Trauma, Dissociation, Attachment & Neuroscience: A new paradigm for understanding severe mental distress

Jacqui Dillon, Lucy Johnstone & Eleanor Longden

Developmental psychology, traumatology and cognitive neuroscience literature suggests that psychosis and other forms of distress can be understood as meaningful responses to trauma and loss. Clinical and theoretical implications of this holistic, integrated paradigm are discussed.

Key words: sexual abuse, trauma, denial, dissociation, attachment, mental health service

A new and profoundly important paradigm for understanding overwhelming emotional pain has emerged over the last few years, with the potential to change the way we conceptualise human suffering across the whole spectrum of mental health difficulties. It is a strongly evidence-based synthesis of findings from trauma studies, attachment theory and neuroscience, which offers new hope for recovery. It also presents a powerful challenge to biomedical model psychiatry in that it is based on scientific evidence that substantiates and attests to what many individuals with first-hand experience of mental health problems have always known – that the bad things that happen to you can drive you mad. In this article we will summarise the key findings and reflect on the implications for current practice.

It should be noted that we do not accept the validity of diagnostic categories such as schizophrenia, psychosis and personality disorder; nor do we accept the biomedical model that is implied by terms such as symptom and delusion. However, much of the literature that we cite in this paper is framed in such terms; hence their use in parts in the article.

Jacqui Dillon is Chair of the National Hearing Voices Network, England and co-editor of *Living With Voices* (along with Marius Romme, Sandra Escher, Dirk Corstens & Mervyn Morris) and *Demedicalising Misery: Psychiatry, psychology and the human condition* (along with Mark Rapley & Joanna Moncrieff). Lucy Johnstone is a clinical psychologist, former course director of the Bristol Clinical Psychology Doctorate and author of *Users and Abusers of Psychiatry* (Routledge, 2000). Eleanor Longden is a postgraduate researcher at the University of Leeds, coordinator of the Intervoice Scientific Committee, and a faculty member of the International Centre for Recovery Action in Practice, Education, and Research (ICRA).

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Trauma and abuse

A rapidly expanding literature confirms the extremely high prevalence of trauma and abuse (broadly defined) in all psychiatric presentations: borderline personality disorder, eating disorders, depression, anxiety, phobias, self-harm, and also psychosis (schizophrenia, bipolar disorder) – although in such cases it has typically been minimised or denied (see Johnstone, 2007; Read et al., 2005; Larkin & Morrison, 2006; Read & Bentall, 2012). Our main focus here will be on the more extreme forms of mental distress that are referred to as psychosis, where the issue is more contentious because of the profound implications for psychiatric practice as a whole.

In this respect, an increasing number of sophisticated, large-scale population studies have provided powerful demonstrations of the impact of adverse life events in leading to psychosis. For example, research indicates that people abused as children are 9.3 times more likely to develop psychosis; for those suffering the severest kinds of abuse, the risk rises to 48 times (Janssen et al., 2004). People who have endured three kinds of abuse (e.g., sexual, physical, bullying) are at 18-fold higher risk of psychosis, whereas those experiencing five types are 193 times more likely to become psychotic (Shevlin et al., 2007). Furthermore, individuals with psychosis are three times more likely to have experienced childhood sexual abuse (CSA) than those with other diagnoses, and 15 times more likely to have been abused than non-patients (Bebbington et al., 2004). A recent large meta-analysis established beyond any reasonable doubt that childhood adversity substantially increases the risk of psychosis (Varese et al, 2012).

This link appears to be a causal one, with dose-dependent relationships evident between the severity (e.g., Spauwen et al., 2006), frequency (e.g., Shevlin et al., 2007) and number of types (Scott et al., 2007) of adverse experience and the probability of so-called symptoms. The association remains robust when using prospective research designs (e.g., Janssen et al., 2004; Schreier et al., 2009; Spauwen et al., 2006) and after controlling for factors such as substance use, urbanicity, education, gender, ethnicity, and psychosis in relatives (e.g., Bak et al., 2005; Bebbington et al., 2004; Schreier et al., 2009). There is also some evidence linking particular kinds of abuse with particular forms of distress (e.g., CSA may be a stronger causal factor for voice hearing than physical abuse in childhood: see Read et al., 2005).

This is not to say that abuse is the only causal factor in psychosis – other experiences can also be profoundly damaging, like the long-term impact of racism, bullying, poverty and other social inequalities; the corrosive effects of psychological and emotional dysfunction within families; and the aftermath of intergenerational trauma (see Bebbington et al., 2004; Bentall, 2006; Morgan et al., 2006; Campbell & Morrison, 2007). Although the focus of this paper is childhood maltreatment, we acknowledge the imperative to broaden and deepen understandings of the whole spectrum of traumatic and adversarial life experiences that can lead to the development of extreme forms of distress.

Dissociation

The clinical relevance of dissociation has only become a research focus relatively recently, a resurgence partly attributable to increased acknowledgement of the psychological impact of trauma; the controversy surrounding the concept of dissociative identity disorder (DID); and associated psychobiological and epidemiological data. The concept of dissociation actually originated in the late 1800s, and is generally credited to the French psychiatrist Pierre Janet. Unlike his predecessors and contemporaries, Janet was the first theorist to explore systematically how dissociative processes function as psychological responses to overpowering stress. His work with highly dissociative patients ultimately led him to suggest that human consciousness is not characterised by a monolithic, unitary identity, but by divisible (sometimes competing) subsystems whose integration could be compromised by stress, subsequently becoming disrupted, fragmented, and 'split off'.

Today it is recognised that dissociation exists on a continuum, with around 60-65% of the general population reporting some kind of non-clinical dissociative experience (Waller et al., 1996). At the far end of this spectrum, dissociation is understood as a protective device that permits individuals to detach mentally from experiences that are too overwhelming for the psyche to process (van der Hart et al., 2006). Due to their devastating intensity, representations of these events are stored in the brain in a fractured, unassimilated fashion, whereby component elements (e.g., cognitive, affective, somatic) 'are not integrated into a unitary whole but are stored in isolated fragments' (van der Hart et al., 1998, p. 253). In the short-term such disaggregation can function as a creative survival strategy by reducing conscious awareness of intolerable information and emotion. However, the extreme nature of dissociative fragmentation means that it can cause considerable distress and impairment if it becomes a habitual way of responding to anxiety or psychological threat (Dell, 2009). Furthermore, while dissociation is recognised in DSM-IV under the category of the dissociative disorders (e.g., DID, depersonalisation disorder) it may actually apply to a much wider range of presentations than is currently acknowledged. For example, depersonalisation (a persistent sense of unreality about one's sense of self) is one of the most frequently reported psychiatric complaints (Putnam, 1997), and dissociative mechanisms have been implicated in a diverse constellation of diagnoses, including depression, posttraumatic stress disorder (PTSD), and borderline personality disorder (BPD).

Psychosis has been traditionally deemed to be a biogenetic disease syndrome rather than a psychological response to adverse events. More recently, however, the possibility of functional overlaps between dissociative experience and psychosis has become a subject of intense speculation, with some theorists arguing that schizophrenia should be conceptually re-evaluated in terms of stress-induced dissociative ruptures in the personality (see Moskowitz & Heim, 2011). Strong associations between measures of dissociation and psychosis have now been confirmed in clinical and non-clinical populations, and it is

increasingly recognised that the so-called first-rank symptoms of schizophrenia (i.e., voices commenting or conversing, thought broadcasting, thought withdrawal, and delusional ideas) may occur more frequently in individuals meeting diagnostic criteria for dissociative disorders than those who are diagnosed with schizophrenia. Such findings have fuelled the argument that classic psychotic symptoms can be better understood as a form of stress-induced dissociation between different psychological faculties, whereby disaggregated traumatic content intrudes into the executive self (e.g., Longden et al., 2012; Moskowitz et al., 2009; Ross, 2008; Rudegeair & Farrelly, 2003). Indeed, according to Rudegeair and Farrelly (2008), the concepts of psychosis and dissociation may be interchangeable in that both act as 'psychological defence mechanisms for when experience is overwhelming and 'escape' is the most protective thing' (p. 309).

Attachment

According to the internal working model of attachment, formative experiences with a caregiver mould and sustain mental representations of the self in relation to others (Bowlby, 1969). Attachment can therefore be understood as a stable progression of cognitive, affective and behavioural styles that persist into adulthood, creating an interpersonal template that underpins one's ability to relate to others, regulate emotion, mentalise (infer the mental state of others), and manage autonomic arousal in order to cope with threatening feelings and situations. While secure attachment with one's caregiver is the ideal, many individuals experience attachment organisation that is avoidant, ambivalent, or disorganised (Gerhardt, 2004). In this respect, it has been suggested that such attachment qualities are an important mediator between early trauma and later psychosis (e.g., Berry et al., 2008; MacBeth et al., 2008; Read & Gumley, 2010). Specifically, while secure attachment to a responsive carer can enhance resilience, augment coping ability and buffer stress responses, attachment disturbance or distortion may increase vulnerability to (meta)cognitive disruptions, autonomic reactivity, and emotional distress and dysregulation.

In addition to inhibiting one's ability to cope with later adversity, disordered attachment can be seen as a trauma in itself. For example, psychotic patients are more than twice as likely as non-patients to have experienced parenting characterised by 'affectionless control' (Read & Gumley, 2008). Avoidant attachment styles have also been shown to correlate with experiences that are labelled as positive symptoms (e.g., voice hearing, delusional ideas) and negative symptoms (e.g. social withdrawal, lack of affect) of psychosis, while anxious styles correlate with positive symptoms (Ponizovsky et al., 2007). Other factors suggestive of disordered attachment may also increase the risk of psychosis (e.g., being an unwanted child, death of one's mother, separation from one or both parents, etc.). Furthermore, chronic misattunement with one's caregiver may also prime an individual to develop dissociative tendencies, which over time can grow progressively more complex and detached from normal consciousness (Putnam, 1997). As Liotti and Gumley (2008) have argued,

disorganised attachment styles may set a precedent for responding to later stress and adversity with dissociation and psychological fragmentation.

Neuroscience

Evidence (e.g., Bremner, 2003; Gerhardt, 2004; Nemeroff, 2004; Perry et al., 1995; Read et al., 2001) is accumulating about how both developmental attachment processes and trauma/abuse are encoded in the brain and autonomic nervous system (ANS), creating similar types of 'psychobiological states' that can create long-term problems for people in adult life (e.g., difficulties in regulating bodily and emotional arousal). Specifically, adversities such as CSA (but also less direct experiences of abuse, such as witnessing violence and suffering emotional neglect) may affect brain development in a way that can lead to the presentations we are familiar with in borderline personality disorder, psychosis, and other psychiatric diagnoses (e.g., voice hearing, self-injury, suspiciousness and lack of trust, anxiety, low mood, and emotional reactivity).

The brain encodes different types of memory (sensory, emotional, verbal, pre-verbal) in different ways and in various cortical areas. If the trauma is severe, the memory is more likely to be stored in the right brain, split off from the conscious linguistic functions of the left hemisphere. Furthermore, if traumatic stressors or disordered attachment occur in infancy, brain regions that record conscious autobiographical memory (the cortex) will not have even developed. Instead, traumatic memories will be stored in the limbic system (emotional and sensory memory), midbrain (emotional arousal, sleep, appetite), and brainstem (regulation of instinctive responses and the ANS) – thus being less amenable to influence by thought and less easy to regulate through language (e.g., by talking about what one is feeling and experiencing). This phenomenon is well summarised in Harvey's (1990) statement that trauma survivors have symptoms instead of memories (see also Courtois & Ford, 2009; Herman, 1992; Moskowitz et al., 2009).

In such circumstances, our 'memory' of threatening or pre-verbal experiences may surface only as an automatic physical and emotional arousal response, split off from conscious verbal recall. This fight or flight reaction was adaptive when the trauma occurred, but the ANS can remain permanently primed for threat, responding to every reminder of the original stressor. Correspondingly, distress that remains unresolved and unintegrated is almost inevitably associated with physical and emotional dysregulation and cognitive intrusions, which in turn are continually triggered by overt and covert trauma reminders. However, as noted by Ogden et al., (2006):

> The capacity to assimilate the traumatic experience within the life narrative is not yet available to such individuals, both because traumatic memories are encoded subcortically, rather than in autobiographical memory, and because the recurring traumatic activation continues to create a somatic sense of threat, or speechless terror. (p. 2)

For example, voice hearing is traditionally seen as an aberrant symptom of psychosis, devoid of personal meaning. Instead, it might be more helpfully understood as dissociated emotional or experiential content (e.g., the voice of a past abuser) that intrudes into conscious awareness, and is consequently perceived by the person as a disowned, 'alien' phenomenon that feels detached and separate from autobiographical experience (Dorahy et al., 2009; Longden et al., 2012; Moskowitz & Corstens, 2007).

Investigating the fractured, disaggregated nature of traumatic memory may thus help delineate the neurobiological, cognitive, and psychosocial origins of psychosis more precisely, particularly in terms of a complex posttraumatic reaction. For example, delusions, hallucinations, numbing, flashbacks, panic attacks, chronic pain, depression etc. can all be understood as examples of unintegrated emotional or behavioural trauma memory, or 'post-traumatic flooding'. Survivors may fluctuate between being detached from their feelings and overwhelmed by them, in parallel with the process of physical hyperarousal that swings back to numbness (as in PTSD). Given the role of early adversity in mental distress, the specialism of developmental traumatology (appraising neurobiological development and functioning in maltreated children) is a promising means for understanding how trauma-induced, neurological changes might predispose for psychiatric breakdown. For example, the Traumagenic Neurodevelopmental model of Read et al. (2001) suggests possible pathways for both the so-called positive and negative symptoms of psychosis, as well as associations between dissociative and psychotic experience. This model highlights the similarities between the effects of stress on the developing brain and the neurological changes (e.g., dopamine and serotonin irregularities; reversed cerebral asymmetry; hippocampal damage) that have been suggested in the psychosis literature.

Implications

Taken as a whole, this new paradigm can be seen as biopsychosocial in the most useful and integrated sense of the term. Along with synonyms such as 'vulnerability-stress' and 'diathesis-stress', the biopsychosocial model is often used as a way of incorporating psychosocial factors into what is basically a biomedical model. Critics have argued that this strategy often amounts to no more than a rhetorical device for retaining the primacy of biological factors – a hypothesised series of biogenetic abnormalities – while reducing life events to the status of 'trigger' for an underlying disease process (e.g., Boyle, 2002; Johnstone, 2007; Read, 2005). In contrast, the new paradigm sees body and mind as mutually interactive, reflecting and reinforcing each other. In addition, the role of brain and biological factors is evidence-based rather than purely speculative, as in the case of dopamine dysregulation and other theories associated with medical model psychiatry (see Whitaker, 2010). Since biological factors are not privileged as primary and causal in a simplistic, reductive way, what we have outlined is not an illness model but a psychosocial trauma model,

with very different implications for intervention.

The paradigm also has important implications for the use of psychiatric diagnosis. It cuts across traditional categories such as schizophrenia, bipolar disorder, and personality disorder, instead suggesting that the majority of psychiatric presentations have common origins in some combination of trauma, victimisation or attachment problems. In other words, 'There is growing evidence that the experiences service users report … are, in many cases, a natural reaction to the abuses they have been subjected to. There is abuse and there are the effects of abuse. There is no additional 'psychosis' that needs explaining' (Johnstone, 2007, p. 217). This tenet is equally applicable to other diagnostic terms. For example, in the United States trauma-informed mental health services like The Sanctuary Model (Bloom, 1997) have been established to work in this trans-diagnostic, holistic and integrated way. Such services are 'designed to facilitate the development of structures, processes, and behaviours on the part of staff, clients and the community-as-a-whole that can counteract the biological, affective, cognitive, social, and existential wounds suffered by the victims of traumatic experience and extended exposure to adversity' (Bloom & Farragher, 2010).

The obvious alternative to diagnostic classification is a formulation-based approach. A formulation can be defined as a shared hypothesis about a person's difficulties, that draws on psychological theory, and which is based on an individual's particular experiences and circumstances and the sense they have made of them (Johnstone & Dallos, 2006; Johnstone et al., 2011). This, and the new paradigm itself, complements other evidence and perspectives. For example, the UK Hearing Voices Network suggests a view of voice hearing as socially significant and psychologically interpretable (Dillon, 2006), and Romme and Escher's (2000) concept of a construct explores the individual meaning of a person's voice in the same manner as psychological formulation (e.g., Longden et al., 2011). The new paradigm also fits with cognitive theories of how unintegrated traumatic material may lead to cognitive misattributions (e.g., about where voices come from) and with psychodynamic views that delusional beliefs have symbolic meanings related to real events.

New forms of peer support (Mead, 2005), self-help and therapy are also being developed that honour this interplay of body and mind, attempting to work simultaneously with both in order to acknowledge and integrate unresolved memories. For example, sensorimotor psychotherapy (Ogden et al., 2006) utilises psychodynamic/attachment theory and neuroscience/body therapies. These approaches help distressed individuals to reduce dissociative barriers and integrate fragmented experience into a meaningful autobiographical narrative, whilst concurrently soothing the body and processing the trauma physically and emotionally in the context of a secure attachment (i.e., a therapeutic alliance). Feeling sufficiently safe and supported to talk coherently about oneself and one's difficulties is an important outcome of attachment security. At a neurological level it implies 'waking up' frontal lobe functioning

by cultivating the presence of an observing adult or 'wise mind' that can forge links (associations as opposed to dissociation) between different areas of the brain and its memories. The therapist must work with 'just enough of' the trauma at a time, so that each bit can be processed emotionally, physically and cognitively.

What kind of impact has this research and new paradigm had? Recognition of the role of trauma can be seen in many people's work: for example Judith Herman's proposal for a new category of Complex PTSD to capture the impact of prolonged, repeated, coercive violation within a context of loss of control, disempowerment and entrapment (Herman, 1992). Acknowledgement of the causal role of trauma can also been seen in suggestions for a new category of Traumatic Psychosis (Callcott & Turkington, 2006). Dissociation is already a DSM diagnosis, and there is scope for using it more often as an alternative to the psychosis and personality disorder diagnoses.

While welcoming these developments, we would argue that they do not go nearly far enough. This year, an editorial in the British Journal of Psychiatry noted that 'the implications of our having finally taken seriously the causal role of childhood adversity are profound', and called for a 'genuinely integrated psycho-socio-biological approach' to psychosis and mental health difficulties across the spectrum (Read & Bentall, 2012, p. 89). According to Kuhn (1962), scientific revolutions occur when increasing contradictions and anomalies begin to challenge the basic assumptions upon which a particular paradigm is based. As with political rebellion, this happens in a context of growing professional insecurity and social crisis, in which the manifest failures of the old rules prompt a search for new ways of understanding the world. We believe that psychiatry is on the brink of a paradigm shift – a scientific revolution – and that acknowledging the profound implications of these recent findings requires nothing less than a completely new, non-medical understanding of emotional distress; one that acknowledges the prevalence and impact of trauma in all its forms, and leads to real hope and recovery for survivors of abuse and adversity (Dillon, 2011).

References

Bak, M., Krabbendam, L., Janssen, I., de Graaf, R., Vollebergh, W. & van Os, J. (2005). Early trauma may increase the risk for psychotic experiences by impacting on emotional response and perception of control. *Acta Psychiatrica Scandinavica, 112*(5), 360–6.

Bebbington, P., Bhugra, D., Brugha, T., Singleton, M., Farrell, M. & Jenkins, R. (2004). Psychosis, victimisation and childhood disadvantage: Evidence from the second British National Survey of Psychiatric Morbidity. *British Journal of Psychiatry, 185,* 220–6.

Berry, K., Barrowclough, C., & Wearden, A. (2008). Attachment theory: A framework for understanding symptoms and interpersonal relationships in psychosis. *Behaviour Research and Therapy, 46*(12), 1275–82.

Bentall, R. (2006). The Environment and psychosis: Rethinking the evidence. In W. Larkin and A. Morrison (Eds.), *Trauma and Psychosis: New directions for theory and therapy* (pp. 7–22). London: Routledge.

Boyle, M. (2002). It's all done with smoke and mirrors. Or, how to create the illusion of a schizophrenic brain disease. *Clinical Psychology 12*, 9–16.

Bloom, S. (1997). *Creating Sanctuary: Towards the evolution of safe communities*. London: Routledge.

Bloom, S. & Farragher, B. (2010). *Destroying sanctuary: The crisis in human service delivery systems.* New York: Oxford University Press.

Bowlby, J. (1969). *Attachment and loss, Vol. 1. Attachment*. New York: Basic Books.

Bremner, J. (2003). Long-term effects of childhood abuse on brain and neurobiology. Child and adolescent psychiatric clinics of North America, 12(2), 271–92.

Callcott, P. & Turkington, D. (2006). CBT for traumatic psychosis. In W. Larkin & A. Morrison (Eds.), *Trauma and Psychosis: New directions for theory and therapy* (pp. 222–38). London: Routledge.

Campbell, M. & Morrison, A. (2007). The relationship between bullying, psychotic-like experiences and appraisals in 14–16 year olds. *Behaviour Research and Therapy,* 45, 1579–91.

Courtois, C. & Ford, J. (2009). *Treating Complex Traumatic Stress Disorders: An evidence-based guide.* New York: The Guilford Press.

Dell, P. (2009). Understanding dissociation. In P Dell & J O'Neill (Eds.), *Dissociation and the Dissociative Disorders: DSM-V and beyond* (pp. 709–825). New York: Routledge.

Dillon, J. (2006). Collective voices. *Open Mind*, *142*, 16–18.

Dillon, J. (2011). The personal *is* the political. In M. Rapley, J. Moncrieff & J. Dillon (Eds.), *De-medicalizing Misery: Psychiatry, psychology and the human condition* (pp. 141–57). Eastbourne, UK: Palgrave Macmillan.

Dorahy, M., Shannon C., Seagar L., Corr M., Stewart K., Hanna D., Mulholland, C. & Middleton, W. (2009). Auditory hallucinations in dissociative identity disorder and schizophrenia with and without a childhood trauma history: Similarities and differences. *The Journal of Nervous and Mental Disease, 197*(12), 892–98.

Gerhardt, S. (2004). *Why Love Matters: How affection shapes a baby's brain*. Hove, East Sussex: Brunner-Routledge.

Harvey, M. (1990). An ecological view of psychological trauma and recovery. *Journal of Traumatic Stress, 9*(1), 3–23.

Herman, J. (1992). *Trauma and Recovery*. New York: Basic Books.

Janssen, I., Krabbendam, L., Bak, M., Hanssen, M., Vollebergh, W., de Graaf, R. & van Os, J. (2004). Childhood abuse as a risk factor for psychotic experiences. *Acta Psychiatrica Scandinavica*, *109*, 38–45.

Johnstone, L. (2007). Can trauma cause psychosis? Revisiting a taboo subject. *Journal of Critical Psychology, Counselling and Psychotherapy, 7*(4), 211–20.

Johnstone, L. & Dallos, R. (2006). *Formulation in Psychology and Psychotherapy: Making sense of people's problems.* London: Routledge.

Johnstone, L., Whomsley, S., Cole, S., & Oliver, N. (2011). *Good practice guidelines for the use of psychological formulation.* Leicester: British Psychological Society.

Kuhn, T. (1962). *The Structure of Scientific Revolutions.* Chicago: University of Chicago Press.

Larkin, W. & Morrison, A. (Eds.). (2006). *Trauma and Psychosis: New directions for theory and therapy*. London: Routledge.

Liotti, G., & Gumley, A. (2008). An attachment perspective on schizophrenia: The role of disorganised attachment, dissociation and mentalisation. In A. Moskowitz, I. Schäfer & M. Dorahy (Eds.), *Psychosis, Trauma and Dissociation: Emerging perspectives on severe psychopathology*. 117–134. Oxford: Wiley-Blackwell.

Longden, E., Corstens, D., Escher, S. & Romme, M. (2011). Voice hearing in biographical context: A model for formulating the relationship between voices and life history. *Psychosis: Psychological, Social and Integrative Approaches*. Advance online publication.

Longden, E., Madill, A., & Waterman, M. (2012). Dissociation, trauma, and the role of lived experience: Toward a new conceptualization of voice hearing. *Psychological Bulletin*, *138*(1) 28–76.

MacBeth, A., Schwannauer, M., & Gumley, A. (2008). The association between attachment style, social mentalities, and paranoid ideation: An analogue study. *Psychology and Psychotherapy: Theory, Research and Practice, 81*(1), 79–93.

Mead, S. (2005). *Intentional Peer Support: An alternative approach*. Maine: MSW.
Morgan, C., Dazzan, P., Morgan, K., Jones, P., Harrison, G., Leff, J., Murray, R. & Fearon, P. (2006). First episode psychosis and ethnicity: Initial findings from the AESOP Study. *World Psychiatry, February 5(1),* 40–6.
Moskowitz, A. & Corstens, D. (2007). Auditory hallucinations: Psychotic symptom or dissociative experience? *The Journal of Psychological Trauma, 6*(2/3), 35–63.
Moskowitz, A., Read, J., Farrelly, S., Rudegeair, T. & Williams, O. (2009). Are psychotic symptoms traumatic in origin and dissociative in kind? In P. Dell & J. O'Neill (Eds.). *Dissociation and the Dissociative Disorders: DSM-V and beyond.* (pp. 521–33). New York: Routledge.
Moskowitz, A. & Heim, G. (2011). Eugen Bleuler's Dementia praecox or the group of schizophrenias (1911): A centenary appreciation and reconsideration. *Schizophrenia Bulletin, 37*(3), 471–79.
Nemeroff, C. (2004). Neurobiological consequences of childhood trauma. *Journal of Clinical Psychiatry, 65*(1), 18–28.
Ogden, P., Minton, K. & Pain, C. (2006). *Trauma and the Body: A sensori-motor approach to psychotherapy*. London: W.W. Norton & Co.
Perry, B., Pollard, R., Blakley, T., Baker, W. & Vigilante, D. (1995). Childhood trauma, the neurobiology of adaptation, and 'use-dependent' development of the brain: How 'states' become 'traits'. *Infant Mental Health Journal, 16*(4), 271–91.
Ponizovsky, A., Nechamkin, P. & Rosca, P. (2007). Attachment patterns in schizophrenia in male inpatients. *American Journal of Orthopsychiatry, 77*(2), 324–31.
Putnam, F. (1997). *Dissociation in Children and Adolescents: A developmental perspective*. New York: Guilford Press.
Read, J. (2005) The bio-bio-bio model of madness. *The Psychologist, 18*(10), 596–7.
Read, J. & Bentall, R. (2012). Editorial: Negative childhood experiences and mental health: Theoretical, clinical and primary prevention implications. *British Journal of Psychiatry, 200*, 89-91.
Read, J. & Gumley, A. (2008). Can attachment theory help explain the relationship between childhood psychosis and adversity? *Attachment: New Directions in Psychotherapy and Relational Psychoanalysis*, *2*(1), 1-35.
Read, J. & Gumley, A. (2010). Can attachment theory help explain the relationship between childhood adversity and psychosis? In S. Benamer (Ed.), *Telling Stories? Attachment based approach to the treatment of psychosis* (pp. 51–94). London, England: Karnac Books.
Read, J., Perry, B., Moskowitz, A. & Connolly, J. (2001). The contribution of early traumatic events to schizophrenia in some patients: A traumagenic neurodevelopmental model. *Psychiatry, 64*(4), 319–45.
Read, J., van Os, J., Morrison, A. & Ross, C. (2005). Childhood trauma, psychosis and schizophrenia: A literature review with theoretical and practical implications. *Acta Psychiatrica Scandinavica, 112*, 330–50.
Read, J., van Os, J. & Bentall, R. (2012). Childhood adversities increase the risk of psychosis: A meta-analysis of patient-control, prospective and cross-sectional cohort studies. *Schizophrenia Bulletin*. Advance online publication.
Romme, M. & Escher, S. (2000). *Making Sense of Voices*. London: Mind Publications.
Ross, C. (2008). Dissociative schizophrenia. In A. Moskowitz, I. Schäfer & M. Dorahy (Eds.), *Psychosis, Trauma and Dissociation: Emerging perspectives on severe psychopathology* (pp. 281–95). Oxford, UK: Wiley-Blackwell.
Rudegeair, T. & Farrelly, S. (2003, November). *Is all psychosis dissociative?* Paper presented at the Annual Conference of the International Society for the Study of Dissociation, Chicago, IL.
Rudegeair, T. & Farrelly, S. (2008). Pharmacotherapy in the collaborative treatment of trauma-induced dissociation and psychosis. In A. Moskowitz, I. Schäfer & M. Dorahy (Eds.), *Psychosis, Trauma and Dissociation: Emerging perspectives on severe psychopathology* (pp. 307–18). Oxford, UK: Wiley-Blackwell.
Schreier, A., Wolke, D., Thomas, K., Horwood, J., Hollis, C., Gunnell, D., Lewis, G., Thompson, A., Zammit, S., Duffy, L., Salvi, G. & Harrison, G. (2009**).** Prospective study of peer victimization

in childhood and psychotic symptoms in a nonclinical population at age 12 years. *Archives of General Psychiatry*, *66*(5), 527–36.

Scott, J., Chant, D., Andrews, G., Martin, G., & McGrath, J. (2007). Association between trauma exposure and delusional experiences in a large community-based sample. *British Journal of Psychiatry*, *190*, 339–43.

Shevlin, M., Dorahy, M. & Adamson, G. (2007). Trauma and psychosis: An analysis of the National Comorbidity Survey. *American Journal of Psychiatry*, *164* (1), 166–69.

Spauwen, J., Krabbendam, L., Lieb, R., Wittchen, H. & Van Os, J. (2006). Impact of psychological trauma on the development of psychotic symptoms: Relationship with psychosis proneness. *British Journal of Psychiatry*, *188*, 527–33.

Van der Hart, O., van der Kolk, B. & Boon, S. (1998). Treatment of dissociative disorders. In J. Bremner & C. Marmar (Eds.), *Trauma, Memory and Dissociation,* (pp. 253–84). Washington DC: American Psychiatric Association.

Van der Hart, O., Nijenhuis, E. & Steele, K. (2006). *The Haunted Self: Structural dissociation and the treatment of chronic traumatization*. London: Norton.

Varese, F., Smeets, F., Drukker, M., Ritsaert, L., Lataster, T., Viechtbauer, W.,

Waller, N., Putnam, F. & Carlson, E. (1996). Types of dissociation and dissociative types: A taxometric analysis of dissociative experiences. *Psychological Methods 1*(3), 300–21.

Whitaker, R. (2010). *Anatomy of an Epidemic: Magic bullets, psychiatric drugs, and the astonishing rise of mental illness in America*. New York: Crown.