such universal prevention includes programmes at all ages (ie: from pregnancy, through school to older adulthood) (eg: ante-natal care; parenting programmes; school-based interventions; workplace and community programmes) (Papola et al 2024).

Policies and programmes should adhere to the principle of "proportionate universalism" - ie: "while interventions are provided to all, they are equitably distributed based on need, with those needing a greater 'dose' receiving it" (Grummitt et al 2023 p2). This may mean selective prevention programmes aimed at groups with specific needs and risks. Patel et al (2023) put it thus: "Attempting to reduce the number of people with mental ill health without combating adverse social and economic conditions would be the equivalent of tackling cancer with no regulations on cigarette smoking, or trying to reduce infectious disease without investments in public sanitation" (quoted in Papola et al 2024).

Any programmes should be based on evidence, but the problem is what constitutes "evidence" (Papola et al 2024). Randomised controlled trials (RCTs) are the "gold standard" method to establish the effectiveness of treatments, but "they are primarily designed to investigate it at the individual level, usually in a highly controlled context, and are therefore not primarily suited to evaluating preventive interventions

---

depression, where an increase in treatment in a population does not produce a reduction in prevalence.

[2] The "Origins of Adult Mental Illnesses" (OrigAMI) model targets modifiable risk factors to stop the development of mental illness later (Rathod 2024).

[3] Key issues to be addressed include poverty, gender disparity, and social discrimination (Papola et al 2024).

at the societal level. Interventions that target social determinants, for example, are not easily measurable through experimental evaluations because prevention programs are typically multi-faceted programmes in dynamic community settings where many contextual factors are difficult to control. Practical, financial, or ethical reasons may also limit the feasibility of testing prevention programmes through RCTs" (Papola et al 2024 p2). Quasi-experimental designs may be more feasible.

Carbone (2022) observed: "High levels of mental well-being and low levels of mental ill-health across the population are good for individuals, good for communities, and good for the economy..." (p1). He outlined four requirements to achieve this situation [4]:

i) Giving citizens the language and knowledge to motivate action - This is seen as "mental health literacy" (appendix 1A), which Kutcher et al (2016) described as "understanding how to obtain and maintain positive mental health; understanding mental disorders and their treatments; decreasing stigma related to mental disorders; and, enhancing help-seeking efficacy" (quoted in Carbone 2022).

Carbone (2022) noted four things needed to build mental literacy (or "mental well-being literacy" as he preferred) - having the appropriate language to use, understanding that good mental health is good for all, knowing that mental health can change, and to teach people how to enhance their mental well-being.

ii) Using a public health approach to reduce mental health risk factors and enhance protective/resilient factors - eg: lifestyle interventions; support programmes.

iii) Building a systems infrastructure to support these actions - eg: training the appropriate skills; national planning and policies).

iv) Political commitment - Carbone (2022) proposed a number of reasons for political inertia, including "a concern that promotion and prevention are too complex; that it takes too much time for benefits to be realised while many politicians are eager for 'quick wins'; in the battle over scarce resources concerns are raised by government officials that expenditure is required from

[4] Fleming et al (2025) described an equivalent model for Maori youth in Aotearoa New Zealand.

their department while the cost-saving benefits flow to another; the belief that you can't measure something that hasn't happened so prevention can't be proven; and scepticism that it is possible to enhance a person's mental well-being or prevent mental health conditions. But perhaps the two biggest barriers that get in the way, is the pressure governments feel to respond to calls from consumers, carers and service providers to support people who are already experiencing difficulties rather than people who are currently well, and the politics involved in addressing the social determinants of mental health, where differences in different political parties' policy responses can be quite extreme" (p4).

Introducing a special issue of the journal "Mental Health and Prevention", Reavley and Jorm (2024) summarised the key themes in national mental and behavioural disorders prevention as:

a) Reducing risk factors for mental disorders - eg: poverty; childhood problems; loneliness; inequality.

b) Enhancing protective factors to promote mental health - eg: social support; social and emotional skills; "positive environments".

c) Early intervention and mental health literacy - eg: access to services; public awareness to increase help-seeking and reduce stigma.

d) Enabling factors for national programmes - eg: funding; research and knowledge.

1.2. EARLY, SCHOOL-BASED AND COMMUNITY INTERVENTIONS

Schools are key in relation to child and adolescent mental and behavioural health (MBH), and Mire and Dunsmore (2024) proposed three key initiatives (specific to the USA):

i) Universal access to high-quality pre-kindergarten services - "Early childhood is a key developmental period for socio-emotional skills that protect against future MBH problems... Thus, prevention in early childhood is important to improve MBH across the lifespan" (Mire and Dunsmore 2024 p2).

ii) Universal social and emotional learning at all

school ages (based on evidence; eg: Durlak et al 2022).

iii) Universal MBH screening and targeted support - "Prevention of MBH problems begins with promoting MBH for all students" (Mire and Dunsmore 2024 p4).

Concentrating on the parent-child relationship in the early years, Somers et al (2024) discussed strategies to promote family resilience, like screening for risk and resilience factors for mental disorders, strengthening healthy social ties, and supporting socio-emotional skills acquisition. The assumption is that "parent and child mental health problems frequently co-occur... such that one family member's problems can also spillover and increase risk for other family members... Due to their high degree of interdependence, it is imperative to prevent mental health problems in both children and their parents, especially as many children and parents either cannot obtain or do not respond to existing mental health services" (Somers et al 2024 p1). This idea is described as a "relational health approach to mental health and prevention" (and also as "transactional models of development") (Somers et al 2024).

There is "the potential for close relationships to buffer against the physiological toll of adversity exposure and scaffold the acquisition of resilience resources, such as socio-emotional skills" (Somers et al 2024 p2). Both universal and targeted approaches are advocated by these authors.

More widely, community coalitions are a possible basis for prevention programmes. They "typically take a 'whole-of-community' approach and often involve strategies across a range of diverse settings such as early childhood education services, schools, workplaces, and neighbourhoods. As such, they allow for co-ordinated implementation of multiple interventions to address the complex combination of factors that contribute to health and mental health conditions in a community. By supporting community coalitions to document and then address locally elevated risk factors and increase protective factors it is possible to equip citizens and local service providers to play an effective role in mental health promotion" (Toumbourou et al 2024 p3).

For example, in Australia there are nearly 300 "Local Drug Action Teams" (LDATs) funded by the national government, while the "Communities That Care" model has been used in different countries. It includes five phases in involving a community - community readiness

assessment, organisation and function of groups, assessment of actions to take, action, and evaluation (Toumbourou et al 2024). A US trial reported the benefits in reducing alcohol and drug use (Kuklinski et al 2021).

"Communities with high levels of mental health problems sometimes have low resources for organising and sustaining coalitions. In these contexts, sustaining the same coalition across a sequence of phases can strengthen community and organisational capacity and build confidence and resources to tackle increasingly ambitious community improvement initiatives" (Toumbourou et al 2024 p5).

Positive social connectedness (eg: good quality relationships) are a protective factor for physical and mental health problems. For example, "the ability to confide in others was shown to be the strongest protective factor to prevent depression in a UK biobank study of >100,000 individuals for whom genomic, lifestyle and environmental measures were tested (Choi et al 2020)" (Birrell et al 2025 p1).

"Social network interventions" (SNIs) may be able to help here. Involving peers is one way. "Social support and peer connection during adolescence are robust predictors of positive mental health, making interventions targeting these constructs a key target for future prevention efforts" (Birrell et al 2025 p2).

For example, the "identifying individuals" and "strategic players" approaches involve changing the behaviour of influential figures in order to change the whole social network. "One possible way this approach could be leveraged is by training these well-liked young people in peer-support mechanisms (ie: ways to support their peers, and the importance of peer support and connection for mental health), with the aim of improving mental health outcomes and social connectivity, among adolescents in the wider cohort" (Birrell et al 2025 p3). Barnett et al (2024), for instance, reported success in alcohol use reduction among residential college students. "Specifically, by providing a brief alcohol intervention to 'strategic players' (heavy-drinking students who were the most socially well-connected sub-set among other heavy-drinking students), desirable changes in alcohol outcomes were observed among heavy-drinking students who did not personally receive the brief alcohol intervention" (Birrell et al 2025 p3).

The school environment has a role to play. For example, with "school connectedness", which "can be understood as the degree to which a student feels valued,

supported and accepted in their school environment... Although there is some debate in the literature about the conceptualisation of school connectedness (often used interchangeably with 'school belonging'), it is a multi-faceted construct, and its measurement typically covers affective, cognitive and behavioural domains. For example, students' feelings of belonging, acceptance, inclusion and respect would fit into the affective domain, thoughts and perceptions of teacher and peer relationships and support would fit into the cognitive domain, and involvement in school life, participation, engagement, effort and persistence align with the behavioural domain" (Birrell et al 2025 p4). A meta-analysis by Raniti et al (2022) of thirty-four longitudinal studies found that higher levels of school connectedness at baseline predicted lower levels of anxiety and depression later.

1.3. LESSONS LEARNED AND AN EXAMPLE FROM NORWAY

"Given that military personnel and their families experience a number of factors that may serve to elevate risk for mental health problems (eg: separation from sources of social support, job-related stress and trauma exposure, combat), the US military has instituted a number of programmes to prevent mental and behavioural disorders, which may provide benefit to civilian contexts" (Paxton Willing et al 2024 p1). The programmes are based on seeking to build individual resilience to stressful events (eg: "Total Force Fitness" [5]), developing social and peer support (eg: "battle buddies"; "Circle of Support"), and identifying early potential problems to prevent worsening (eg: "Applied Suicide Intervention Skills Training") (Paxton Willing et al 2024).

Holte (2024) described the situation in Norway, "a rich welfare state", where "prevalence of mental illness is similar to that of other rich countries. Cost of mental illness corresponds to four times the cost of running the armed forces. In working age, loss of health from mental illness is greater than from all somatic non-communicable illness together, and loss of healthy life years is comparable to that of all cancers together. More treatment cannot curb this. Prevention is the only way out" (p1).

[5] This covers eight domains of well-being - physical, mental, social, spiritual, environmental, nutritional, financial, and medical/dental (Paxton Willing et al 2024).

Thirteen general principles were outlined to guide "an effective plan to promote mental health and prevent mental illness" (Holte 2024 p3):

i) Improve mental health rather than increase treatment - ie: prevention is better than cure.

ii) Interventions based on scientific knowledge and evidence.

iii) "Children and young people over adults and the very youngest ones before everybody else".

iv) Non-health services interventions also - eg: school; sports activities.

v) Universal interventions over targeted ones.

vi) Mental health promotion is better than disease prevention.

vii) Prioritise common conditions over rare ones.

viii) Reduce the level of mental distress rather than improve diagnosis.

ix) Value-for-money interventions.

x) Quantify outcomes in order to assess the effectiveness of interventions.

xi) Always evaluate a programme.

xii) The government to create a budget for prevention, like for defence and other government services.

xiii) The government to provide enough money to fund interventions.

Specific to Norway, Holte (2024) proposed four evidence-based priorities:

a) General assessment of mental health for all pregnant women and mothers of young children.

b) Educate day-care centre staff about mental health interventions with infants.

c) Mental health as a subject on the school curriculum.

d) Provide meaningful work for all.

Holte (2024) also suggested "The Seven Mental Health Rights": "Everyone has a right to a sense of:

• Identity and self-respect: feeling that you are something, that you are worth something.

• Meaning in life: feeling of being part of something bigger than yourself, that there is someone who needs you.

• Mastery: feeling that you are capable of something, that there is something you can achieve.

• Belonging: feeling of belonging with someone, belonging somewhere.

• Security: being able to feel, think and unfold without being afraid.

• Participation: feeling that it matters to others what you do or do not do.

• Community: that you have someone to share your thoughts and feelings with, someone who knows you, cares about you and will look after you when needed, that you are not completely alone" (p7).

1.4. DEPRESSION AND SUICIDE

Prevention of depression and suicidal behaviour are important areas of mental health prevention and promotion. The "European Alliance Against Depression" (EAAD) recommended a four-level intervention approach (Schnitzspahn and Hegerl 2024):

i) Primary health care - eg: involving general practitioners in diagnosis and treatment.

ii) General public - eg: awareness campaigns.

iii) Community facilitators - eg: training for carers, teachers, social workers, pharmacists, and police.

iv) Affected individuals and their relatives - eg: reduce access to lethal means, like smaller drug package sizes where there is an fatal overdose risk.

A review of the evidence by Linskens et al (2023) concluded that the four-level approach was the "most promising community-based suicide prevention intervention worldwide" (Schnitzspahn and Hegerl 2024 p2).

Schnitzspahn and Hegerl (2024) noted the following points - develop interventions at all four levels simultaneously, find a balance between top down (authorities) and bottom up (individuals), avoid financial support from those like pharmaceutical companies that could produce a conflict of interest, and be aware of potential unintended consequences of suicide awareness campaigns (eg: making suicide appear "acceptable" or more common; trigger imitation behaviour; reduce the barriers to suicide).

Around one-quarter of worldwide male suicides and over one-third of female suicides occur in India, so suicide prevention is a most pressing issue here (Arya 2024).

Arya (2024) examined the World Health Organisation's recommendations for a national suicide prevention strategy as applicable to India:

a) Surveillance of suicidal behaviour - ie: the collection of relevant data. "While almost 76 % of all suicides occur in low- and middle-income countries (LMICs), many of the LMICs do not have a vital statistics registration system for the regular collection and dissemination of suicide data... India is among the very few LMICs with regular reports of suicide cases. The National Crime Records Bureau (NCRB), which is the administrative data source for unnatural deaths in India, has been reporting on suicide cases in India since 1967, based on police records... However, the NCRB data likely under-enumerates suicide cases, especially among younger age groups, females, and less developed states... Some of the potential reasons for the under-reporting include legal issues and the stigma attached to suicidal behaviour in the country" (Arya 2024 p2).

Data on attempted suicide are also helpful, but more difficult to collect.

b) Restricting access to lethal means - eg: the banning of toxic pesticides, which is partly the case in India, or taxing them and subsidising non-lethal

alternatives are potential policies.

c) Media reporting, particularly in a sensational manner, can promote "copycat" suicides, so media guidelines are recommended. "However, studies conducted in India have shown that daily newspapers in India generally do not follow the guidelines for responsible reporting of suicide and rarely provide information on helpful resources" (Arya 2024 p3) (appendix 1B).

d) Training and awareness programmes - Simply adopting Western-designed programmes may not be helpful, particularly in a school context as suicide is considered a taboo topic (like sex education), and there are those who argue against education of it as "corrupting" youth. Tailoring programmes to be acceptable in India is required.

e) Crisis intervention and treatment - There are crisis services (eg: helplines), and mental healthcare services, but compared to Western countries, psychiatrists, for example, are less available (eg: 0.75 vs 6 per 100 000 population) (Arya 2024).

f) National planning - Different states in India vary in their oversight, governance, planning, and strategies.

Whatever positives in suicide prevention exist in India, lack of public health resources is the biggest hurdle, Arya (2024) argued.

Self-harm is not always associated with suicide, but many young people engage in such acts. Schools can play an important role in prevention here. Bowden et al (2025) investigated projects in Aotearoa New Zealand involving schools, and local child and adolescent mental health services (CAMHS) working together.

Stakeholder focus groups reported barriers to implementation of such partnerships such as "lack of guidelines and mental health service criterion, lack of trust between schools and mental health services and poor previous experiences" (Bowden et al 2025 p1). The problems were perceived as systemic rather than individual people.

The researchers concluded: "Young people are much more likely to approach people they know and trust for help with self-harm than CAMHS, so enhancing the ability and confidence of school settings to recognise and

respond to self-harm of students is crucial to advancing suicide prevention" (Bowden et al 2025 p9).

1.5. MENTAL HEALTH PROMOTION

Barry et al (2024) presented the case for a "mental health promotion approach", which is "a multi-disciplinary area concerned with strengthening protective factors for good mental health, enhancing supportive environments, and enabling access to skills, resources and life opportunities that promote the mental health and wellbeing of individuals and populations" (p2). They continued: "Underpinned by a health promotion approach..., mental health promotion shifts the focus from a deficit model of illness to a broader understanding of mental health as a positive concept and a resource for living for the whole population. Interventions are designed at the level of strengthening individuals and communities, reorienting health services, and implementing inter-sectoral actions to remove the structural barriers to mental health at a societal level" (Barry et al 2024 p2).

Mental promotion is about "enabling positive mental health", while prevention approaches are focused on the reduction of mental disorders (Barry et al 2024).

Barry et al (2024) synthesised 111 meta-analyses and 57 systematic reviews on the effectiveness of mental health promotion interventions in the following categories:

i) Early years and parenting interactions - "The evidence supports delivery of both universal and targeted approaches in the home and through health services, especially for families from disadvantaged backgrounds who are at higher risk of poor mental health" (Barry et al 2024 p3).

ii) School-based interventions - eg: skill-based social and emotional learning programmes.

iii) Community-based interventions - eg: social skills training; physical activity programmes.

iv) Mentally healthy workplaces - eg: stress management programmes.

v) Digital interventions - eg: internet-based interventions for depression.

vi) Primary care interventions – eg: substance misuse prevention programmes.

vii) Awareness raising interventions - eg: mental health literacy programmes.

The different interventions require enabling policy structures (eg: government-led national action plans), and positive language around mental health prevention (Barry et al 2024).

1.6. CONCLUSIONS

Ormel and VonKorff (2024) proposed seven conditions to maximise the effectiveness of prevention strategies for common mental disorders (CMD) in a population:

i) Target young children and their families.

ii) Modify major risk factors while enhancing protective factors. Ormel and VonKorff (2024) distinguished between risk factors that are "not modifiable" (eg: genes), "difficult to modify" (eg: socio-economic status), "partially modifiable or possible to modify but difficult" (eg: chronic stress), and "possible to modify" (eg: maternal depression; parental substance abuse; poor life-skills).

iii) Embed preventive strategies in social and community institutions, like nurseries, schools, and workplaces.

iv) Implement programmes in multiple settings simultaneously (eg: target the family, and children at school).

v) Long-term funding of such programmes as change can take time.

vi) Address socio-economic disadvantage.

vii) Think about the implications for mental health of all government policies.

Ormel and VonKorff (2024) ended: "To date, prevention has not reduced CMD prevalence. We attribute this to several limitations affecting current prevention practice. There has been insufficient targeting of the

strongest distal and proximal determinants of CMDs and highly effective single preventive interventions have not yet been developed. Preventive initiatives have placed too much emphasis on cognitive-behavioural methods alone, while having difficulty reaching and retaining high risk individuals and families. In addition, there has been underestimation of difficulties in modifying major risk and protective factors, and lack of initiatives sustained over time. Likewise, funding has not been budgeted and sustained, so it has not been possible to implement co-ordinated, synergistic interventions at scale in large populations. To give CMD prevention a chance to test its promise to reduce CMD prevalence, prevention should be long-term, structurally funded, target children early in their life course and their families, address major personal and environmental distal and proximal causes of CMD including socio-economic disadvantage, and be implemented simultaneously in multiple settings to achieve synergistic effects" (p7).

1.7. APPENDIX 1A - MENTAL HEALTH LITERACY

"Mental health literacy" (MHL) can specifically be seen as knowledge about actions that promote mental well-being (Toledo et al 2025).

Compared to adults, children and adolescents have lower levels of this MHL, and so MHL interventions can be beneficial for them. School-based interventions are more common, but young people excluded from school, who can be particularly vulnerable and at risk of mental health problems, will miss these opportunities. Toledo et al (2025) reviewed the evidence on non-school-based MHL interventions for adolescents (eg: sport-based; online programmes). A search of seven electronic academic databases produced thirty-one studies published in English up to late 2024.

The findings were summarised under three headings:

i) Conceptualisation of MHL - eg: four factors underlying MHL: help-seeking, stigma, knowledge of causes, and knowledge of symptoms.

ii) Factors influencing the level of MHL - eg: children of parent(s) with mental illnesses showed moderate to good knowledge of such conditions, while generally knowledge of one aspect of MHL was high and others low (eg: knowledge of symptoms vs knowledge of treatment options).

iii) Evaluating MHL interventions - "MHL interventions generally showed promise but with variable effectiveness" (Toledo et al 2025 p23).

School-based programmes dominated the field, and diverse and vulnerable groups were under-represented in the research, while gatekeepers were key in the recruitment and success of programmes. "While gatekeeping can facilitate opportunities for involvement by young people..., it can also limit the agency of young people and reinforce systemic inequities and structural barriers to mental health information" (Toledo et al 2025 p25).

The researchers noted that a key insight of their review was "the significant role of informal sources of support in shaping MHL in young people beyond school contexts. Across diverse settings, young people often turned to friends, family, spiritual leaders, teachers, and trusted community members rather than professionals" (Toledo et al 2025 p25). Digital tools and co-created resources offered "promising avenues to foster MHL" (Toledo et al 2025 p25).

Table 1.1 outlines the key methodological issues and differences between the studies in the review.

- Country - Only six studies from non-Western countries.
- Sample - eg: refugee children and adolescents; children of parents experiencing mental illness; young men in the general population; adolescents discharged from inpatient psychiatric care.
- Recruitment method - eg: general population random sampling; recruitment via specific organisations.
- Measurement of MHL - eg: "Depression Literacy Questionnaire" (D-Lit) (Griffiths et al 2004). Twenty-two items including, "People with depression often speak in a rambling and disjointed way" (false), and "Many famous people have suffered from depression" (true).
- Dimensions of MHL studied - eg: vignettes to test knowledge; stigma attitudes.
- Data collection method - eg: self-administered surveys; face-to-face interviews at home; focus groups.

Table 1.1 - Key methodological issues and differences in studies of non-school-based MHL interventions.

1.8. APPENDIX 1B - MEDIA GUIDELINES

Eriyanto (2025) described the media's role in relation to suicide as ambivalent. On the one hand is the "Werther effect", and on the other hand, the "Papageno effect". The former describes an increase in suicide after detailed reporting on cases, particularly involving celebrities, due to imitation. The Papageno effect is "when the media presents stories of individuals who have successfully overcome a suicidal crisis. Such reports provide positive examples, illustrate coping strategies, and foster hope... The mechanism works through social learning and identification processes. Psychologically vulnerable individuals may model themselves after figures who are portrayed as overcoming despair. Several studies show that responsible suicide reporting is correlated with reductions in suicide rates" (Eriyanto 2025 p1).

Media guidelines around the reporting of suicide exist in certain countries, usually including "Do" principles (eg: provide contact details for support services) and "Don't" principles (eg: technical descriptions of suicide methods). Austria, for example, introduced such guidelines in 1987, and Niederkrotenthaler and Sonneck (2017) calculated an average reduction of 81 suicide cases per year due to the guidelines' adoption (Eriyanto 2025).

The studies of effectiveness of guidelines are often "conducted over relatively short timeframes. Many cover only six months to one year and focus mainly on immediate compliance. While useful, this approach has clear limitations. It does not capture whether guidelines are followed consistently over time. In other words, most research stops at the question of 'compliance or non-compliance' and does not assess whether reporting quality has changed in the long term. Longitudinal studies remain rare" (Eriyanto 2025 p2).

Eriyanto (2025) attempted to rectify these problems in relation to Indonesia. A content analysis was performed on 2375 suicide-related news articles published by the four largest Indonesian online media outlets between 2015 and 2024. The "Indonesian Press Council Guidelines" based on the "WHO Suicide Reporting Guidelines" had been formally adopted in 2019 (table 1.2).

Eriyanto (2025) concluded that "only surface-level compliance" (p1) by the media was evident, and "adherence in form but not in substantive ethical change" (p8). Inclusion of support service information was common, and four areas showed "striking change" - mention of warning

DOs

- Provide accurate information about support services
- Report stories about coping with stress without suicide
- Take special care when reporting celebrity suicide

DON'Ts

- Use sensational language in the headline
- Provide details of the method used
- Avoid personal details (eg: name etc; suicide note details)

(Source: Eriyanto 2025 table 2)

Table 1.2 - Examples of media guidelines adopted in Indonesia.

signs, emphasis that reports not intended to encourage imitation, recommendations to seek medical and/or psychological help, and reference to suicide prevention programmes. But "widespread violations of the 'Don'ts' persisted, including disclosure of victims' identities, detailed descriptions of suicide methods and locations, and the use of sensational language" (Eriyanto 2025 p1).

In terms of explaining the lack of compliance, a study in India (Armstrong et al 2021) found key barriers included lack of specialised training for journalists, fitting the demands of the guidelines into the style of the media, and lack of monitoring or enforcement mechanisms (Eriyanto 2025). "Studies in Portugal and Spain suggest that the effectiveness of guidelines depends not merely on their existence but on the awareness and training of journalists. Even where guidelines are available, many practitioners remain unfamiliar with best practices for suicide reporting... Similarly, in Hong Kong, structured journalist training and awareness campaigns were found to significantly improve compliance" (Eriyanto 2025 p8).

"Clickbait" and sensationalism are common in competitive media environments, and suicide coverage fits well here. "Headlines are often produced in sensational form by including the victim's full name, personal profile details, and even the method of suicide explicitly in the headline. This pattern demonstrates that headlines are treated as the primary instrument for attracting clicks, even though this practice exposes the victim's privacy, heightens the risk of imitation, and perpetuates stigma surrounding suicide" (Eriyanto 2025 p8).

1.9. REFERENCES

Armstrong, G et al (2021) India media professionals' perspectives regarding the role of media in suicide prevention and receptiveness to media guidelines: A qualitative study BMJ Open 11, 5, e047166

Arya, V (2024) Suicide prevention in India Mental Health and Prevention 33, 200316

Barnett, N.P et al (2024) Dynamic social network analysis of a brief alcohol intervention trial in heavy-drinking college students shows spillover effects Alcohol Clinical and Experimental Research 48, 2, 375-388

Barry, M.M et al (2024) Priority actions for promoting population mental health and well-being Mental Health and Prevention 33, 200312

Birrell, L et al (2025) Social connection as a key target for youth mental health Mental Health and Prevention 37, 200395

Bowden, L et al (2025) Maximising the management of self-harm in schools: A collaborative, implementation science approach by secondary schools and child and adolescent mental health services Mental Health and Prevention 37, 200391

Carbone, S.R (2022) The language, framework, system enablers, and political commitment that a country needs to promote and protect the mental health of its citizens Mental Health and Prevention 33, 200324

Choi, K.W et al (2020) An exposure-wide and mendelian randomisation approach to identifying modifiable factors for the prevention of depression American Journal of Psychiatry 177, 944-954

Durlak, J.A et al (2022) What we know, and what we need to find out about universal, school-based social and emotional learning programmes for children and adolescents: A review of meta-analyses and directions for future research Psychological Bulletin 148, 11-12, 765-782

Eriyanto (2025) Do reporting guidelines improve the quality of suicide coverage? A case study of Indonesia Mental Health and Prevention 40, 200463

Fleming, T et al (2024) Priority actions for improving population youth mental health: An enquiry framework for Aotearoa New Zealand Mental Health and Prevention 34, 200340

Griffiths, K.M et al (2004) Effect of web-based depression literacy and cognitive-behavioural therapy interventions on stigmatising attitudes to depression British Journal of Psychiatry 185, 4, 342-349

Grummitt, L et al (2023) Embedding action on social and structural determinants of mental health into a national framework: An "immunisation schedule" for the prevention of common mental disorders Mental Health and Prevention 32, 200308

Holte, A (2024) Promotion of mental health and prevention of mental disorders in a rich welfare state: A Norwegian perspective Mental Health and Prevention 33, 200321

Kuklinski, M et al (2021) Long-term impacts and benefit-cost analysis of the communities that care prevention system at age 23, 12 years after baseline Prevention Science 22, 452-463

Kutcher, S et al (2016) Mental health literacy: Past, present, and future Canadian Journal of Psychiatry 61, 3, 154-158

Linskens, E.J et al (2023) Population- and community-based interventions to prevent suicide Crisis 44, 330-340

Mire, S.S & Dunsmore, J.C (2024) Schools as critical settings for mental and behavioural health efforts in the United States: Key initiatives for substantive impact Mental Health and Prevention 33, 200328

Niederkrotenthaler, T & Sonneck, G (2007) Assessing the impact of media guidelines for reporting on suicides in Austria: Interrupted time series analysis Australian and New Zealand Journal of Psychiatry 41, 5, 419-428

Ormel, J & VonKorff, M (2024) What should a nation do to prevent common mental disorders? Meet seven conditions for effective prevention Mental Health and Prevention 33, 200320

Ormel, J et al (2022) More treatment but no less depression: The treatment-prevalence paradox Clinical Psychology Review 91, 102-111

Papola, D et al (2024) Leave no one behind: Rethinking policy and practice at the national level to prevent mental disorders Mental Health and Prevention 33, 200317

Patel, V et al (2023) Transforming mental health systems globally: Principles and policy recommendations Lancet 402, 656-666

Paxton Willing, M.M et al (2024) Lessons learned from efforts to prevent behavioural health problems and promote mental well-being in the US military Mental Health and Prevention 34, 200330

Raniti, M et al (2022) The role of school connectedness in the prevention of youth depression and anxiety: A systematic review with youth consultation BMC Public Health 22, 1, article 2152

Rathod, R (2024) A framework for national-level prevention initiatives in Indian schools: A risk reduction approach Mental Health and Prevention 34, 200334

Reavley, N.J & Jorm, H.F (2024) What should a native do to prevent mental and behavioural disorders? Mental Health and Prevention 36, 200360

Schnitzspahn, K.M & Hegerl, U (2024) The four-level approach: A community-based intervention targeting depression and suicidal behaviour Mental Health and Prevention 34, 200329

Somers, J.A et al (2024) Leveraging the interpersonal context of child development to promote family resilience: A universal prevention approach from pre-conception through early childhood Mental Health and Prevention 33, 200331

Toledo, E et al (2025) A scoping review of mental health literacy research in young people beyond the school context Mental Health and Prevention 40, 200466

Toumbourou, J.W et al (2024) Using effective community coalitions to prevent mental and behavioural disorders on a national scale Mental Health and Prevention 33, 200322

WHO (2021) Comprehensive Mental Health Action Plan 2013-2030 Geneva: World Health Organisation

2. DISSOCIATION MEASURES

Dissociation is defined by the American Psychiatric Association (2022) in DSM-5-TR as "a state of disruption or discontinuity in the integration of consciousness, memory, identity, emotion, perception, body representation, motor control and behaviour" (quoted in Wainipitapong et al 2025). A distinction can be made between "state dissociation" ("transient experiences of detachment, identity disturbance or amnesia"; p91) and "trait dissociation" ("the tendency to experience, or vulnerability to develop, such dissociative states"; p91) (Wainipitapong et al 2025).

The prevalence of dissociative disorders, which include dissociative identity disorder, depersonalisation-derealisation disorder, and dissociative amnesia in DSM-5-TR, vary between one and 11%, depending on the sample/population, diagnosis criteria, and assessment method used in the study (Wainipitapong et al 2025).

"Dissociation is linked to various psychiatric conditions, especially those related to trauma, which is its significant risk factor. Additionally, dissociation can also serve as a coping mechanism against such unbearable and overwhelming experiences... Furthermore, the presence or heightened severity of dissociation can serve as a prognostic indicator in specific psychiatric disorders including borderline personality disorder, post-traumatic stress disorder (PTSD) and functional neurological disorder... In addition, dissociation is increasingly recognised as an important feature of a range of psychiatric symptoms, such as hallucinations and psychosis" (Wainipitapong et al 2025 p92).

The measurement of dissociation is important, and Wainipitapong et al (2025) reviewed the psychometric instruments used to assess state and trait dissociation. A search of three relevant academic databases in May 2023 found 44 measures of dissociation in 170 studies. The validity and reliability for each measure were assessed, along with the methodological quality of the studies.

Three measures were rated as having "very good" methodological quality, and eight as "adequate", but the remainder were rated "doubtful" or "inadequate". Put simply, measures having several studies evaluating them were classed as better than those with few and/or conflicting studies.

In terms of the specifics of validity and reliability, overall:

MEASURE	EXAMPLE OF ITEMS
Dissociative Experiences Scale (DES) (Bernstein & Putnam 1986)	"Some people have the experience of driving a car and suddenly realising that they don't remember what has happened during all or part of the trip" "Some people find that sometimes they are listening to someone talk and they suddenly realise that they did not hear a part or all of what was said"
Adolescent Dissociative Experiences Scale (A-DES) (Armstrong et al 1997)	"I find myself some place and I don't remember how I got there" "My body feels as if it doesn't belong to me"
Peri-traumatic Dissociative Experiences Questionnaire (PDEQ) (Marmar et al 1994)	"Moment of losing track or blanking out" "Found self acting on automatic pilot"
Somatoform Dissociation Questionnaire-20 (SDQ-20) (Nijenhuis et al 1996)	"It is as if my body, or a part of it, has disappeared" "I hear sounds from nearby as if they come from far away"
Cambridge Depersonalisation Scale (CDS) (Sierra & Berrios 2000)	"Out of the blue, I feel strange, as if I were not real or as if I were cut off from the world" "Previously familiar places look unfamiliar, as if I had never seen them before"

(Source: Wainipitapong et al 2025 supplementary material)

Table 2.1 - Measures of dissociation rated as showing best methodological quality by Wainipitapong et al (2025).

a) Content validity (relevant items in the questionnaire) - "doubtful". A "very good" rating would show that "a complex methodological approach is necessitated, involving soliciting feedback from both patients and professionals to assess the measure's relevance and comprehensiveness" (Wainipitapong et al 2025 p95).

b) Cross-cultural validity (translated and assessed in different languages/cultures) - "adequate".

c) Structural validity (the items relate to each other as shown by confirmatory or exploratory factor analysis) - "very good".

d) Internal consistency (the items tap into some underlying construct) - "very good".

The number of items per measure varied from four to 218, as did the response options (eg: Likert scales ranging from three to 100).

The scales demonstrating the strongest evidence were the "Dissociative Experiences Scale" (DES), the "Adolescent Dissociative Experiences Scale" (A-DES), the "Peri-traumatic Dissociative Experiences Questionnaire" (PDEQ), the "Somatoform Dissociation Questionnaire-20" (SDQ-20), and the "Cambridge Depersonalisation Scale" (CDS) (table 2.1).

REFERENCES

American Psychiatric Association (2022) Diagnostic and Statistical Manual of Mental Disorders (5th ed- text revision; DSM-5-TR) Washington DC: APA

Armstrong, J.G et al (1997) Development and validation of a measure of adolescent dissociation: The adolescent dissociative experiences scale Journal of Nervous and Mental Disease 185, 8, 491-497

Bernstein, E.M & Putnam, F.W (1986) Development, reliability, and validity of a dissociation scale Journal of Nervous and Mental Disease 174, 12, 727-736

Marmar, C.R et al (1994) Peri-traumatic dissociation and post-traumatic stress in male Vietnam theatre veterans American Journal of Psychiatry 151, 6, 902-907

Nijenhuis, E.R.S et al (1996) The development and psychometric characteristics of the Somatoform Dissociation Questionnaire (SDQ-20) Journal of Nervous and Mental Disease 184, 11, 188-194

Sierra, M & Berrios, G.E (2000) The Cambridge Depersonalisation Scale: A new instrument for the measurement of depersonalisation Psychiatry Research 93, 2, 153-164

Wainipitapong, S et al (2025) Assessing dissociation: A systematic review and evaluation of existing measures Journal of Psychiatric Research 181, 91-98

3. PTSD AND IMAGINING THE FUTURE

Post-Traumatic Stress Disorder (PTSD) may develop after experience of a traumatic event, but there are differences in the trajectory of the condition, including gradual recovery, continued symptom intensity over time, or delayed development of symptoms (Charretier et al 2026).

"One of the mechanisms studied in the maintenance and aggravation of PTSD in the long term is the notion of altered beliefs and perceptions about oneself, others or the world. These shattered assumptions [Janoff-Bulman 1992] can cause the world to be perceived as unpredictable and negative, and lead to a sense of vulnerability in relation to the future" (Charretier et al 2026 p205). Specifically, individuals with PTSD have difficulty imagining the future. "Imagined future events are overgeneralised, in that they are devoid of the specific and episodic details that accompany the recollection of past events and their content is strongly negative or related to the initial trauma. This pattern is not observed in trauma-exposed individuals (ie: who experienced a traumatic event) who do not have PTSD, suggesting that this change in future imagination is related to the emergence of post-traumatic stress symptom severity" (Charretier et al 2026 p205). This has led some to view PTSD as a "disorder of prediction" (Leone et al 2022).

Sense of control (or self-efficacy) is important, and Brown et al (2016) found that veterans with PTSD showing this behaviour could think about the future and solve problems (Charretier et al 2026).

Charretier et al (2026) explored these ideas in a longitudinal cohort of individuals who had experienced the terrorist attacks in Paris and Saint-Denis on 13th November 2015, and controls. Data were collected at 7-18 months post-event (Time 1; T1) and 31-43 months after the attacks (T2).

Three groups were distinguished for analysis purposes: 34 exposed individuals diagnosed with PTSD, and forty-seven exposed individuals without PTSD, while there were 71 non-exposed individuals as controls. Previous research with the sample as been reported as Postel et al (2018), Leone et al (2022), and Mary et al (2020).

Future prediction, the focus of Charretier et al (2026), was measured by rating the probability of the occurrence of forty neutral events (half controllable/half uncontrollable). The controllable events included, "You will go for a picnic by the river",

while an uncontrollable event was, "The July 14th parade will be cancelled". A seven-point scale was used: from 0 (unlikely) to 7 (highly likely). Twenty self-reported PTSD symptoms were rated on a five-point scale to give a PTSD severity score (range 20-100) (where a higher score indicated greater PTSD symptom severity).

"Exposed participants with PTSD and without PTSD estimated uncontrollable future events to be more likely over time. Uncontrollable predictions were related to increases in post-traumatic stress symptom severity for individuals without PTSD" (Charretier et al 2026 p205). It had been predicted by the researchers that exposed individuals without PTSD would show the same pattern as non-exposed individuals. The researchers explained the unexpected findings thus: "Exposure to a traumatic event can lead to shattered assumptions about the outside world (ie: reduced optimism). This change in worldview induced by traumatic exposure may explain why the exposed participants in our study produced increasingly high probability estimates for the future occurrence of uncontrollable events, regardless of PTSD" (Charretier et al 2026 p208). It could be that the exposed non-PTSD individuals will be subsequently diagnosed with delayed developing PTSD.

The data were collected at two points up to 3.5 years after the traumatic event from volunteers from different groups (including professionals and emergency responders, witnesses, mourners, and "civilians").

REFERENCES

Brown, A.D et al (2016) Enhancing self-efficacy improves episodic future thinking and social-decision-making in combat veterans with post-traumatic stress disorder Psychiatry Research 242, 19-25

Charretier, L et al (2026) When the future escapes: Study of the sense of control in predictions about the future over time after exposure to a traumatic event British Journal of Psychiatry 228, 3, 205-210

Janoff-Bulman, R (1992) Shattered Assumptions: Towards a New Psychology of Trauma New York: Free Press

Leone, G et al (2022) Altered predictive control during memory suppression in PTSD Nature Communications 13, article 3300

Mary, A et al (2020) Resilience after trauma: The role of memory suppression Science 367, eaay8477

Postel, C et al (2018) Hippocampal sub-fields alterations in adolescents with post-traumatic stress disorder Human Brain Mapping 40, 1244-1252

4. NEUROIMAGING AND PSYCHIATRY

McCutcheon et al (2026) lamented: "All aspects of human experience can, in principle, be related to brain states. Psychiatric disorders are no exception, so it was reasonable to expect that modern neuroimaging – computed tomography, then positron emission tomography, magnetic resonance imaging (MRI), functional MRI (fMRI) and diffusion imaging – would reveal the underlying pathophysiology of major psychiatric disorders such as schizophrenia, bipolar disorder, major depressive disorder and so-called 'functional' illnesses. Fifty years and thousands of studies later, neuroimaging has had surprisingly little direct impact on everyday clinical practice. Where did it all go wrong?" (p185).

These authors offered some possible reasons including:

i) Continuing technological constraints - "We cannot record single neuron activity across the human brain in vivo, nor can we ethically biopsy the living cortex at scale. Post-mortem work has progressed but remains heavily confounded by environmental exposures. Molecular imaging is powerful but sparse, costly and limited to selected targets. It is likely that when considering functional measures such as fMRI, far larger data-sets are required" (McCutcheon et al 2026 p185).

ii) The heterogeneity of psychiatric conditions - "Symptoms and neurobiological features blur across "diagnostic boundaries, and neurobiological 'pathologies' may be better conceptualised as deviations along continuous dimensions of normative brain variation rather than categorical disease states. Pathological markers analogous to amyloid plaques or anti-NMDA anti-bodies may simply not exist for most people with psychiatric disorders. Psychiatric morbidity may be better understood in many cases as maladaptive dynamics in otherwise intact tissue, a software problem in learning, control and inference. Imaging can interrogate this but is likely to require a multi-modal approach, potentially paired with computational models that formalise algorithms of behaviour" (McCutcheon et al 2026 p185).

iii) Methodological issues of studies - eg: lack of baseline scan data (ie: before the illness developed), control of environmental confounders, and sample sizes.

McCutcheon et al (2026) offered some advice for the

use of neuroimaging in psychiatry, including focusing on the clinical utility of scans, increasing methodological rigour, and combining information from different species. But these authors warned: "Don't believe the hype: emerging tools such as organoids, single-cell sequencing and neuro-pixels provide unprecedented access to cellular and molecular detail, yet they involve even greater challenges in linking observations to behaviour and clinical phenomena. For psychiatric research, similar limitations exist: small and often selective samples, coupled with complex high-dimensional data, reproduce many of the statistical pitfalls that accompanied the early era of neuroimaging, including issues of multiple comparisons and limited reproducibility. Neuroimaging, despite its imperfections, remains among the most mature in vivo systems-level approaches available. Its future will depend less on technological novelty than on the disciplined integration of diverse methods in pursuit of clinically meaningful questions" (McCutcheon et al 2026 p186).

REFERENCE

McCutcheon, R.A et al (2026) Why doesn't neuroimaging work in psychiatry? British Journal of Psychiatry 228, 3, 185-186

5. ANABOLIC-ANDROGENIC STEROID USE DISORDER

Anabolic-androgenic steroids (AASs) are testosterone-based drugs that are used to increase muscle and strength, and athletic performance (initially by professional athletes, but then more generally). It has been estimated that over 6% of men had used them at some time in their lives and less than 2% of women (compared to 13% of athletes and nearly 20% of bodybuilders) (Scarth et al 2026).

"AASs differ from typical psychoactive drugs, as they do not produce a direct intoxication effect and therefore their use is not driven by hedonistic motivations. Rather, they are typically used as a component of a structured diet and exercise plan to achieve a long-term appearance or performance goal. However, there is significant evidence to suggest that AASs have addictive potential" (Scarth et al 2026 p68). Thus, "anabolic-androgenic steroid use disorder" (AASUD) has been proposed as a diagnostic category.

Scarth et al (2026) noted that Brower et al (1989) reported the first case of AAS dependence in 1989 with typical substance abuse symptoms of tolerance (ie: a larger dose to gain the same effect as initially), withdrawal (after ceasing), and continued use to relieve withdrawal despite the known risk and impact on life. The potential for dependence has been estimated at one-third of users (Scarth et al 2026).

Dependence on AASs has tended to be included in substance use disorder (SUD) categories generally [6], but Scarth et al (2026) argued that AASUD has distinctions to the general categories. These differences include disturbance in the hormone system (eg: eg: hypogonadism and symptoms of low testosterone levels in withdrawal), body image disorder co-morbidity, and specific populations with unique motivations for use (ie: athletes and bodybuilders). There are similarities to other substances including in the brain changes after prolonged use (eg: reduced volume in the prefrontal cortex and consequently reduced executive function), and "cravings" (Scarth et al 2026).

Scarth et al (2026) ended: "There is strong evidence that AAS use can lead to both physical and psychological dependence, underscoring the need for a specific

[6] "Substance use disorder" is used in the American Psychiatric Association's DSM-V (and the sub-category "other (or unknown) SUD"), while the World Health Organisation uses "mental and behavioural disorders due to psychoactive substance use" and "disorders due to substance use or addictive behaviours" in ICD-10 (Scarth et al 2026).

diagnostic category for AASUD. While AASUD shares many cognitive, neurobiological and psychiatric features with other SUDs, there are unique challenges that warrant specific clinical attention. Unlike typical psychoactive substances, AASs directly affect the endocrine system, disrupting reproductive hormones and often resulting in reduced or absent testosterone production. Establishing specific diagnostic criteria for AASUD will enhance healthcare professionals' awareness and understanding of the disorder, as well as the unique challenges faced by patients" (p71).

REFERENCES

Brower, K.J et al (1989) Anabolic-androgenic steroid dependence Journal of Clinical Psychiatry 50, 31-33

Scarth, M et al (2026) Anabolic-androgenic steroid use disorder: Case for recognition as a substance use disorder with specific diagnostic criteria British Journal of Psychiatry 228, 1, 68-72

6. PREVALENCE RATES

6.1. Youth mental health
  6.1.1. Contagion
  6.1.2. Interventions
  6.1.3. Academic stress
6.2. Autism
  6.2.1. Undiagnosed cases
6.3. Appendix 6A - Two diagnosis representations
6.4. Appendix 6B - Different types of autism spectrum disorder (ASD)
6.5. References

6.1. YOUTH MENTAL HEALTH

Rutter and Smith (1995) asserted that youth psycho-social disorders had increased in the 21st century. "Despite their extensive analysis, they found it challenging to draw definitive conclusions. Ultimately, they attributed the trend more to increasing family discord and heightened expectations, particularly related to employment than to other potential factors such as mass media, migration, social disadvantages, unemployment, poor physical health, and declining moral values. However, the trend of mental health prevenance and burden depends on many factors, eg: geographical region, socio-demographic status of the region, gender and age group as well as how the prevenance and burden are measured" (McGorry et al 2025 p2) [7].

In terms of specific studies, an official Australian national survey (quoted in McGorry et al 2025) reported a 50% increase in the 12-month prevalence of mental disorders in the last fifteen years, while studies outside high-income countries find stable or declining prevalence recently (McGorry et al 2025).

McGorry et al (2025) performed a literature search of the evidence on mental health trends at the adolescent to young adulthood transitional life stage. Eighty-nine relevant studies were found published before mid-2024. Only four studies were undertaken in low- and middle-income countries.

[7] Kent et al (2025) were sympathetic: "Young people today are facing a 'polycrisis' of global challenges including climate change, cost-of-living pressures, disruptive technologies, overt and covert geopolitical conflict, and political polarisation that is reducing social cohesion... Young people also continue to be exposed in high numbers to well known risk factors for poor mental health such as child maltreatment, bullying, and loneliness, while poor sleep, physical inactivity and vaping are increasing... Perhaps not surprisingly, the prevalence of psychological distress and of diagnosed mental illness are both on the rise among young people..." (p1).

Over three-quarters (n = 71) of studies reported an increase in prevalence in recent years in at least one measure of mental disorders. There were differences in which mental disorders was rising (eg: anxiety in 15 of 18 studies; depression in 26 of 37 studies). Twelve studies found no change over time, and six studies a decreasing trend. "Methodological differences between studies (eg: outcome measures, sampling method and sample characteristics) are a probable explanation for the variation in trends" (McGorry et al 2025 p4).

The degree of increase varied between countries, in time (eg: increase steepest since since 2020/covid-19 pandemic), and gender (eg: greater increase in anxiety among females) (McGorry et al 2025).

In trying to explain the increases, McGorry et al (2025) used the idea of "mega-trends", which they divided into individual level (proximal) social determinants, and broader environmental (distal) determinants:

1. Individual level:

a) Family environment - eg: mother's mental health; changing family structure.

b) Education - eg: increased pressure of school tests; student debt and higher tuition fees.

c) Lifestyle - eg: reduced physical activity; increased vaping; substance use.

d) Abuse - "At present there are no direct links between population changes in youth mental health and exposure to violence, abuse and neglect. While childhood maltreatment is common and remains a major public health concern, stable and, in some instances, decreasing trends in exposure to violence and abuse cautiously indicate that these factors may not be likely candidates to account for the rise in prevalence of disorders" (McGorry et al 2025 p6).

e) Bullying/cyberbullying.

f) Social media use - Some evidence of negative consequences, but studies vary in methodology.

2. Wider social environment:

a) Labour market and unemployment.

b) Housing market - eg: living with parents longer as own housing unaffordable.

c) Socio-economic disadvantage - eg: "intergenerational inequality".

d) Climate change and fear of the future.

e) Politics - eg: "Brexit" in the UK.

Overall, the studies suggested a "substantial rise" in youth mental health issues, specifically anxiety, psychological distress, depression, self harm, and suicide. "An important consideration is whether increasing trends reflect a real population change or are an artefact arising from reduced stigma, improved mental health awareness, greater willingness to disclose mental health issues, a widening of diagnostic thresholds, and population growth. These factors might contribute to an inflation of prevalence rates by capturing individuals with transient distress that does not necessarily require clinical intervention" (table 6.1) (appendix 6A) (McGorry et al 2025 p8).

The different mega-trends could have different impacts, interact with each other, and may not be that different to previous generations. These points further make establishing real change, and causation difficult. However, the covid-19 pandemic is a unique factor (as well as climate change). McGorry et al (2025) proposed that "[A]dolescence and emerging adulthood have undergone two key maturational shifts: an early onset of puberty and a delayed commencement of independent adulthood. This has extended the period of heightened susceptibility to environmental stressors and mental ill-health" (p9).

These researchers concluded that whether the increase in mental disorders is real or not, a global response is required involving prevention, early intervention, and improved treatment. They ended: "The increasing evidence of deteriorating mental health among young people highlights a significant global public health crisis. The substantial rise in anxiety, psychological distress, and depression since the mid-1990s is alarming and deeply concerning. Factors such as climate change, family environment, educational pressures, socio-economic precarity, intergenerational inequality and the rise of social media contribute to this trend, though each only partially explains the increase and many of them may stem from a deeper malaise with political and economic roots. Methodological

constraints and unexamined risk factors and trends further complicate our understanding. The covid-19 pandemic is likely to have exacerbated the crisis but, in a way, fully accounts for it, emphasising the urgent need for dynamic research, prevention and a new wave of innovation in youth mental health and social care" (McGorry et al 2025 p13) [8].

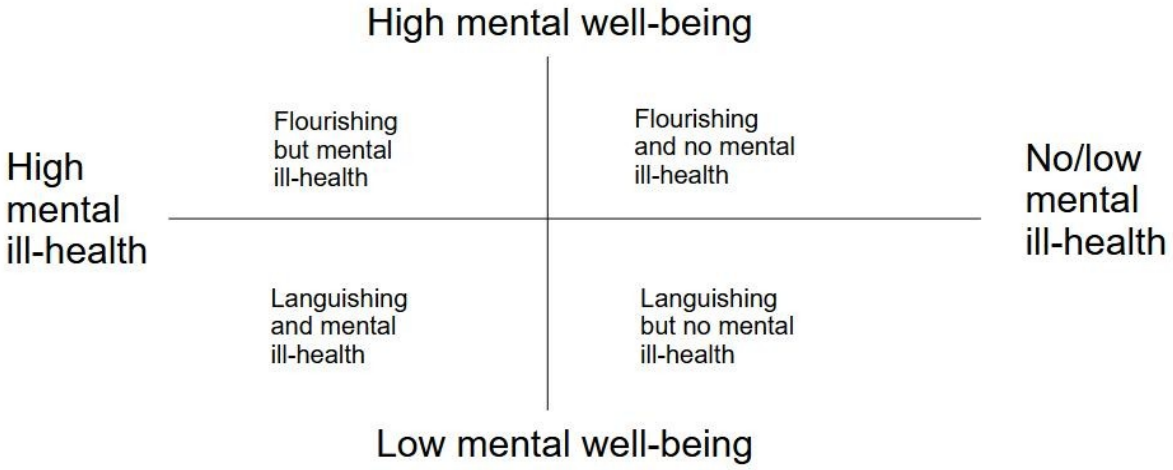
- 1. Improved diagnosis - Cases previously missed are now diagnosed.
- 2. Widened diagnostic criteria and categories - More individuals now included as cases when this was not so in past.
- 3. Improved diagnosis, but also widened diagnostic categories.
- 4. More cases and unchanged diagnosis.
- 5. More cases, but also improved diagnosis.
- 6. More cases, but also widened diagnostic categories.
- 7. More cases, but also improved diagnosis, and widened categories.
- 8. More "untrue" cases - eg: people seeking diagnosis/help when do not meet criteria - but diagnosis unchanged.
- 9. More "untrue" cases and changes in diagnosis.
- 10. Other combinations of above.

Table 6.1 - Possible models for the increase in mental disorders.

The "dual continua" model of mental health (Westerhof and Keyes 2010)) sees mental health as based on two dimensions (continua) - the presence/absence of mental ill-health, and high-low mental well-being. "A high level of mental well-being is often termed 'flourishing' and a low level termed 'languishing'" (Kent et al 2025 p2). There are four different consequently

[8] Increased awareness of mental health issues can reduce stigma and be a positive thing, but is there a downside, asked The leader (2023). In particular, the everyday use of "therapy speak" (ie: the language of psychotherapy used in common practice). "The misuse of terms whose meanings are being lost might have unintended consequences. It can encourage people to think that all negative thoughts or feelings indicate a mental health condition, for instance. If we seen harm everywhere, we may be more likely to feel vulnerable or victimised" (The leader 2023 p5). "A rise in diagnosis loops back to increased awareness, which impacts on how people identify themselves, which leads to a call for more assessment centres, which has led to a greater rise in diagnoses" (Russell in Hill 2024b).

(figure 6.1). An important point is that there are individuals without a traditional diagnosis of a mental disorder who have poor mental well-being (ie: different from those with a diagnosis of a mental disorder and low mental well-being). This distinction may explain some of the increase in poor mental health.



(After Kent et al 2025 figure 1)

Figure 6.1 - The dual continua model of mental health.

6.1.1. Contagion

Another possibility is that anxiety and depression are "contagious" between friends and classmates. This is the idea that "when teens see friends develop such a condition, it becomes more likely that they follow them down the same route" (Wilson 2024 p14). Alho et al (2024) found evidence that "mental disorders might be socially transmitted within adolescent peer networks" (p883) with data from Finland covering 1985 to 1997 from several nationwide registers (giving over 713 000 individuals in the cohort). Put simply, if one member of a class was diagnosed with a mental disorder, how likely was it for classmates to subsequently be diagnosed?

Overall, the researchers found "an association between having peers diagnosed with a mental disorder during adolescence and an increased risk of receiving a mental disorder diagnosis later in life" (Alho et al 2024 p885). The association was stronger if multiple

individuals in the class were diagnosed, and the risk was greatest for mood, anxiety, and eating disorders. The risk was most pronounced in the year following the classmate's diagnosis. "These associations were not explained by differences in area level general morbidity or socioeconomic characteristics, parental mental disorders or socio-economic position during childhood, or random differences in predisposition to mental health problems occurring among schools' student populations" (Alho et al 2024 p886).

The study included only mental disorders diagnosed after help sought from professionals, and the school class as indicator of peer networks and friendships was, accepted by the researchers, as "crude".

Explanations for such findings include "co-rumination" (where a friend sharing negative thoughts with another friend causes the latter to have negative thoughts, or "emotion contagion"; Alho et al 2024), the interpretation of everyday stressors as mental health problems after hearing of a friend's diagnosis, envy over the attention that a diagnosed individual receives, social influence of susceptible individuals, or encouraging others to seek help (Wilson 2024).

Introducing the "prevalence inflation hypothesis", Foulkes and Andrews (2023) described a bidirectional relationship between increased awareness about mental health issues, and reports of symptoms of mental health problems: "Increased rates of mental health problems understandably drive more awareness efforts, but the awareness efforts themselves might lead to increased reporting and experiencing of symptoms..." (p1).

The "prevalence inflation hypothesis" is based on two mechanisms - improved recognition, and over-interpretation. "Improved recognition refers to how awareness efforts may be leading to better recognition and more accurate reporting of mental health problems. This is a beneficial outcome, and is indeed a primary goal of awareness campaigns... In contrast, over-interpretation is problematic and refers to how awareness efforts may be leading people to misinterpret milder and more transient forms of distress as mental health problems" (Foulkes and Andrews 2023 pp1-2).

In terms of supporting research, Foulkes and Andrews (2023) quoted some cases: "For example, adolescents who completed a school programme based on CBT, designed to prevent depression, said that trying to identify negative thoughts in class made them feel low, even when they had initially felt positive (Garmy et al 2015)" (p3). Wile

experimental studies show that giving participants false feedback (eg: high depression scores after completing a scale) leads to later reports of higher symptoms (eg: Merckelbach et al 2011).

6.1.2. Interventions

If mental health problems are rising among the young, then prevention strategies will be important, like school-based depression prevention interventions (based on cognitive-behavioural therapy). "Indicated prevention (targeted at individuals with elevated symptoms) and selective prevention (aimed at individuals with one or more risk factors) show the best outcomes... In addition, interventions in the school setting are seen as particularly interesting because of their accessibility and broad reach of adolescents..." (Braam et al 2025 p1).

Participation in such programmes depends on recruitment and screening (eg: one-quarter of those at risk took part in a programme; Braam et al 2025). Increasing participation is thus key, and Braam et al (2025) reviewed the evidence here. They found twenty relevant studies published before March 2023 (of which only three were carried out in non-Western countries).

The key reason for non-participation in depression prevention programmes by adolescents was lack of motivation by themselves and/or their parent(s). "Studies with lower participation rates demonstrated higher parental involvement, including home visits, separate interventions for parents or parent sessions linked to adolescent group sessions. Additionally, adolescent group sessions after school hours and the use of psycho-education as a control condition seemed to be more common among studies with lower participation rates compared to studies with higher participation rates" (Braam et al 2025 p4). Requesting active (vs passive) consent to participate before screening reduced participation as did information via posters, say, (compared to face-to-face).

Studies with smaller sample sizes had higher participation. Braam et al (2025) offered the possible explanation that "in smaller-scale studies, researchers can devote more individual attention to the recruitment process. In contrast, larger-scale studies often rely on external professionals – such as school staff or community workers – who may be less informed about the study or less invested in participant inclusion. Notably, two studies that organised dedicated information sessions for school staff regarding the screening and prevention

referral procedure... achieved higher participation rates. These findings, in line with previous research..., suggest that beyond simply informing professionals about the preventive intervention, it is also crucial that those involved in implementation believe in its value, are accessible to participants, and are committed to maximising adolescent engagement" (p7).

6.1.3. Academic Stress

Increased academic stress and the perceived pressure to excel in school have been proposed as reasons for the increasing mental health problems in the young. "Experiencing school as a stressful environment places pressure on adolescents' well-being... To deal with stress for homework and exams, some students may decide to skip classes as an avoidance strategy. By temporarily avoiding pressure, adolescents can escape from possible negative feelings due to schoolwork or exams... Nevertheless, upon return, students often have to catch up on this homework and exams, sometimes resulting in increased stress levels that prompt adolescents to avoid school. Experiencing stress and trying to avoid these stress sources in the school context can be indicative of a maladaptive coping strategy which is identified as a risk factor for attendance problems" (Peeters et al 2025 p1).

Peeters et al (2025) reported a study in the Netherlands to address academic stress and attendance problems. Focus groups were undertaken with education and youth professionals, adolescents, and parents, Three themes emerged from the four groups which met in mid 2023:

i) Adolescents and learning - eg: make the curriculum attractive, relevant and useful to pupils. For example, one professional said: "The child's world changes tremendously fast and we (= mentor) don't always consider that" (p5).

ii) The school context - eg: reduce the focus on exams and grades, and make learning individual-focused, as described by one of the adolescent participants: "Not every child learns the same way, and if you learn differently, you are not immediately weird or annoying" (p5).

iii) Parental involvement - eg: one parent stated:

"There is an awful lot of talking about children and parents and far too little with" (p5).

Overall, it was felt that "addressing academic stress and attendance problems requires a broader focus beyond individual factors, emphasising the importance of the learning context and school level influences. Effective prevention strategies should be tailored to specific school characteristics, incorporating both individual support and school-wide approaches to reduce academic stress and enhance school attendance of adolescents" (Peeters et al 2025 p1).

These conclusions fitted with the "Multi-Tiered System of Supports Model" (Kearney and Graczyk 2020), which "advocates the integration of interventions on multiple levels and domains to provide support on a universal, (early) selective or intensive level of intervention... Universal intervention refers to preventive support strategies that target all students; selective interventions refer to targeting a sub-sample of adolescents who have a higher risk for academic stress and school attendance problems. Intensive intervention refers to targeted support for adolescents who experience problems with school functioning and attendance" (Peeters et al 2025 p2).

6.2. AUTISM

Autism spectrum disorder (ASD) diagnosis is one example of a rising number in the 21st century [9]. In terms of the research, Russell et al (2022) noted, however, that international studies are often not comparable because autism is measured in different ways. While some studies suggest that autism symptoms are stable in the population, and that diagnosis has changed (eg: in Sweden). "As time passed, noticeably fewer autism symptoms seemed to be required for a clinical diagnosis of autism... More diagnoses were made with time, despite no parallel increase in autistic symptoms in the population, because autism symptom thresholds for diagnosis had dropped" (Russell et al 2022 p674).

Concentrating on the UK in recent times (1998-2018), Russell et al (2022) found a large increase in new diagnoses (ie: the incidence rate). They concluded: "Increases could be due to growth in prevalence or, more

[9] For example, estimates of prevalence of ASD globally have increased from 0.5 cases per 10 000 people in the 1970s to 230 cases in the late 2010s (Talantseva et al 2023).

likely, increased reporting and application of diagnosis. Rising diagnosis among adults, females and higher functioning individuals suggest augmented recognition underpins these changes" (Russell et al 2022 p674).

This study was based on data from the "Clinical Practice Research Datalink" (CPRD) (which includes general practice (GP) practices in England and Northern Ireland). By 2018, 65 665 patients had a diagnosis of autism recorded in the CPRD. There was an overall increase of 787% in incidence between 1998 and 2018.

The period of the study coincided with an increase in demand for assessment. "In the UK, autism diagnoses are made in specialised health services, known as 'secondary care', and not by GPs. GPs will refer a suspected case onto secondary care where autism is normally assessed by a multi-disciplinary team. Referrals may also come directly from young people, families, schools, and social workers. The secondary care service for adults is in specialist autism or neurodevelopmental services, or, for those younger than 19 years old, at Child and Adolescent Mental Health Services (CAMHs), or a specialist neurodevelopmental or autism service. Younger, preschool children are most often diagnosed by community paediatric teams" (Russell et al 2022 p675). The researchers noted that greater public awareness of autism played a role as did "[D]estigmatisation of the label due to work by the neurodiversity movement and parent-led lobby groups may have contributed to rising demand for diagnosis in order to access support, in turn leading to changes in clinical practice" (Russell et al 2022 p679).

O'Nions et al (2023) noted: "Autism characteristics are on a continuum in the population with no natural cut-point. The point at which diagnostic criteria are considered to be met is a matter of clinical judgement, which is impacted by clinicians' own interpretation of criteria; and pragmatically, the perceived benefits of giving vs. not giving a diagnosis. How the criteria are interpreted and applied is likely to vary between individual clinicians" (p12). James Cusack of the autism research charity, Autistica, noted: "Autism diagnosis can be a wild west in terms of inconsistencies in approach. We know of many good quality assessment centres where people aren't getting access to proper autism diagnosis because that centre follows untested diagnostic practices, sometimes even ones they've developed themselves" (quoted in Hill 2024a) (appendix 6B).

Meta-analysis of global prevalence estimates is a method used in recent years. For example, Zeidan et al

(2022) reported a median prevalence of 100 cases per 10 000 children based on 71 studies and 99 prevalence estimates from 34 countries published between 2012 and 2021, while Salari et al (2022) found a pooled prevalence of eighty from 74 studies published between 2008 and 2021 (Talantseva et al 2023).

Talantseva et al (2023) performed a meta-analysis of studies published in English up to mid-2020, finding 85 relevant studies covering 29 countries. Only studies including cases identified by formal clinical diagnosis (using ICD and DSM criteria) were included. This meant that cases based on educational diagnosis (eg: receiving special educational assistance) were excluded.

Pooled prevalence was calculated and presented as a percentage - 0.72% for ASD overall (ie: 72 per 10 000). For specific diagnoses, the estimates were autistic disorder 0.25%, Asperger Syndrome 0.13%, and 0.18% for combined atypical autism, and pervasive developmental disorder - not otherwise specified.

Other interesting findings included:

i) Higher prevalence in studies in North America than in the rest of the world, with the highest in the USA. No studies were found from the Caribbean and Central America, and only one from Africa, however.

ii) Higher prevalence in high-income countries compared to lower-income ones. Over 80% of studies took place in high-income countries. Talantseva et al (2023) explained: "It may be assumed that this difference could be attributed to the detection gap, associated with lower access to appropriate diagnostics, lower awareness among parental and professional communities about autism, and specific cultural attitudes to the developmental and mental disorders that may influence pathways of families to seek care. The effect of socio-economic factors on the prevalence of ASD is evident not only in the case of between-countries comparisons but also it is reported for differences between different communities within one study. As an example, a study conducted in Texas found that the state's high-income community had a six times higher prevalence of ASD than the lowest-income group, as per the administrative data" (p7).

iii) Differences in estimates depending on the methodology used (eg: use of validated questionnaires; administrative data; health insurance claims).

iv) Increased prevalence over time (ie: higher in

more recent studies).

v) Significantly higher prevalence for children aged 6-12 years than younger and older ages. Fombonne (2021) observed that "by ages 6–10, diagnoses can be assigned more robustly, while at lower ages, some children could be missed up to primary school entry or later when social demands from a child increase and specific autistic impairments become more evident. At the same time, at older ages, some improvements in milder forms of ASD can pose challenges for both identification and diagnostic confirmation" (Talantseva et al 2023 p7).

6.2.1. Undiagnosed Cases

Russell et al (2011) focused upon the social and demographic factors that influenced diagnosis of ASD, particularly "what distinguishes those children without diagnosis but with autistic traits at clinical levels from those who have received a formal ASD diagnosis in the clinic" (p1283). Data came from the "Avon Longitudinal Study of Parents and Children" (ALSPAC), began in 1991-1993 in south-west England.

Seventy-one children had received a clinical diagnosis of ASD by age 13 years, while undiagnosed cases were distinguished by behaviours before three years old using four validated measures (eg: "Emotionality, Activity and Sociability" Questionnaire; Buss and Plomin 1984).

The following factors emerged from analysis of the data:

a) Ethnic origin, maternal social class, and marital status of mother had no relationship to a formal diagnosis of ASD or the child being an undiagnosed case.

b) Boys were more likely to receive a formal diagnosis than girls. The researchers noted: "A popular conception of ASD is often of a 'male' disorder. Indeed, an influential psychological theory of ASD 'the extreme male brain theory' has been proposed [eg: Nadesan 2005]. Such understandings may have led to gender stereotyping by education professionals, clinicians and parents when identifying children with severe symptoms. Researchers have speculated that many girls with AS [Asperger Syndrome] are never referred for diagnosis, and so are simply missing from statistics" (Russell et al 2011

p1291) [10] [11] [12].

c) Older mothers (and after first-born) and ASD diagnosis. "One possible interpretation is that older mothers are better at identifying their children's difficulties and have more confidence in bringing concerns to the clinic. Younger mothers may find it harder to identify problems. This finding may be related to the effect of birth position" (Russell et al 2011 p1291).

d) Maternal depression before and up to 21 months after birth was "clearly associated" with undiagnosed cases. Russell et al (2011) suggested that "maternal depressive symptoms or psychopathology specifically around the time of a child's autistic difficulties might actually hinder diagnosis. We suggest that maternal depression may act as an 'access barrier' to clinical intervention, incapacitating mothers and thus preventing them from seeking clinical help for their children. Even if a mother seeks help, a health professional could explain her concern as a symptom of her depression" (p1291).

The undiagnosed cases were distinguished in retrospect from data collected at this time on the ALSPAC, which is different to formal diagnosis face-to-face by professionals.

Early diagnostic criteria used the term "infantile autism" (in the 1960s, say), but today autism is viewed as a spectrum. This means that "many people once overlooked in childhood under previous, narrower diagnostic criteria now receive an autism diagnosis in adulthood and older age under the current, wider conceptualisation" (Stewart and Happe 2024 pp4.3-4.4) [13].

---

[10] Current tests for diagnosing autism "often dismiss women as 'not autistic enough'" (The leader 2025 p7).

[11] Invisibility of girls and women in autism diagnosis was highlighted by Rippon (2025a). Those individuals traditionally seen as "discovering" autism in the 1940s, Leo Kanner, and Hans Asperger reported mostly male cases, whereas in the 1920s a Soviet psychiatrist Grunya Efimovna Sukhareva detailed observations of both boys and girls equally (Lai 2025). Diagnosis of women is a further problem because of "Chameleons" (Cook 2015 quoted in Lai 2025), those who mask their autistic traits usually through sociable behaviours. However, critics "consider Chameleons not as autistic but instead as individuals who incorrectly identify with the autistic label as a result of social contagion..." (Lai 2025 p257).

[12] Rippon (2025b) noted that the assumed "maleness" of autism ("male-spotlight problem") can be seen in the limited number of female brains in brain-imaging studies. For example, of 120 such studies, 70% tested only male brains (or included one or two female brains).

[13] Ginny Russell commented on the expanding boundaries of autism: "I do think it's going to continue

Reanalysing data from O'Nions et al (2023) (table 6.2) in relation to age groups, Stewart and Happe (2025) calculated that undiagnosed cases were 23% of autistic individuals for under 20s, 53% for 20-39 year-olds, 89% for 40-59 year-olds, and 97% for those over sixty years old.

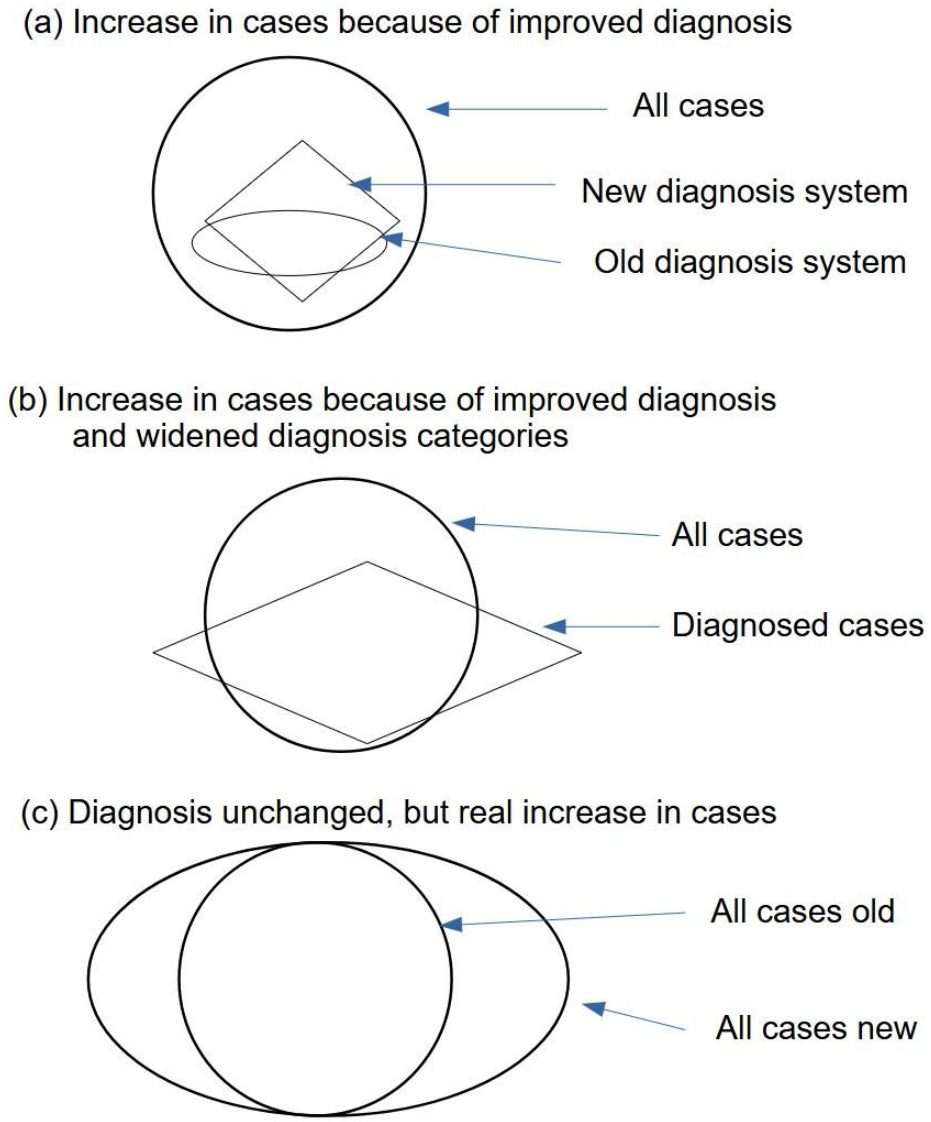
- O'Nions et al (2023) analysed electronic primary care data for practices in England. Those in the data with a diagnosis of autism gave the diagnosed prevalence (based on age groups). This figure was compared to the "accepted" figure that between 1.82% of males and 0.20% of females are autistic, and 4.14% and 1.22% respectively (eg: Brugha et al 2011; 2016). The difference was the undiagnosed number (for each age group). The calculations made a number of assumptions and "should be viewed as preliminary" (O'Nions et al 2023 p11).

Prevalence in primary care data	←	undiagnosed	→	"Accepted" prevalence of autism from previous studies

Table 6.1 - O'Nions et al (2023).

until maybe everyone is categorised as neurodiverse" (quoted in Hill 2024b).

6.3. APPENDIX 6A - TWO DIAGNOSIS REPRESENTATIONS



(a) Improved diagnosis means that more of the cases are diagnosed (but some still missed)
(b) More cases diagnosed by improved diagnosis, but widened diagnostic categories means some non-cases diagnosed.
(c) Pure increase in cases as diagnosis remains unchanged.

Figure 6.2 - Three ways in which number of cases can increase.

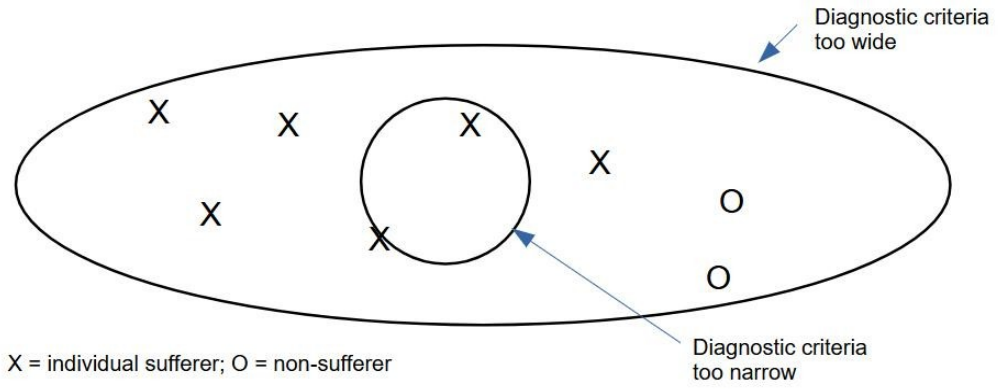


Figure 6.3 - Diagnostic categories and individuals.

6.4. APPENDIX 6B - DIFFERENT TYPES OF AUTISM SPECTRUM DISORDER (ASD)

Litman et al (2025) stated: "Numbers of ASD diagnoses have been rising rapidly in recent years, and with the widening of diagnostic criteria, there is increasing heterogeneity within the autistic population, phenotypically and genetically. Autism displays a complex phenotypic structure: core features can vary substantially in severity and presentation and can coincide with extensive and unique spectra of associated phenotypes and co-occurring conditions for each individual. This wide array of phenotypes is matched by the broad genetic heterogeneity of individuals with autism" (p1611).

In order to understand this situation, these authors analysed characteristics (phenotypes) and genes (genotype) of 5392 children with ASD in the USA (the SPARK cohort; SPARK Consortium 2018). The analysis by a machine learning algorithm produced four latent classes from the data, which "differed not only in severity of autism symptoms but also in the degree to which co-occurring cognitive, behavioural and psychiatric concerns factored into their presentation" (Litman et al 2025 p1612). The four classes were:

i) "Social/behavioural" (n = 1976 children) - "high scores (greater difficulties) across core autism categories of social communication and restricted and/or repetitive behaviours compared to other autistic children, as well as disruptive behaviour, attention

deficit and anxiety, but no reports of developmental delays [DD]...” (Litman et al 2025 p1612).

ii) “Mixed ASD with DD” (n = 1002) - Developmental delays were the strongest feature, but “a more nuanced presentation, with some features enriched and some depleted among the restricted and/or repetitive behaviour, social communication and self-injury categories” (Litman et al 2025 p1612).

iii) “Moderate challenges” (n = 1860) - Lower scores on most characteristics than other ASD individuals, but higher scores than non-ASD siblings.

iv) “Broadly affected” (n = 554) - Difficulties of all characteristics, and second in terms of DD.

6.5. REFERENCES

Alho, J et al (2024) Transmission of mental disorders in adolescent peer networks JAMA Psychiatry 81, 9, 882-888

Braam, M.W.G et al (2025) Increasing participation in school-based depression prevention: A systematic review of screening and prevention referral strategies Mental Health and Prevention 40, 200452

Brugha, T.S et al (2011) Epidemiology of autism spectrum disorders in adults in the community in England Archives of General Psychiatry 68, 459-465

Brugha, T.S et al (2016) Epidemiology of autism in adults across age groups and ability levels British Journal of Psychiatry 209, 498-503

Buss, A.H & Plomin, R (1984) Temperament: Early Developing Personality Traits Mahwah, NJ: Lawrence Erlbaum

Fombonne, E et al (2021) Epidemiological surveys of ASD: Advances and remaining challenges Journal of Autism and Developmental Disorders 51, 4271-4290

Foulkes, L & Andrews, J.L (2023) Are mental health awareness efforts contributing to the rise in reported mental health problems? A call to test the prevalence inflation hypothesis New Ideas in Psychology 69, 101010

Garmy, P et al (2015) A qualitative study explaining adolescents’ experiences with a school-based mental health programme BMC Public Health 15, article 1074

Hill, A (2024a) Alarm over “wild west” in autism diagnosis The Guardian 5th March, 1-2

Hill, A (2024b) Maybe everyone is neurodiverse The Guardian 5th March, p2

Kearney, C.A & Graczyk, P.A (2020) A multi-dimensional, multi-tiered system of supports model to promote school attendance and address school absenteeism Clinical Child and Family Psychology Review 23, 3, 316-337

Kent, L et al (2025) The dual continua in youth mental health policy and practice: Screening and intervention for low mental well-being in youth to achieve targeted prevention Mental Health and Prevention 37, 200403

Lai, M-C (2025) Widening the autism spotlight Science 388, p257

Litman, A et al (2025) Description of phenotypic heterogeneity in autism reveals underlying genetic programmes Nature Genetics 57, 1611-1619

McGorry, P et al (2025) The youth mental health crisis: Analysis and solutions Frontiers in Psychiatry 15, 1517533

Merckelbach, H et al (2011) Misinformation increases symptom reporting: A test-retest study JRSM Short Reports 2, 10, 1-6

Nadesan, M (2005) Constructing Autism: Unravelling the "Truth" and Understanding the Social New York: Routledge

O'Nions, E et al (2023) Autism in England: Assessing underdiagnosis in a population-based cohort study of prospectively collected primary care data Lancet Regional Health Europe 29, 100626

Peeters, M et al (2025) Understanding and tackling academic stress and school attendance problems within the school system: A co-creation approach Mental Health and Prevention 37, 200388

Rippon, G (2025a) Off the Spectrum: Why the Science of Autism has Failed Women and Girls New York: Seal Press

Rippon, G (2025b) Autism's missing girls New Scientist 5th April, 32-35

Russell, G et al (2011) Social and demographic factors that influence the diagnosis of autistic spectrum disorders Social Psychiatry and Psychiatric Epidemiology 46, 1283-1293

Russell, G et al (2022) Time trends in autism diagnosis over 20 years: A UK population-based cohort study The Journal of Child Psychology and Psychiatry 63, 6, 674-682

Rutter, M & Smith, D.J (1995) Psycho-Social Disorders in Young People: Time Trends and Their Causes Chichester: John Wiley & Sons

Salari, N et al (2022) The global prevalence of autism spectrum disorder: A comprehensive systematic review and meta-analysis Italian Journal of Pediatrics 48, article 112

SPARK Consortium (2018) SPARK: A US cohort of 50 000 families

to accelerate autism research Neuron 97, 488-493

Stewart, G.R & Happe, F (2025) Ageing across the autism spectrum Annual Review of Developmental Psychology (https://www.annualreviews.org/content/journals/10.1146/annurev-devpsych-111323-090813)

Talantseva, O.I et al (2023) The global prevalence of autism spectrum disorder: A three-level meta-analysis Frontiers in Psychiatry 14, 1071181

The leader (2023) The limits of awareness New Scientist 23rd September, p5

The leader (2025) Autistic enough New Scientist 5th April, p7

Westerhof, G.J & Keyes, C.L.M (2010) Mental illness and mental health: The two continua model across the lifespan Journal of Adult Development 17, 2, 110-119

Wilson, C (2024) Could anxiety and depression be "transmitted" between classmates? New Scientist 1st June, p14

Zeidan, J et al (2022) Global prevalence of autism: A systematic review update Autism Research 15, 778-790

7. TWO NEW TREATMENTS FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER (ADHD)

7.1. LSD
7.2. Neurostimulation
7.3. References

7.1. LSD

Fifty-three adults in the Netherlands and Switzerland diagnosed with ADHD took either a micro-dose of LSD or a placebo twice a week for six weeks. Both groups showed similar symptom reduction between baseline and Week 6 (Mueller et al 2025).

But LSD may need to be taken daily to be beneficial, argued Conor Murray of the University of California, Los Angeles (Wade 2025).

Details of Mueller et al (2025)

Design: A six-week, double-blind, placebo-controlled, parallel-group randomised clinical trial.

Participants: Recruited via advertisements, referral to specialist hospital services, and word of mouth in Switzerland and the Netherlands [14]. A DSM-based diagnosis of ADHD with moderate to severe current symptoms was required, but substance use disorders and/or psychotic disorders co-morbidities were excluded. Over 90% of the participants were recruited in Switzerland.

Procedure: The 53 participants were randomised to receive a drink containing LSD dissolved in alcohol or just the alcohol solution (placebo). Neither participants nor drink administrators knoew who received which drink type (ie: double-blinding). Twelve doses were given at the hospital as twice weekly for six weeks between December 2021 and December 2023. The outcome measures were standardised scales (eg: "Adult ADHD Self-Report Scale"; ASRS; Adler et al 2006) (table 7.1).

[14] Recruiting ethnic minorities to clinical trials is important to make such trials representative of whole populations. But trials accidentally exclude such individuals by their design, including recruitment materials in the dominant language only (eg: English in the UK), recruitment during "office hours" (that excludes shift workers), and working through hospitals and universities (thereby missing other community centres) (Adade 2026).

- How often do you have problems remembering appointments or obligations?
- How often do you fidget or squirm with your hands or feet when you have to sit down for a long time?
- How often are you distracted by activity or noise around you?
- How often do you interrupt others when they are busy?

(Response options: "Never" (0) to "Very Often" (4))

Table 7.1 - Example of items in the ASRS.

Findings: Both groups showed improvements in symptoms between baseline (before first dose) and Week 6. "Generally, LSD did not improve ADHD symptoms over placebo on any of the measures. LSD was well-tolerated in the outpatient setting. Treatment-related adverse reactions were mostly mild and included headache, nausea, fatigue, insomnia, and visual alterations" (Mueller et al 2025 p560).

Evaluation: The non-significant findings may have been due to higher than expected placebo effects. "Most participants, including the majority of those who received placebo, believed that they had been allocated to the LSD group at the end of the dosing period, and they presented nominally larger ADHD symptom reductions on most outcome measures than those who did not... [Furthermore] media reports of potential benefits of psychedelics in psychiatric patients could have heightened expectations. A high motivation of participants can be assumed by their commitment to commute to the study centre twice weekly over 6 weeks for dosing on-site" (Mueller et al 2025 p561).

Alternatively, the dosage of LSD may not have been the most effective. The researchers explained: "We only tested twice-weekly dosing with a relatively high (for micro-dosing) and fixed dose of LSD, which may not account for potential inter-individual variability in the response to psychedelics. Daily dosing, alternate-day dosing, or titration to produce the desired effect without impairing activities of daily life may produce different results. Furthermore, other ADHD-related outcomes, such as emotion regulation, were not comprehensively addressed" (Mueller et al 2025 p561).

Mueller et al (2025) believed that their trial was the first of its kind. It was a "proof-of-concept study"

in the main.

General Discussion: The use of LSD (and other psychedelic drugs) is being tested for other mental health conditions, like anxiety (eg: Robson et al 2025), depression, and post-traumatic stress disorder (PTSD). The suggestion is that LSD "triggers profound emotional experiences in some people, and it seems to enhance the brain's ability to rewire itself and form new thought patterns" (Wong 2026 p12).

7.2. NEUROSTIMULATION

External trigeminal nerve stimulation (TNS), technically, is a "non-invasive brain stimulation technique that targets the supratrochlear and supraorbital branches of the ophthalmic division (V1) of the trigeminal nerve by delivering an electric current through electrodes placed on the forehead. Sensory inputs from the trigeminal nerve fibres activate the locus coeruleus, raphe nuclei and nucleus tractus solitarius that innervate in a bottom-up manner several other brain regions, most prominently thalamic, frontal and limbic regions [...] TNS is thought to stimulate the release of neurotransmitters important for arousal, attention and emotion regulation, particularly noradrenaline, but also dopamine, glutamate, gamma-aminobutyric acid and serotonin..." (Conti et al 2026 p583). These brain areas and neurotransmitters are implicated and affected in ADHD (Conti et al 2026).

In the USA TNS was authorised for use with individuals with ADHD in 2019 with supporting evidence from a pilot study by McGough et al (2019).

Conti et al (2026), however, in a larger trial found no support for TNS. One hundred children and adolescents in the USA received real or sham TNS nightly for four weeks. Participants wore a headband over night with battery-powered electrodes. The sham treatment involved occasional stimulation compared to the continuous stimulation of the real treatment. There was no difference between real and sham treatment after four weeks on the main outcome measure - parent-rated ADHD symptoms (26% improvement in real condition and 29% in sham group). In fact, the sham group had better symptom improvements after one week.

McGough et al (2019) involved no stimulation in the sham condition, and blinding was a potential issue here (Conti et al 2026). Conti et al (2026) commented:

"Evidence shows that the placebo effect is greater in trials involving technology, such as neurofeedback and neurostimulation, as well as in studies with younger age groups, larger sample sizes, multi-site designs and higher baseline symptom severity (ADHD severity was an inclusion criterion in this trial). This is furthermore enhanced by a nocebo effect in those who realise that they are in the sham condition" (p586). These researchers continued: "Given that a substantial number of participants in both groups thought that they were in the active condition, the observed effects may reflect a neurotechnology-induced placebo effect or 'neuro-enchantment' or 'neuro-suggestion'" (Conti et al 2026 pp586-587).

Other neurostimulation techniques like transcranial magnetic stimulation and direct current stimulation have had negative findings with children and adolescents with ADHD also (Conti et al 2026).

7.3. REFERENCES

Adade, D (2026) Getting the full picture New Scientist 7th February, p19

Adler, L.A et al (2006) Validity of pilot Adult ADHD Self-Report Scale (ASRS) to rate adult ADHD symptoms Annals of Clinical Psychiatry 18, 3, 145-148

Conti, A.A et al (2026) External trigeminal nerve stimulation in youth with ADHD: A randomised, sham-controlled, phase 2b trial Nature Medicine 32, 582-590

McGough, J.J et al (2019) Double-blind, sham-controlled, pilot study of trigeminal nerve stimulation for attention-deficit/hyperactivity disorder Journal of the American Academy of Child and Adolescent Psychiatry 58, 403-411

Mueller, L et al (2025) Safety and efficacy of repeated low-dose LSD for ADHD treatment in adults: A randomised controlled trial JAMA Psychiatry 82, 6, 555-562

Robson, R et al (2025) Single treatment with MM120 (Lysergide) in generalised anxiety disorder: A randomised clinical trial JAMA 334, 15, 1358-1372

Wade, G (2025) Microdosing LSD is not an effective ADHD treatment New Scientist 29th March, p18

Wong, C (2026) We'll learn more about LSD and anxiety New Scientist 3rd January, p12

8. SOME RESEARCH ON DEPRESSION

8.1. Predicting onset
8.2. Immune-driven depression
8.3. Brain differences
8.4. Deep brain stimulation
8.5. Electro-convulsive therapy
8.6. Psychedelics
8.7. Discontinuing anti-depressants
8.8. Personalised treatment
8.9. Appendix 8A - Objective diagnosis
8.10. References
8.11. Extra: Genetics of mood disorders
    8.11.1. Mania
    8.11.2. Extra references

8.1. PREDICTING ONSET

Risk prediction models have been developed for children and adolescents to see who will experience particular mental disorders in adulthood (eg: major depressive disorder (MDD) (appendix 8A); Rocha et al 2021). The models make use of known risk factors, like family history of the illness, and childhood abuse.

In the case of MDD, one such factor that is often overlooked is ambient air pollution (ie: "harmful pollutants emitted by industries, households, and road traffic"; Latham et al 2021). It is not the sole cause, but a factor in a multi-variable risk prediction model.

Latham et al (2021) provided support with data from the "Environmental Risk (E-Risk) Longitudinal Twin Study", which included over 2200 British twins since 1999-2000. Data points included at 7, 10, 12 and eighteen years old. Air pollution exposure at age 10 was calculated based on residential address, and diagnosis of MDD at age 18 was the outcome measure.

It was found that the odds of developing MDD at eighteen years old were higher among individuals exposed to the most gaseous and dust pollutants at ten years old. However, after adjusting for other variables, the findings were not statistically significant. It is possible that air pollution exposure is a proxy for other risk factors like deprivation, and that other factors, like stressful childhood experiences and/or poor quality family relationships are far more important in predicting later depression (Latham et al 2021).

"Potential mechanisms through which childhood air pollution exposure may increase risk for adolescent MDD

include increased inflammation... and altered gene regulation...” (Latham et al 2021).

The air pollution measure was based on residential address, not school, say, where children may have spent a lot of time, and was from one point in time (while ten years old). Other environmental factors like noise pollution were not measured.

This study confirmed previous findings in the UK (eg: Roberts et al 2019).

8.2. IMMUNE-DRIVEN DEPRESSION

Wessa et al (2026) observed: “As medicine is moving away from a one-size-fits-all treatment model towards a more individualised approach, there is growing interest in defining biologically meaningful sub-groups within heterogeneous patient populations to guide tailored treatments” (p8). “Immuno-psychiatry” has developed in this context with the focus on inflammation (ie: chronic immune system activation) and psychiatric disorders (eg: Miller and Raison 2018), and Wessa et al (2026) concentrated on “immune-driven sub-type depression” (IDD) (or “immuno-metabolic depression”; Vreijling et al 2024). This is “a situation where the development and/or continuation of depressive symptoms is mechanistically driven by chronic immune dysregulation” (Wess et al 2026 p9).

It is estimated that nearly one-third of individuals diagnosed with major depressive disorder (MDD) have IDD, characterised by “low-grade systemic inflammation, commonly reflected in blood markers such as elevated high-sensitivity CRP [C-reactive protein](eg: a blood hsCRP of 3mg/l), IL-6 or glycoprotein acetyls; atypical, energy-related symptoms such as motivational anhedonia (ie: difficulty feeling motivated for activities that require some level of effort), hypersomnia, hyperphagia, weight gain, leaden paralysis and profound fatigue; which are often but not always accompanied by concurrent metabolic abnormalities such as higher BMI, insulin resistance and dyslipidemia” (Wessa et al 2026 p9).

A blood test seems to be the best measure for IDD, particularly for higher CRP levels (eg: “Netherlands Study of Depression and Anxiety” (NESDA); Zwiep et al 2025). Wessa et al (2026) added clinical symptoms, metabolic disturbances, and trajectory (eg: post-infectious onset) as other indicators of IDD.

The question is how inflammation leads to depression. Wessa et al (2026) described a framework

involving a number of aspects, including underlying vulnerabilities (i and ii below), immune system triggers (iii-v), and biological dysregulation (vi-viii):

i) Genes - eg: variants related to MDD.

ii) Early life stressors - eg: adverse childhood experiences that prime the immune system.

iii) Infections - eg: acute infections like covid-19 that activate the immune system.

iv) Autoimmune diseases - eg: higher risk of affective disorders.

v) Lifestyle and metabolic factors - eg: obesity; sedentary lifestyle.

vi) Stress and the hypothalamic-pituitary-adrenal axis.

vii) Mitochondrial dysfunction.

viii) Metabolic disturbances - eg: chronic inflammation leading to insulin resistance.

IDD has a distinct treatment response, including a smaller reduction in depressive symptoms with standard anti-depressants (eg: Vreijling et al's (2024) review of four clinical trials). But better outcomes with dopaminergic medications like bupropion ("atypical anti-depressant"), and with electro-convulsive therapy. Lifestyle and nutritional interventions have potential as well as anti-inflammatory medications. In the latter case, six of seven studies published in 2024-2025 reviewed by Wessa et al (2026) reported significant effects. The anti-inflammatory medication was usually as an add-on to anti-depressant treatment. These studies were short-term (up to twelve weeks of treatment), and small-scale (14 to 119 participants). "Recruitment in MDD trials is already challenging, and only one third of patients present with immune-driven profiles. Adapted recruitment strategies are essential to avoid underpowered studies and to adequately test biomarker hypotheses in balanced treatment arms" (Wessa et al 2026 p15).

8.3 BRAIN DIFFERENCES

The treatment of depression depends on the explanations for it. Neuroimaging studies using different technologies, for example, have shown "modest differences" in brain structure and connectivity in individuals with depression (Lynch et al 2024). One problem is that "whereas depression is episodic, few longitudinal neuroimaging studies exist, limiting understanding of mechanisms that drive mood-state transitions" (Lynch et al 2024 p624).

Lynch et al (2024) used precision functional mapping of longitudinal data applied to depression, and found that "the fronto-striatal salience network is expanded nearly twofold in the cortex of most individuals with depression" (p624). The data came from samples of 135 and 299 individuals with depression and 932 healthy controls. The first sample of individuals with depression had multiple scans (up to 62 times over 1.5 years).

"Located in the cerebral cortex, the brain's outermost layer, this network is linked to attention and the ability to respond to stimuli" (Wong 2024 p16). More specifically, it is "involved in reward processing and conscious integration of autonomic feedback and responses with internal goals and environmental demands" (Lynch et al 2024 p625).

The finding of specific brain differences in individuals with depression gives the potential to predict who will suffer in the future. In the words of the researchers, the findings "identify a trait-like brain network topology that may confer risk for depression and mood-state-dependent connectivity changes in fronto-striatal circuits that predict the emergence and remission of depressive symptoms over time" (Lynch et al 2024 p624).

But this enlarged area of the brain is not the cause for all depression sufferers, and how to establish cause and effect. Studies of children's brains and who goes on to develop depression would establish the direction of causality (Wong 2024).

8.4. DEEP BRAIN STIMULATION

Deep brain stimulation (DBS) involves stimulating particular brain areas with electrodes implanted in the brain. In the case of treatment-resistant depression (TRD) (ie: does not respond to different anti-

depressants) [15], brain areas targeted by DBS include the median forebrain bundle, and the ventral anterior limb of the internal capsule (vALIC) (Bergfeld et al 2022).

Randomised controlled trials to test the effectiveness of DBS require sham controls (eg: undergo an operation to implant electrodes but none implanted), which can raise ethical issues, as well as the invasive nature generally of DBS. Long-term research is limited (Bergfeld et al 2022).

However, Bergfeld et al (2022) was an exception. Twenty-five patients with TRD in the Netherlands had electrodes implanted in the vALIC which were connected to a neuro-stimulator. Sham DBS was achieved by the neuro-stimulator not sending signals an electrical signal as the participants experienced active and sham phases of treatment. The surgery took place between 2010 and 2014, and the patients were followed up for six to nine years.

Self-reported quality of life increased with active DBS and remained stable over time. Clinician-rated depression scores showed improvements.

Taking these findings and those of other studies (table 8.1) that implanted electrodes in other areas of the brain (eg: Raymaekers et al 2017), Bergfeld et al (2022) felt that "DBS induces a long-lasting and durable effect in patients with highly resistant depression, irrespective of targeting" (p960).

- A woman called "Sarah" who suffered from lifelong treatment-resistant severe depression trialled a brain implant for a year with "rapid and sustained improvement in depression" (Scangos et al 2021 p1696).
- The researchers initially recorded electrical activity from ten different brain areas over ten days, and found that depressive symptoms were worst when there was a pattern of gamma brainwaves in the amygdalae. This pattern was changed by the implant in the right ventral capsule/ventral striatum (VC/VS). Stimulation was made about 300 times a day for six seconds (Wilson 2021a).
- This approach may not be appropriate for all sufferers of depression as brain activity and mood varies by individuals, while the treatment is invasive (two operations), costly, and labour-intensive (Wilson 2021a).

Table 8.1 - "Sarah" (Scangos et al 2021).

[15] Up to one-third of sufferers of major depression (Bergfeld et al 2022).

8.5. ELECTRO-CONVULSIVE THERAPY

Electro-convulsive therapy (ECT) can be effective for depression resistant to anti-depressants, and psychotherapy (eg: Pagnin et al 2004). Semple et al (2024) observed that "although there is consensus on efficacy, there is less consensus on sensitive and specific predictors of ECT response to inform clinical decision-making" (p547). Older age, and the presence of psychotic features to the depression have emerged as specific predictors of success or failure of ECT, as well as the severity of depression pre-ECT (eg: Van Diermen et al 2018).

Large datasets help in establishing predictors of treatment success. Semple et al (2024) analysed ten years of national Scottish ECT data (2009-2018) collected by the "Scottish ECT Audit Network" (SEAN) (n = 4474 individual treatment records). Full data for 2074 treatment episodes for depression were analysed.

Overall, the response rate was 73% (ie: at least a 50% reduction in depression score compared to pre-ECT baseline), and the remission rate was 51% (ie: a return to the pre-ECT depression score).

ECT response was predicted by older age at time of treatment, having psychotic symptoms with the depression, severe distress, previous good response to ECT, and consented to treatment, for instance.

Evaluation

a) Routinely collected audit data by "Public Health Scotland" (+), providing a large sample (+), from multiple geographical locations (+), and over ten years (+). But the study was retrospective (-).

b) Multiple variables were included in the analysis (eg: eight pre-ECT variables) (+).

c) The researchers admitted that the data "may include unknown heterogeneity" (Semple et al 2024 p553) (-), though there was mostly standardisation (eg: ICD-10 diagnosis criteria; Montgomery-Asberg Depression Rating Scale (MADRS) score as outome measure) (+).

Furthermore, Semple et al (2024) stated: "The data provided by SEAN is for episodes of treatment, meaning we do not know how often individual patients appear in the data-set, which might inflate the results if patients having a previously good response are more likely to have

multiple treatments" (p553) (-).

Also: "Analyses could only be done using the pre-specified SEAN data fields, and other clinical data not included in our SEAN data request may be relevant for response and remission, for example electrode position, anaesthetic agents or the number of ECT treatments in a course. Although these factors have the potential to influence the efficacy of ECT they were not individual patient baseline (pre-ECT) factors" (Semple et al 2024 p553) (-).

8.6. PSYCHEDELICS

Dimethyltryptamine (DMT) has potential for use with treatment-resistant depression. Erritzoe et al (2026) found that a single dose of DMT produced a rapid benefit for depression. Thirty-four adults with moderate-to-severe depression were given a 21.5 mg dose of DMT or a placebo infusion. At two weeks the DMT group showed a significantly greater reduction in Montgomery-Asberg Depression Rating Scale (MADRS) score than the placebo group [16].

But individuals can guess whether they are receiving the drug or the placebo fairly easily (Busby 2026a).

Rick Strassman, a researcher in this area, warned: "While the DMT experience is briefer than psilocybin and LSD, it can be significantly more disorienting, than longer-lasting psychedelics and requires careful preparation, monitoring and follow-up" (quoted in Busby 2026a).

Psilocybin has been found to produce moderate benefits for depression compared to controls (eg: Metaxa and Clarke 2024), and the magnitude of the reduction in symptoms can be greater than selective serotonin reuptake inhibitors (SSRI) anti-depressants, or ketamine (Erritzoe et al 2026) [17].

Williams et al (2026) compared trials involving psychedelic-assisted therapy (PAT) and open-label trials for traditional anti-depressants finding a small greater non-significant benefit for the former. Balazs Szigeti,

[16] "Similar to other psychedelic compounds, DMT's AD [anti-depressant] effects may be linked to its ability to promote neuroplasticity, its transient — but substantial — impact in brain function in associative regions or (relatedly) to its subjective effects, with the present results suggesting that reductions in depression were moderated by the intensity of mystical-type experiences induced during treatment..." (Erritzoe et al 2026 p597).

[17] A small randomised controlled trial reported the benefits of psilocybin for treatment-resistant obsessive compulsive disorder (OCD) (Kelemndi et al 2026).

one of the researchers, admitted that their findings "do not disprove the exciting results about psychedelic treatments", but it places it in context with traditional anti-depressants (Busby 2026b).

8.7. DISCONTINUING ANTI-DEPRESSANTS

Discontinuing anti-depressants after a long period of use could trigger a relapse in depression. Lewis et al (2021) (table 8.2) studied 478 adults in the UK who were taking anti-depressants but considering stopping them, and randomly replaced the anti-depressants with placebo for half of them. One year later, 56% of the placebo group had reported a depression relapse compared to 39% of those still taking the anti-depressants. "Put another way, for every 10 people weighing up the decision of whether to stop taking anti-depressants, about four would relapse and just over four would stay depression-free, whatever course they decided to take" (Wilson 2021b p17). Tony Kendrick (of Lewis et al 2021) admitted: "Although the risk of relapse is increased [by stopping], it's not increased hugely over continuing to take anti-depressants" (quoted in Wilson 2021b).

- The "Anti-depressants to Prevent Relapse in Depression" (ANTLER) trial involving 150 general practices in four areas of England (Bristol, London, Southampton, and York).
- Participants had been taking one of three common anti-depressants (citalopram, sertraline, and fluoxetine) for longer than nine months, currently were not experiencing depression, and "felt well enough to consider stopping anti-depressants" (p1258).
- 238 participants randomised to continue with anti-depressants (maintenance group), and 240 to discontinuation (by tampering down the dose and replacing with placebo wholly by three months).
- The study lasted 52 weeks, and measures were taken at 6, 12, 26, 39, and 52 weeks. The main outcome measure was relapse of depression, based on two questions: "have you had a spell of feeling sad, miserable, or depressed?", and "have you been unable to enjoy or take an interest in things as much as you usually do?".

Table 8.2 - Lewis et al (2021).

8.8. PERSONALISED TREATMENT

Cipriani et al (2026) outlined their concern: "Prescription of anti-depressants has increased over the last 25 years, but the majority of people with MDD take them for too short a period. The initial adverse events associated with anti-depressant use contribute to the suboptimal duration of treatment, reducing the clinical effectiveness of these medications. This is exacerbated by the inability of clinicians to reliably predict which anti-depressant will cause adverse events in each individual patient, and which medication will be the most effective for each patient. Although guidelines advocate personalised treatment decisions, implementation in practice remains limited" (pE2).

The "Personalising Anti-depressant Treatment for Unipolar Depression Combining Individual Choices, Risks and Big Data" (PETRUSHKA) project was designed to help clinicians provide personalised anti-depressant treatment. An online tool was developed combining statistical and machine learning models to predict an individual's response to a particular anti-depressant, based on, for example, age, sex, ethnicity, BMI, severity of depression, co-morbidities, and patient preference.

Cipriani et al (2026) reported on a randomised controlled trial comparing the PETRUSHKA Tool with usual care at forty-seven sites in the UK, Brazil, and Canada. Five hundred and forty individuals with MDD were allocated to receive an anti-depressant recommended by the Tool or by the clinician's usual method.

The main outcome measure was treatment discontinuation at eight weeks. In the PETRUSHKA Tool group, this was 17% of participants compared to 27% in the usual care group (which was a statistically significant difference).

The researchers admitted that despite the positive findings, "[W]e do not know if the favourable results with use of the PETRUSHKA tool are due to the prediction (ie: the recommended treatment is actually a better match for the patient), the elicitation of patient preferences (ie: patients may be more motivated to continue the prescribed medicine if they are informed and actively involved in its selection), or a combination of both" (Cipriani et al 2026 pE10) [18].

The success of the PETRUSHKA Tool depends upon the variables included, and the assumptions made in the

[18] The participants were volunteers, and the design was open (ie: it was known to participants and clinicians who received the Tool and the usual care).

model. Ostinelli et al (2025) gave more details here. Not all available anti-depressants were included due to lack of data from pharmaceutical companies (Cipriani et al 2026).

Cipriani et al (2026) commented: "In this trial, we demonstrated that anti-depressant treatment can be optimised for individuals by using socio-demographic and clinical predictors. Recent studies have shown that pharmacogenomics can improve anti-depressant response and reduce adverse effects in MDD. Polygenic scores can also contribute useful information about risk. Advanced DNA sequencing technologies now exist, which are suitable for use in low-resource environments, and return results in less than 72 hours. Hence, pharmacogenomic variants and polygenic scores can provide timely individual-level information (especially about adverse effects) that can be used to further personalise treatments. Moreover, they could help identify patient sub-groups with specific molecular characteristics that can inform animal model studies and ultimately support drug discovery in neuroscience" (pE10).

8.9. APPENDIX 9A - OBJECTIVE DIAGNOSIS

Diagnosis of mental disorders is traditionally based on criteria (or symptoms), and individuals self-report or clinicians assess behaviour in relation to those criteria. This is a subjective process, and so finding biomarkers (objective measures) for mental disorders is highly prized.

AI may be able to help with "digital biomarkers" (Robson 2026). For example, individuals with depression tend to have flatter voices with limited variation in pitch which could be detected by trained algorithms (eg: being developed and promoted by "Deliberate AI" or "Ellipsis Health" [19]), and this could be integrated into a smartphone (eg: Lin et al 2022) (Robson 2026).

But there are cases where self-reports are more accurate than smartphone data (eg: sleep) (Robson 2026).

8.10. REFERENCES

Bergfeld, I.O et al (2022) Efficacy and quality of life after 6-9 years of deep brain stimulation for depression Brain Stimulation 15, 957-964

[19] See https://www.deliberate.ai/ and https://www.ellipsishealth.com/research/five-ways-ai-is-changing-the-game-for-mental-health-diagnosis-and-treatment/.

Busby, M (2026a) One dose of DMT reduces depression New Scientist 21st February, p6

Busby, M (2026b) Psychedelics may be no better than anti-depressants New Scientist 28th March, p13

Cipriani, A et al (2026) A decision-support system to personalise anti-depressant treatment in major depressive disorder: A randomised clinical trial JAMA (https://jamanetwork.com/journals/jama/article-abstract/2845910)

Erritzoe, D et al (2026) A short-acting psychedelic intervention for major depressive disorder: A phase IIa randomised placebo-controlled trial Nature Medicine 32, 591-598

Kelemndi, B et al (2026) Psilocybin for treatment-resistant OCD: A randomised controlled trial SSRN (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=6218466)

Latham, R.M et al (2021) Childhood exposure to ambient air pollution and predicting individual risk of depression onset in UK adolescents Journal of Psychiatric Research 138, 60-67

Lewis, G et al (2021) Maintenance or discontinuation of anti-depressants in primary care New England Journal of Medicine 385, 1257-1267

Lin, D et al (2022) Feasibility of a machine learning-based smartphone application in detecting depression and anxiety in a generally senior population Frontiers in Psychology 13, 811517

Lynch, C.J et al (2024) Fronto-striatal salience network expansion in individuals in depression Nature 633, 624-633

Metaxa, A.M & Clarke, M (2024) Efficacy of psilocybin for treating symptoms of depression: Systematic review and meta-analysis BMJ 385, e078084

Miller, A.H & Raison, C.L (2018) The role of inflammation in depression: From evolutionary imperative to modern treatment target Nature Reviews Immunology 16, 22-34

Ostinelli, E.G et al (2025) Personalising anti-depressant treatment for unipolar depression combining individual choices, risks and big data: The PETRUSHKA Tool Canadian Journal of Psychiatry 70, 10, 768-781

Pagnin, D et al (2004) Efficacy of ECT in depression: A meta-analytic review The Journal of ECT 20, 1, 13-20

Raymaekers, S et al (2017) Deep brain stimulation for treatment-resistant major depressive disorder: A comparison of two targets and long-term follow-up Translational Psychiatry 7, e1251

Roberts, S et al (2019) Exploration of NO_2 and $PM_{2.5}$ air pollution and mental health problems using high-resolution data in London-based children from a UK longitudinal cohort study Psychiatry Research 272, 8-17

Robson, D (2026) Psychiatry has finally found an objective way to spot mental illness New Scientist (https://www.newscientist.com/article/2509966-psychiatry-has-finally-found-an-objective-way-to-spot-mental-illness/)

Rocha, T.B.M et al (2021) Identifying adolescents at risk for depression: A prediction score performance in cohorts based in three different countries Journal of the American Academy of Adolescent Psychiatry 60, 262-273

Scangos, K.W et al (2021) Closed-loop neuromodulation in an individual with treatment-resistant depression Nature Medicine 27, 1696-1700

Semple, D.M et al (2024) Electro-convulsive therapy response and remission in moderate to severe depressive illness: A decade of national Scottish data British Journal of Psychiatry 225, 547-555

van Diermen, L et al (2018) Prediction of electro-convulsive therapy response and remission in major depression: Meta-analysis British Journal of Psychiatry 212, 71-80

Vreijling, S.R et al (2024) Features of immunometabolic depression as predictors of anti-depressant treatment outcomes: Pooled analysis of four clinical trials British Journal of Psychiatry 224, 89-97

Wessa, C et al (2026) Current evidence on immune-driven depression Current Opinion in Psychiatry 39, 1, 8-18

Williams, Z.J et al (2026) Psychedelic therapy versus anti-depressants for the treatment of depression under equal unblinding conditions: A systematic review and meta-analysis JAMA Psychiatry (https://jamanetwork.com/journals/jamapsychiatry/article-abstract/2846479)

Wilson, C (2021a) Brain implant treats depression New Scientist 9th October, p10

Wilson, C (2021b) To medicate or not? New Scientist 9th October, p17

Wong, C (2024) Brain network linked to depression New Scientist 14th September, p16

Zwiep, J.C et al (2025) Depression with immuno-metabolic dysregulation: Testing pragmatic criteria to stratify patients Brain, Behaviour and Immunity 124, 115-122

8.11. EXTRA: GENETICS OF MOOD DISORDERS

Research on related individuals (ie: twin and family studies) suggest that around 50% of variance in MDD is due to genetic factors, and about three-quarters in bipolar disorder (BD) (Gangaraju et al 2025). "Longitudinal studies have shown that genetic influences

emerging in adolescence continue to influence depressive symptoms in adulthood and the stability and co-morbidity with childhood and adolescent psychiatric traits are primarily genetically influenced" (Gangaraju et al 2025 p452).

In terms of specific genes, over 600 loci have been identified in depression, and around 300 in BD (Gangaraju et al 2025). Therefore, the concept of polygenic risk scores (PRS) (ie: "an individual's genetic risk for a given disorder based on the weighted sum of the risk alleles they carry" (Gangaraju et al 2025 p453) is important.

Gangaraju et al (2025) reviewed three areas of research on genetic factors in adolescent mood disorders (ie: MDD and BD):

i) PRS - "Studies evaluating PRS by age at onset have shown that those with self-reported age at onset of depression in childhood and adolescence tend to have higher genetic risk whereas those with adult onset show comparatively lower genetic risk" (Gangaraju et al 2025 p453).

For example, PRS has been applied to the "Avon Longitudinal Study of Parents and Children" (ALSPAC), and the "Adolescent Brain Cognitive Development" (ABCD) cohorts in the UK (Grimes et al 2024).

ii) Gene-environment correlation - In a situation where a mother, say, suffers from depression and then the offspring also show depressive symptoms in adolescence, the cause could be genetic and/or environmental factors in the transmission of the mood disorder.

In terms of untangling gene and environment in adolescent depression, Piazza et al (2024), for example, found that PRS was associated with core symptoms of depression (genetic component), but bullying victimisation was a potential mediator (environmental component). Put another way, "the impact of genetic risk may differ depending on exposure to stressful life events" (Gangaraju et al 2025 p455).

iii) Familial genetic risk score (FGRS) - This is "an individual's genetic risk for a disorder based on the occurrence of that disorder in their family members – usually close and extended relatives – rather than from direct DNA testing" (Gangaraju et al 2025 p455) (eg: Kendler et al 2024).

Gangaraju et al (2025) concluded: "PRS are not

perfect predictors on their own, but they may provide useful information when combined with other risk factors. PRS improves person-level diagnostic and risk prediction when combined with other clinical and environmental factors. [...] Overall, both PRS and FGRS provide valuable insights into identifying adolescents at elevated risk for mood disorders, highlighting the potential for early detection and personalised prevention strategies" (p456).

8.11.1 Mania

In a search for genes involved in the mania episodes in bipolar disorder, Merola et al (2024) identified seven genomic regions.

"Mania is a cardinal symptom of bipolar disorder, a severe and relatively rare psychiatric condition affecting about 2% of the population, characterised by alternating phases of mania and depression. Mania involves sleeplessness, heightened mood and energy levels, irritability, increased psychomotor activity, rapid speech and thought, and, in extreme cases, delusions of grandeur and hallucinations. Hypomania, a milder form, has similar symptoms, without severe impairment or psychotic symptoms. Depressive episodes exhibit symptoms such as decreased energy, apathy, and anhedonia. For individuals, mania can lead to impulsive spending, risky investments, and deteriorating relationships. Manic episodes also burdens families with emotional stress and care-giving challenges. Societally, the impact includes higher healthcare costs and the need for social support services" (Merola et al 2024 p5).

Overall, bipolar disorder is viewed as multi-factorial with a combination of genetics (60-85% heritability, depending on the study), and environmental or social factors (Merola et al 2024).

Mullins et al (2021) identified 64 single nucleotide polymorphisms (SNPs) with bipolar disorder, and other psychiatric conditions like schizophrenia, and major depressive disorder.

Merola et al (2024) used these data with over 41 000 cases and 370 000 controls, along with other large-scale studies of European ancestry covering major depressive disorder, schizophrenia, and bipolar disorder.

8.11.2. Extra References

Gangaraju, S.H et al (2025) Genetic factors predicting risk of mood disorders in adolescents Current Opinion in Psychiatry 38, 6, 452-457

Grimes, P.Z et al (2024) Genetic architectures of adolescent depression trajectories in two longitudinal population cohorts JAMA Psychiatry 81, article 807

Kendler, K.S et al (2024) The joint effects of genetic liability and the death of close relatives on risk for major depression and alcohol use disorder in a Swedish national sample Psychological Medicine 54, 1709-1716

Merola, G.P et al (2024) isolating the genetic component of mania in bipolar disorder medRxiv (https://www.medrxiv.org/content/10.1101/2024.08.30.24312859v1)

Mullins, N et al (2021) Genome-wide association study of more than 40 000 bipolar disorder cases provides new insights into the underlying biology Nature Genetics 53, 6, 817-829

Piazza, G.G et al (2024) Polygenic scores and networks of psychopathology symptoms JAMA Psychiatry 81, article 902

9. LONGSTANDING EATING DISORDERS

9.1. Overview
9.2. Treatment
9.3. Appendix 9A - Lived experience
9.4. References

9.1. OVERVIEW

Anorexia nervosa (AN) has "a persistent and unacceptably high mortality rate", and "full recovery eludes the majority, and a large minority of people with AN develop a severe and enduring illness" (Hay et al 2025 p395). This is "longstanding anorexia nervosa" (L-AN) or "severe and enduring anorexia nervosa" (SE-AN) (Hay et al 2025) [20].

It is estimated that up to one-third of AN sufferers remain ill for over twenty years, and/or experience relapse over such time (Kiely et al 2025). At the worst, 2% of people with AN experience over 100 involuntary hospitalisations (in a Danish study; Clausen et al 2018).

Hay et al (2025) reviewed the latest evidence (from January 2024 to mid-May 2025) on L-AN (and "longstanding eating disorders" (L-ED) or "severe and enduring eating disorders" (SEED) [21]). The forty-three papers found were divided into "phenomenology and conceptualisation", and "treatment".

1. Phenomenology and conceptualisation - There is some debate about the definition of L-AN (and L-ED), but longevity of the illness is key. Other variables include treatment history and response, BMI, and psycho-social issues (Hay et al 2025) (table 9.1).

Phenomenology covers the lived experience of L-AN (appendix 9A). For example, Kiely et al's (2024) study of an artist's work as she suffered fatally with L-AN: "Key themes were the loss of self, but also finding meaning in the experience, and hope shifting from hope for personal recovery to her work as a legacy for others" (Hay et al 2025 p396).

[20] SE-AN is not recognised officially in diagnostic categories, but Kiely et al (2025) argued that "[D]elineating a longstanding illness experience from one of shorter duration enables the identification of persistent features of AN, with the potential to enhance conceptualisations. This can, in turn, inform the theoretical basis for the development of novel treatments" (p461).

[21] SEED was first proposed by Robinson (2009), according to Kiely et al (2026).

- Hay and Touyz (2018) proposed the following three criteria for L-AN: "(a) a persistent state of dietary restriction, underweight and overvaluation of weight/shape with functional impairment; (b) duration of >3 years of anorexia nervosa; and (c) exposure to at least two evidence-based treatments, appropriately delivered together with a diagnostic assessment and formulation that incorporates an assessment of the person's eating disorder health literacy and stage of change" (Kiely et al 2026 p2). The duration aspect has subsequently been changed to at least seven years (Kiely et al 2026).

- Kiely et al (2026) investigated these criteria in a survey of 208 adults who self-reported a diagnosis of anorexia nervosa from six countries (but predominately Australia). The participants completed the "Eating Disorder and Treatment Experience Survey" (EDTES), which is a thirty-minute online survey including five validated measures of eating disorders, general health, anxiety and depression, and health-related quality of life.

- The participants were divided into two groups based on the duration of anorexia nervosa - less than three years (ES-AN group), and seven years and more (L-AN group). "No between-group differences were found in measures of severity, including body mass index (kg/m^2), eating disorder symptom scores, psychological distress or perceived health-related quality of life. However, those with L-AN had a significantly higher number of mental and physical health co-morbidities, longer treatment delay, greater number of episodes of treatment and poorer subjective ratings of their treatment experiences" (Kiely et al 2026 p1).

- Kiely et al (2026) drew this conclusion from their data: "There is mixed evidence for a distinct L-AN diagnostic category in this study. The prefix of 'severe' in the proposed definition of 'severe and enduring' is not appropriate: anorexia nervosa remained as severe, despite treatment, at both early and later stages in the present study. Typically, anorexia nervosa persists for 9 years for at least 60% of people according to medicalised recovery definitions, and in this study was found to be ongoing at a median of 8 years despite a median of 6 episodes of care in the overall sample... and 14 years, with a median of 7 episodes of care in the L-AN group" (p11).

- Treatment, or lack of treatment, may be the most important variable in L-AN or SE-AN. The average period of untreated anorexia nervosa (duration of untreated eating disorder; DUED) was five times higher in the L-AN than ES-AN group. Austin et al (2021) found the average DUED, based on fourteen studies, was 29.9 months. Kiely et al (2026) found that "the L-AN group reported double the length of this average DUED and, for the ES-AN group, it was reported as half" (p10).

Table 9.1 - Kiely et al (2026).

2. Treatment studies - "There was a dearth of robust

scientific evidence on treatments for L-AN, although innovative treatments are beginning to be investigated. Marcolini et al [2024] identified three themes namely psychotherapeutic, pharmacological and neuromodulation approaches...” (Hay et al 2025 p397).

Hay et al (2025) noted “a new genre” of articles “authored by people with lived experience expertise” (p397). For example, Asaria (2025) “identified L-AN as an illness group where treatment needs are critically underserved. They advocated for supportive care that is delivered with Compassion, Hope, Empathy, Appreciation and Patience (CHEAP)” (Hay et al 2025 p397).

This fits with the view that L-AN raises unique challenges (eg: Wonderlich et al 2024). There are “challenges in balancing supporting a person's autonomy and supporting the dignity of risk, versus the need to provide safe care. The latter is often within a coercive framework, which may be harmful, and where a person's decision-making capacity may be impaired” (Hay et al 2025 p399).

From a different perspective, Mooney et al (2025) interviewed sixteen Irish healthcare professionals on managing L-ED, and four themes emerged - the importance of the therapeutic relationship, person-centred care and choices, managing co-morbidities [22], and insufficient services (Hay et al 2025). Meanwhile Wojtkowiak et al (2024) interviewed seven Dutch mental healthcare providers about end-of-life care, including the idea of “terminal AN”. There is “unresolved debate regarding whether people with AN can ever be classed amongst those with a terminal illness or can be determined to have impaired decision-making capacity for life-saving treatment” (Hay et al 2025 p399).

Wojtkowiak et al’s (2024) themes included “the uncertainty of dying, the dilemma between working towards recovery or refraining from treatment, the negativity of the term ‘treatment resistance’, misunderstanding of what palliative care is, the influence of the illness on decision making, and the challenges in discussing death and suicidal intent” (Hay et al 2025 p399).

[22] “Co-morbidity is the norm for people with anorexia nervosa. Register studies that permit large population-based information reveal that psychiatric co-morbidities alongside anorexia nervosa predict poorer health outcomes. The directionality of the relationship between anorexia nervosa and co-morbidity is unclear, whereby comorbid psychiatric symptoms can predate the eating disorder, persist with illness remission and worsen outcomes” (Kiely et al 2026 p2).

9.2. TREATMENT

Wonderlich et al (2020) reviewed the treatment of SE-AN, and pointed out that the complexity of the condition was first recognised in the 1980s with the following themes in the academic literature of the late twentieth century:

i) That "clinicians were generally encouraged to tolerate and manage extreme ambivalence or resistance to weight regain in SE-AN patients, as opposed to focusing primarily, or solely on weight gain" (Wonderlich et al 2020 p1305).

ii) That "patients with SE-AN were thought to be best treated in the context of a comprehensive, multi-disciplinary team that could provide varying levels of care... Some clinicians also recommended a treatment approach that might best be considered psychiatric rehabilitation, similar to that seen in other serious psychiatric disorders, such as schizophrenia" (Wonderlich et al 2020 p1305).

iii) Different treatment goals for SE-AN (eg: quality of life) rather than the focus on weight gain with acute cases.

iv) The "judicious use of legal interventions" (Wonderlich et al 2020 p1305) (eg: involuntary treatment; incompetency of patients).

v) The inclusion of carers (and family members) in the treatment programmes.

Wonderlich et al (2012) noted the lack of empirical evidence on the treatment of SE-AN. The long-term follow-up studies that did exist challenged "the ominous belief that individuals with SE-AN are 'beyond help'" (Wonderlich et al 2020 p1305).

Hay et al (2012) found only eleven randomised controlled trials on treatment with SE-AN patients. "Based on their review, these authors concluded that specialist treatment yielded better results than did non-specialist 'treatment as usual' for patients with SE-AN. Their review also indicated that, in this population, CBT adapted for AN (CBT-AN) might reduce relapse, and that adjunctive olanzapine might enhance weight gain and symptom reduction" (Wonderlich et al 2020 p1306). Cognitive and behavioural interventions have subsequently

proved helpful, along with novel medications, and brain stimulation interventions (Wonderlich et al 2020).

However, Wonderlich et al (2020) observed that "we surmise that individuals with SE-AN are particularly likely to not receive active eating disorder treatment. We anticipate the reasons for this are many and include treatment burnout, loss of hope, absence of community resources, absence of a treatment model appropriate for their variant of illness, absence of financial resources to pay for treatment, deep ambivalence about recovery, and the hesitancy of clinicians to take on SE-AN cases because of their complexity and potential fatality. Moreover, many individuals with SE-AN may eschew treatment as they begin to feel as if AN is integral to their identity and cannot imagine a life without the illness" (p1308). "Extreme heterogeneity is likely" for those who receive treatment. For example, SE-AN patients may be hospitalised generally (ie: non-specialist eating disorder care), view specialist AN units as for younger and acute cases, to be diagnosed with psychiatric morbidity, and to experience coercive care and treatment (Wonderlich et al 2020).

9.3. APPENDIX 9A - LIVED EXPERIENCE

Individuals with SE-AN, when asked, have different views on the terminology used. For example, some prefer "severe and enduring", while others suggest "enduring" feels "hope limiting" [23]: "The term 'longstanding' ED [eating disorder] has instead been proposed as a more descriptive, less predictive, and emotive term" (Kiely et al 2025 p462).

Kiely et al (2023) performed a synthesis of research on the lived experiences of SE-AN, including "382 voices within 36 items of systematically acquired scholarship" (Kiely et al 2025 p463). A number of themes emerged, including: "(a) Vulnerable sense of self: 'hesitance to exist' (b) Intra-psychic processes which encompassed (i) meaning of AN to Self: 'Double Masquerade' and (ii) the disappearing self, (c) Global Impoverishment and, (d) Inter-psychic, temporal processes of change and recovery. The latter theme included (i) opening the self to

[23] SE-AN's association with hopelessness and feelings of abandonment by sufferers is contrary to the intention of the label, which was based on recovery-oriented care "encompassing several key components, namely (a) holding optimism in recovery, including improved well-being as well as improved symptoms; (b) maintaining a focus on empowerment (maximal self-determination and self-management); and (c) engagement in a meaningful life (life quality), while recognising the dignity of risk, offering maximal choice and promoting positive risk-taking and safety" (Kiely et al 2026 pp1-2).

other(s) and (ii) re-integrating self. Collectively, the themes informed the development of a four phase, SE-AN Recursive Model, illustrated by a metaphor used by a participant to depict the SE-AN experience of a spider (the AN) and its web (the sense of entrapment by the AN). The 'Spider and its Web' analogy illuminated the interwoven intra and inter-psychic temporal processes that may entangle and entrap a person in SE-AN" (Kiely et al 2025 p463).

Kiely et al (2025) built on this work with particular reference to "the contentious topic of terminal anorexia (T-AN)" (p464). Gaudiani et al (2022) proposed the characteristics of the T-AN, though the concept is not new (Kiely et al 2025). Russell (1995), for example, felt that "treating anorexia nervosa as a terminal disease raises disturbing questions for those who battle with this common and tragic illness" (quoted in Kiely et al 2025).

Kiely et al (2025) found 447 voices within forty-five studies in total, and the previous themes from Kiely et al (2023) were affirmed, but also with a new one - "'walking on a knife's edge, caught between worlds', informed an expanded conceptualisation of SE-AN, termed the Web of Hope [24]. Thus, demonstrating how participants held onto hope in the face of the SE-AN experience" (p460). This new theme encompassed the experiences of "(a) the extreme "edge" of the AN experience (b) living with an experience that was so aversive, it influenced perceived refuge in death (c) self-defined recovery as building hope (d) people's experiences of clinician's own beliefs obscuring the experiences of their own life, AN experience and death and (e) The 'edge' of clinical and research limitations about what is currently known about AN and the impacts this has on those living with a long-standing AN experience" (Kiely et al 2025 p479).

Kiely et al (2025) felt that the voices of the lived experience of SE-AN supported the "revoking of the term 'terminal AN' as lacking clinical utility, whereby immature protocols lack depth and consideration of nuance... and there is potential to cause harm... This risks falling dangerously short of the rigour needed to safely progress a delicate topic for a very vulnerable and already underserviced and marginalised clinical group" (p481).

---

[24] The Web of Hope is about building a life alongside SE-AN as described by this quote from Asaria (2023):
"I accept that I will never be cured in the traditional sense, I now hope I can have a purpose that makes life worth living even if anorexia is always in my life which is fundamentally different to it 'being' my life" (quoted in Kiely et al 2025).

9.4. REFERENCES

Asaria, A (2023) "Terminal anorexia": A lived experience perspective Journal of Eating Disorders 11, 1, article 107

Asaria, A (2025) Improving eating disorder care for underserved groups: A lived experience and quality improvement perspective Journal of Eating Disorders 13, article 11

Austin, A et al (2021) Duration of untreated eating disorder and relationship to outcomes: A systematic review of the literature European Eating Disorders Review 29, 3, 329-345

Clausen, L et al (2018) A Danish register-based study on involuntary treatment in anorexia nervosa International Journal of Eating Disorders 51, 11, 1213-1222

Gaudiani, J.L et al (2022) Terminal anorexia nervosa: Three cases and proposed clinical characteristics Journal of Eating Disorders 10, 1, article 23

Hay, P & Touyz, S (2018) Classification challenges in the field of eating disorders: Can severe and enduring anorexia nervosa be better defined? Journal of Eating Disorders 6, article 41

Hay, P et al (2012) Treatment for severe and enduring anorexia nervosa: A review Australian and New Zealand Journal of Psychiatry 46, 12, 1136-1144

Hay, P et al (2025) Longstanding eating disorders: Insights and innovations in severe and enduring illness Current Opinion in Psychiatry 38, 6, 395-401

Kiely, L et al (2023) Conceptualisations of severe and enduring anorexia nervosa: A qualitative meta-synthesis BMC Psychiatry 23, 1, article 606

Kiely, L et al (2024) Anorexia nervosa through the lens of a severe and enduring experience: "Lost in a big world" Journal of Eating Disorders 12, 1, article 12

Kiely, L et al (2025) Severe and enduring anorexia nervosa and the proposed "Terminal anorexia" category: An expanded meta-synthesis Eating Disorders 33, 4, 460-491

Kiely, L et al (2026) Key features of illness and treatment experiences in longstanding anorexia nervosa: Qualitative descriptive study BJPsych Open 12, article e22

Marcolini, F et al (2024) Severe enduring anorexia nervosa (SE-AN) treatment options and their effectiveness: A review of literature Journal of Eating Disorders 12, article 48

Mooney, K et al (2025) Optimising psychosocial interventions for people with severe and enduring eating disorders (SEED) perspectives of healthcare professionals in Ireland: A qualitative study International Journal of Mental Health Nursing 34, e70037

Robinson, P.H (2009) Severe and Enduring Eating Disorder

(SEED): Management of Complex Presentations of Anorexia and Bulimia Nervosa Oxford: Wiley-Blackwell

Russell, J (1995) Treating anorexia nervosa: Humbling for doctors BMJ 311:584

Wonderlich, S.A et al (2012) Minimising and treating chronicity in the eating disorders: A clinical overview International Journal of Eating Disorders 45, 4, 467-475

Wonderlich, S.A et al (2020) Severe and enduring anorexia nervosa: Update and observations about the current clinical reality International Journal of Eating Disorders 53, 1303-1312

Wonderlich, S.A et al (2024) Clinical and scientific review of severe and enduring anorexia nervosa in intensive care settings: Introducing an innovative treatment paradigm Journal of Eating Disorders 12, article 131

Wojtkowiak, J et al (2024) Perspectives on dying in severe and enduring eating disorders (SEEDs): A qualitative study among Dutch mental healthcare providers Death Studies 48, 43-53

10. AUTISM IN LATER LIFE

Autism is a lifelong condition, so there will be individuals ageing with it. "Understanding whether the presentation of autism differs in middle-aged and older people compared with younger autistic people is of particular importance due to the high rates of underdiagnosis in people over 50 years old" (Stewart and Happe 2025 p4.5).

Longitudinal research is one way to understand this issue. Waizbard-Bartov and Miller (2023) reviewed such studies, of which four followed individuals into their 50s. "Findings generally indicated that socio-communicative differences tended to decrease with age, whereas rigid and repetitive behaviours and interests had greater developmental stability. These studies also suggest that demographic variables, such as female sex, higher childhood IQ, and parental education level, are associated with better outcomes and trajectories. When contextualising these findings, it is important to consider that the autistic people in these studies were diagnosed before 2013 (ie: under the DSM-IV-TR criteria). Those diagnosed under current diagnostic criteria (ie: DSM-5 or ICD-11's autism spectrum disorders) may have different clinical presentations and developmental trajectories" (Stewart and Happe 2025 p4.5).

Cross-sectional studies (eg: Lever and Geurts 2018), which compare different age groups, suggest that "autistic traits may lessen with age, which has clinical implications, as older autistic individuals undergoing assessment may present with more subtle characteristics compared with younger autistic individuals" (Stewart and Happe 2025 p4.6).

In terms of the ageing experience, studies of health records (eg: Croen et al 2015) find that individuals with autism have higher rates of physical and mental disorders than the general population. Sleep problems, and barriers to healthcare access are important factors here (Stewart and Happe 2025).

Other differences over the lifespan for autistic populations include in relation to normative life experiences (eg: employment and retirement; living independently); negative symptoms associated with the menopause; dealing with stress and adversity (eg: higher rates of suicidal ideation, and self-harm); and dementia.

Stewart and Happe (2025) concluded that "autistic people in midlife and older age likely face poorer ageing outcomes than their non-autistic peers" (p4.19). They are "likely to experience higher rates of physical and

mental health conditions, greater healthcare barriers, increased early mortality, and more challenges with life transitions. They also experience more adverse life events, more cognitive difficulties, potential dementia risk, lower quality of life, greater social isolation, and lower social support. While cohort effects and high rates of underdiagnosis may influence these findings, it is evident that ageing autistic people likely require tailored support to improve their outcomes" (Stewart and Happe 2025 p4.19).

Note that general patterns will vary for individuals depending on the degree or level of autism, particularly the presence of intellectual or learning disabilities as a co-morbidity or not.

REFERENCES

Croen, L.A et al (2015) The health status of adults on the autism spectrum Autism 19, 7, 814-823

Lever, A.G & Guerts, H.M (2018) Is older age associated with higher self- and other-related ASD characteristics? Journal of Autism and Developmental Disorders 48, 6, 2038-2051

Stewart, G.R & Happe, F (2025) Ageing across the autism spectrum Annual Review of Developmental Psychology (https://www.annualreviews.org/content/journals/10.1146/annurev-devpsych-111323-090813)

Waizbard-Bartov, E & Miller, M (2023) Does the severity of autism symptoms change over time? A review of the evidence, impacts, and gaps in current knowledge Clinical Psychology Review 99, 102230