Mismatch Negativity in Schizophrenia – A Systematic Review and Meta-Analysis

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Aims: Schizophrenia is associated with abnormalities in mismatch negativity (MMN), an event-related potential linked to sensory memory and information-processing deficits. MMN has been widely studied as a biomarker for disease progression. This review and meta-analysis examines the magnitude of MMN abnormalities in schizophrenia and explores factors associated with these effects. In addition, this study evaluates a large language model approach for automated data extraction, with potential applications for future meta-analyses.
Methods: MEDLINE, Embase and PsycINFO databases were searched from inception to 14 November 2025. A total number of 2493 articles investigating auditory MMN in patients with an established diagnosis of schizophrenia, first-episode psychosis, high-risk groups, and first-degree relatives was identified. Manual data extraction was compared to an automated data extraction using OpenAI's GPT5 model. The mean effect size of auditory MMN in patients compared to controls was calculated. Subgroup analyses for deviant type and auditory paradigm were conducted. The effects of age, sex, illness duration, symptom severity and antipsychotic dose were analysed.
Results: A total of 140 studies were included in the analysis. Compared to the controls, patients with schizophrenia showed reduced auditory MMN amplitudes (g=0.72, 95% CI [0.63–0.82]). MMN impairment increased significantly (p<0.0001) across illness stages from high-risk individuals (g=0.37) to first-episode psychosis (g=0.50) and chronic schizophrenia (g=0.85). Subgroup analyses by deviant type and auditory paradigm showed no statistically significant differences in effect sizes. Auditory MMN amplitude was not significantlyreduced among first-degree relatives. Meta-regression analyses found that both antipsychotic dose (p<0.0001) and illness duration (p<0.0001) significantly moderated MMN effect sizes, while sex, symptom scales' scores and patient age were not significant modulators. OpenAI's GPT5 model accurately extracted data across 95% of fields.
Conclusion: This large meta-analysis confirms that auditory MMN amplitude is reduced in schizophrenia and modulated by both duration of illness and antipsychotic dose. This is present in high-risk groups, intensifying with progression to first-episode psychosis and chronic schizophrenia. These findings reinforce MMN as a potential biomarker of neurophysiological dysfunction in schizophrenia across stages of illness. Additionally, automated data extraction provided promising feasibility for accelerating future large-scale meta-analytic workflows.

Abstracts were reviewed by the RCPsych Academic Faculty rather than by the standard *BJPsych Open* peer review process and should not be quoted as peer-reviewed by *BJPsych Open* in any subsequent publication.

A Linguistic Analysis Comparing Medical Students and Consultants in Explanations of Depression

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Aims: Clinical depression is one of the most prevalent psychiatric illnesses, yet patient understanding of the condition is often lacking. Effectively educating patients on their diagnosis is a key communication skill for clinicians and future doctors.

This qualitative study aimed to compare how consultants and medical students, two ends of the medical hierarchy, differ when explaining depression to patients, whilst examining the potential clinical and educational implications.
Methods: Semi-structured online interviews were conducted with 12 final-year students and four consultants (two psychiatrists and two general practitioners). Participants were asked to role-play how they would discuss a suspected depression diagnosis to a lay patient, and explain the condition.

Linguistic and thematic analysis was conducted using Nvivo.
Results: Consultants tended to avoid heavy neurobiological discussion, using simplifications and generalisations to explain things with brevity and relating back to a patient's individual experience. One psychiatrist explained that this simplified description aimed to prioritise patient comprehension and acceptance to treatment, where '*bogg[ing] them down with…scientific facts*' was feared to cause confusion or take emphasis from what the clinician deemed important.

In contrast, despite avoiding medical jargon, students gave more verbose biochemical explanations. All students referred to the neurobiological theory behind depression within their answers.'*Serotonin*' specifically was mentioned by three students, but not by any consultants. Students also showed difference in language style, often asserting a more declarative tone by informing a patient of their diagnosis, clearly separating themselves as the expert. Consultants framed explanations as a collaboration and promoted patient self-reflection, inviting the patient to follow their diagnostic conclusion, reducing doctor–patient asymmetry in the hypothetical consultation.
Conclusion: Students medicalised depression to properly inform patients and validate their experiences. Comparatively, consultants were succinct and practical for clarity, comprehension and mutual understanding. There is research to support this latter approach, which suggests that an overemphasis on the neurobiological basis of depression can cause a lack of focus on the social and emotional dimensions of the illness. This may even cause a favouring of pharmacological over cognitive therapies.

Communication skills training for these students has effectively taught them to avoid unexplained medical jargon, but may need greater emphasis on delivering practical, patient-centred information when educating patients on their psychiatric conditions. However, due to the limited scope of this study, further research would be needed with larger cohorts in a more clinically realistic setting.

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Ketogenic Diet in Schizophrenia: A Critical Review and Framework for Future Implementation

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Aims: Current antipsychotic treatments in schizophrenia inadequately address negative and cognitive symptoms and are associated

with significant metabolic side effects, contributing to poor adherence and relapse. This review evaluates and synthesises current evidence on the ketogenic diet in schizophrenia and identifies methodological limitations to inform future research.

Methods: A systematic search was conducted across PubMed, MEDLINE, Embase, PsycINFO, and Scopus using terms related to "ketogenic diet" and "schizophrenia". Primary studies involving participants with schizophrenia receiving a ketogenic diet were included; animal studies, secondary analyses, non-ketogenic or exogenous ketone interventions, and non-English publications were excluded. Of 1177 records identified, 11 studies met the inclusion criteria and were appraised using Joanna Briggs Institute tools.

Results: Across 11 studies involving 38 participants, with follow-up ranging from 2 weeks to 12 years, ketogenic diet interventions were associated with improvements in psychotic and mood symptoms, often observed within weeks. Several studies also reported improvements in metabolic markers and physical well-being and reduced antipsychotic use, including complete withdrawal in some participants. Greater adherence was reported when participants received structured support. Symptom relapse was reported following diet discontinuation, suggesting possible diet-dependence. Reported adverse effects were generally mild and transient.

Conclusion: Preliminary evidence suggests potential mental and metabolic benefits of the ketogenic diet in schizophrenia; however, current findings are limited by small sample sizes, reliance on case reports and pilot designs, and inconsistent adherence. Future large-scale, controlled trials should use standardised symptom measures and systematic reporting of psychiatric and metabolic outcomes to establish efficacy, safety, and comparability.

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Experiences of Young People with ADHD Transitioning from Child to Adult Health and Social Care Services in the UK: A Qualitative Systematic Review and Thematic Synthesis

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Aims: To synthesise qualitative evidence on the lived experiences transitioning from child to adult health and social care services for young people with Attention Deficit/Hyperactivity Disorder (ADHD) in the UK.

Methods: A systematic search of MEDLINE, PsycINFO, Embase, Scopus, ASSIA, and grey literature sources was conducted on 3 June 2025. Eligible studies were qualitative or mixed-method, published from 2014 onwards and examined the transition experiences of young people with ADHD in the UK. Studies were excluded if they were purely quantitative, non-UK, or pre-2014. Methodological quality was appraised using the Critical Appraisal Skills Programme checklist. The data was synthesised using thematic analysis and narrative synthesis.

Results: Nine studies were included: seven peer-reviewed papers and two grey literature reports. Across 224 participants (90 young people, 82 family members, 52 clinicians), three overarching themes were identified: (1) communication as a determinant of transition experience, (2) negotiating discontinuity and change and (3) interdependence of individual and systemic factors.

Conclusion: Transition to adult services for young people with ADHD is commonly experienced as fragmented, poorly coordinated and psychologically distressing. The findings highlight the need for developmentally informed, person-centred transition protocols that recognise transition as an active process rather than a discrete administrative event. Future research should prioritise disengaged young people and investigate long-term trajectories to inform evidence-based policy and service development.

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Social Media Use and Mental Health Outcomes in Secondary School Students: A Systematic Review

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Aims: Social media use is nearly universal among adolescents, yet its relationship with mental health remains contested. Much public and policy debate focuses on total time spent on social media, despite emerging evidence that qualitative aspects of use may be more relevant. Clarifying which dimensions of social media use are most strongly associated with mental health outcomes is essential for informing school, clinical, and policy interventions.

This review aimed to synthesise evidence on the association between social media use and mental health outcomes in secondary school students (approximately ages 11–18). We hypothesised that (1) problematic social media use would show stronger and more consistent associations with adverse mental health outcomes than time-based measures, and (2) contextual and experiential patterns of use would be more informative than frequency or duration alone.

Methods: A rapid systematic review was conducted using a structured web-based search strategy to identify peer-reviewed systematic reviews, meta-analyses, and high-quality longitudinal or quasi-experimental studies examining social media use and mental health outcomes in adolescents attending secondary school. Eligible outcomes included depressive symptoms, anxiety symptoms, psychological distress, wellbeing, sleep disturbance, and self-harm-related outcomes. Social media exposure measures were categorised as time/frequency of use, problematic social media use (defined as compulsive or impairment-associated use), and patterns or experiences of use (e.g. active versus passive engagement, social comparison, feedback sensitivity). Findings were synthesised narratively by exposure category and outcome domain.

Results: Across included evidence syntheses and longitudinal studies, associations between time spent on social media and mental health outcomes were generally small and inconsistent, with substantial susceptibility to confounding and reverse causality. In contrast, problematic social media use demonstrated more robust and consistent associations with depressive symptoms, anxiety symptoms, and psychological distress. Evidence examining patterns and experiences of use suggested that mechanisms such as social comparison, sleepdisruption, and emotional reactivity to online feedback may partially explain observed associations. Evidence evaluating school-based restriction policies alone showed limited and mixed effects on mental health outcomes.