DOWNLOAD PDF UNDERSTANDING THE NATURE OF AUTISM

Chapter 1 : On the Spectrum: Understanding the Nature of Autism Â» Brain World

The best thing is every chapter includes many snippets of real-life vignettes of a paragraph of an autistic child: they're like little short video-tapes that help the reader understand the perspective of life from the child's point of view.

But thank God it finally did, for rarely have I come across a more comprehensive guide to a disorder which, in its multitude and variety of presentation, can be mind boggling for anyone having to work with people afflicted by it. The book is thus aimed at a wide readership, starting from counselling psychologists who may be involved in diagnosis and treatment, teachers and parents who are living with and training people with autism, and of course students of psychology who may want to find out the basic facts about the disorder. Any advice given, any technique explained - all refer and are applied to patients of all age groups: Every chapter starts with a poem by David Eastham, a young man with autism who only learned to communicate with the help of a computer at the age of These poems are a reflection of the torments of the soul of a person with autism, thus shedding an important light on the whole question of feeling and empathy and their connections with autism. It becomes obvious from the word go that the author, who has worked in the field of autism for more than 25 years, is not only extremely knowledgeable on the subject, but also on a mission: The book consists of six parts, each of which again contains a number of chapters. Private stories and anecdotes illustrate facts and extensive case studies. The volume contains a number of questionnaires and record keeping forms which may be reproduced and used in various settings. Part one of the book, entitled the Nature of Autism, and the four chapters contained therein can be seen as the core or skeleton of the publication. It gives plenty of cross-references to other chapters or publications and basically concentrates on symptoms, learning styles common in autism, effects on language and communication and behavioural phenomena and deficiencies. It contains a very helpful analogy. Janzen compares the functions of a brain to those of a computer and sheds light on the discrepancies of a brain affected by autism. To give you one example. The input system is described as a video camera and most of us are able to scan the environment and direct the camera towards imortant events. A person affected by autism however may have little control of their camera and may never take in the whole picture. They may record but small details, which may then contain bits and pieces of unrelated information. The end of each chapter contains a summary which helps the reader to gain a quick overview of what the chapter is about. The rest of the book continues in this vein: As you can see from the layout, the book encourages you to use it hands on and since I got hold of it I have certainly treated it as a goldmine not only working with children on the autistic continuum but also applying some of the interventions in the field of ADD. Two areas of criticism remain: In he won damages from the school over the incident, which had put him in hospital for months.

Chapter 2 : Understanding the Nature of Autism: A Guide to the Autism Spectrum Disorders by Janice E. J

Understanding the Nature of Autism has 5 ratings and 0 reviews. Appropriate for use with any age and ability level, this resource is a valuable tool for.

This is an open-access article subject to an exclusive license agreement between the authors and the Frontiers Research Foundation, which permits unrestricted use, distribution, and reproduction in any medium, provided the original authors and source are credited. This article has been cited by other articles in PMC. Autism spectrum disorder ASD is a serious neurodevelopmental disorder encompassing severe deficits in social communication and language development, and associated with repetitive, stereotypic behaviors. It is estimated that as many as 1 in children in the United States are affected Centers for Disease Control and Prevention, Over the past decade, we have witnessed remarkable scientific advancements in our ability to explore the origins and manifestations of autism, using tools such as genome-wide microarray analyses, functional neuroimaging and automated eye tracking. Yet, despite these innovations, we have failed to uncover a core psychobiological deficit for autism. Without such an understanding, treatment options are limited to various combinations of child-directed therapy, with minimal data supporting effectiveness Ospina et al. With the dramatic rise in the number of children diagnosed with autism Blaxill, comes an escalating burden for schools, governments and society to provide intensive and costly services. Clearly, understanding the etiology of autism is of paramount importance. The Etiology of Autism â€" Nature vs. Nurture Over the past 60 years, the pendulum of public and scientific opinion on the etiology of autism has swung between two extreme positions: Although the etiology of autism has remained elusive, the evidence to date has strongly refuted both of these extreme positions. As one of the first to systematically examine and describe a cohort of children with autism, Kanner hypothesized that these children were both genetically predisposed to develop autism, but also affected by parenting behavior. Herein he proposed a purely biological mechanism for the etiology of autism. Nevertheless, affected monozygotic twins did not exhibit similar autistic characteristics, any more so than dizygotic twins Le et al. Today, with the availability of genome-wide array analyses, multiple genetic markers of autism susceptibility have been identified, such as genes encoding for neuronal cell-adhesion molecules Wang et al. However, these factors appear to explain only a small degree of variance Geschwind, ; Sutcliffe, Other rare genetic disorders, such as Fragile X syndrome and tuberous sclerosis, have been associated with a higher rate of autism, although each possesses fundamentally different genetic abnormalities Levitt and Campbell, One recently discovered functional class of autism-associated genes is regulated by neuronal activity, suggesting that both genetic variation and experience may contribute to the development of autism Morrow et al. Thus, current models propose that multiple genetic, epigenetic and environmental factors may contribute to the etiology of autism Geschwind, The Contribution of Social Environment Even before the careful descriptions of ASD patients were published by Kanner and Asperger, isolated cases were reported of children exhibiting autistic features, who had been exposed to severe trauma or deprivation Wolff, Many congenitally blind children also exhibit characteristics of autism, to varying degrees. A spectrum of autistic features has been observed in visually impaired children Hobson and Bishop, , with autistic features significantly correlated with severity of blindness and mental retardation Mukaddes et al. This leads to the question: Face Processing, Oxytocin and Autism Both Dawson and Schultz have hypothesized that basic deficits in social perception may underlie many of the other developmental and behavioral abnormalities seen in autism. They hypothesize that a set of defining experiences early in development may critically affect the development of multiple neural systems. Just as visual deprivation during a critical period of development may result in long-term visual impairment Wiesel and Hubel, , it is proposed that social deprivation â€" either externally or internally derived â€" may contribute to impairment in social development. While face processing is a key factor in the development of social perception, it is severely impaired in autistic children. Numerous studies have noted face processing deficits using ERP Dawson et al. Functional MRI studies have demonstrated reduced activation of the fusiform face area when viewing or discriminating faces of unknown adults Pierce and Redcay, ; Schultz, While infants possess an innate perceptual bias for face-like shapes, the

capacity to distinguish facial features develops during the first year of life Cassia et al. It is proposed that some cases of ASD may result from a deficit in exposure to contingent, socially responsive facial expressions during a sensitive period of social development. Oxytocin OT , a neuropeptide associated with social memory and learning, enhances direct eye gaze and the ability to identify and remember faces, as seen in blinded placebo-controlled trials Guastella et al. OT receptor expression also appears to be programmed by early life experience via epigenetic mechanisms Champagne et al. OT deficits in humans have also been implicated in autism, with reduced peripheral OT levels observed in autistic subjects Green et al. Together, these studies suggest that OT may play an important role in promoting social perception, while deficits may be associated with the development of autism. As originally observed by Kanner, and confirmed in numerous recent studies, parents of autistic children often exhibit similar characteristics, including face processing deficits, aloofness, behavioral rigidities, and pragmatic language deficits Dawson et al. As our understanding of epigenetics evolves, the answers may lie in how the social environment influences gene expression and social development. Thus, despite detours along the way, we return to the original observations of Kanner to propose that the true etiology of autism may incorporate both nature and nurture â€" genetically determined predispositions and the cumulative effects of exposure to adverse or atypical social environments. Autism as a strongly genetic disorder: The question of time trends in autism. Morbidity and Mortality Weekly Report. Department of Health and Human Services. Naturally occurring variations in maternal behavior in the rat are associated with differences in estrogen-inducible central oxytocin receptors. Early behavioral intervention, brain plasticity, and the prevention of autism spectrum disorder. Neurocognitive and electrophysiological evidence of altered face processing in parents of children with autism: Understanding the nature of face processing impairment in autism: Autism genome-wide copy number variation reveals ubiquitin and neuronal genes. Seeing the face through the eyes: Oxytocin and autistic disorder: Oxytocin increases gaze to the eye region of human faces. The pathogenesis of autism: Absence of preferential looking to the eyes of approaching adults predicts level of social disability in 2-year-old toddlers with autism spectrum disorder. Autistic disturbances of affective contact. Child 2, â€" Kanner L. Problems of nosology and psychodynamics of early infantile autism. Orthopsychiatry 19, â€" [PubMed] Kanner L. Infantile autism and the schizophrenias. A normed study of face recognition in autism and related disorders. A broader phenotype of autism: The genetic and neurobiologic compass points toward common signaling dysfunctions in autism spectrum disorders. Plasma oxytocin levels in autistic children. Identifying autism loci and genes by tracing recent shared ancestry. Autism in visually impaired individuals. Behavioural and developmental interventions for autism spectrum disorder: Personality and language characteristics in parents from multiple-incidence autism families. Personality characteristics of the parents of autistic individuals. Quasi-autistic patterns following severe early global privation. Early adolescent outcomes of institutionally deprived and non-deprived adoptees. Post-learning intranasal oxytocin modulates human memory for facial identity. Developmental deficits in social perception in autism: Common genetic variants on 5p Comparison of the effects of unilateral and bilateral eye closure on cortical unit responses in kittens. The history of autism.

Chapter 3 : Understanding the Nature of Autism - Outside the Box Learning Resources

The Nature of Autism and Autistic Spectrum Disorder. These notes were prepared to provide a brief introduction to the characteristics of Autism and ASD and their management for inclusion in the LEA Handbook on Special Educational Needs.

Nature The current definition of Autism refers to a pervasive disorder involving severe impairment in the areas of social interaction and communication, stereotyped behaviours, and a preference for sameness. Rigidity of thought and behaviour , together with limited imagination and imaginative play. Limited verbal and nonverbal communication with a lack of true two-way interchange, and a weakness in recognising the feelings or perspectives of others. Fragile or absent social relationships with an appearance of aloofness or indifference. The concept of "spectrum" indicates the wide range of levels of difficulty or of permutations of symptoms that may apply to all children diagnosed with autism, but these core characteristics will be observable to some degree in all cases. At the level of marked or severe difficulties, the children are likely to need specialist educational provision, but children towards the higher end of the spectrum will probably benefit from mainstream provision. Asperger Syndrome, also first described in the s, may be differentiable from high functioning autism in some specific ways, but is usually perceived as a less severe form of the condition whose characteristic signs include marked and sustained impairment in social interaction or play, restricted and repetitive behaviours and activities, particular interests to the exclusion of all others, and a strong dislike of changes to routine. Motor delays or clumsiness are commonly associated with this syndrome. However, children with Asperger Syndrome have adequate vocabulary and expressive language, may have cognitive scores in the average range or above, and do not commonly experience additional learning difficulties. Consequently, diagnosis may be delayed until the difficulties with social interaction become evident, and the children are at increased risk for emotional or stress-related disorders as a result of the "invisibility" of the condition and the inappropriate expectations that may be applied. Approximately 4 times more boys than girls are affected by autistic spectrum disorders. Key Issues Many of the social anomalies characteristic of autism may reflect a deficit in Theory of Mind in that the individual cannot readily appreciate the feelings, beliefs, or knowledge held by other people and perhaps cannot fully recognise or interpret his or her own thought processes. Therefore, there will be stilted communication, a lack of self consciousness, and weakness in understanding or entering social situations. Stimulus Over-Selectivity refers to the trend to respond only to part of a stimulus rather than the whole object or to the whole social setting. This may explain why some individuals with ASD are not confused by optical illusions or why they may be unusually proficient at tasks like copying patterns since they are able to examine the stimulus in small bits at a time. Executive Functioning, ie the ability to plan ahead, or to bring together bits of information from different sources, and to generalise or learn for experience, may be limited. ASD is noted for idiosyncrasies in Attention. In very young children , the lack of capacity with regard to gaze monitoring and, therefore, to sharing attention may explain some of the social interactional problems. The absence of shared attention by around 18 months of age is a diagnostic pointer. Further, the individual with ASD may be able to focus well upon certain activities, especially those that he or she has chosen, but will probably have problems in shifting attention from one task to the next, especially if the type of attention required is also changing. For example, to move from some individually-pursued and quiet task to a whole class activity involving verbal interchange will be challenging. A request such as " Would you like to finish that writing now? Further, this style might underlie the weaknesses in imaginative play so that, eg, a cardboard tube is a cardboard tube and not a telescope ; and there is a common need to see some direct purpose in activities so that certain games, such as football involving rushing to one end of the playground only to rush back again, would be seen as pointless by many ASD children. Intervention and Management A common theme still concerns the need for early diagnosis and for equally early intervention, and a range of approaches is available to use with young children with ASD. Significant components in such programmes include the understanding of, and involvement of the parents or carers in, the goals and strategies, consistency of application, and the capacity to generalise the skills learnt to

different settings and occasions. Early provision and structured support may not lead to a cure for autism, but they can enhance progress, reduce pressure and stress upon the child, and limit the incidence of maladaptive behaviours. Mainstream inclusion is a viable prospect for those children with higher functioning autism or Asperger Syndrome, but flexibility of approaches and raised awareness of autistic "style" among staff and, perhaps, peers as well is required. The major issue is concerned with reducing any stress in the children which might otherwise stem from some uncertainty over what is expected or from communication breakdown, and which might be reflected in what appears to be non-compliant or challenging behaviour. The programme for any given child will be based upon individual observations and assessments, but basic strategies could well include some or many of the following: Connor September This article is reproduced by kind permission of the author.

Chapter 4 : Aspergerâ€™s Syndrome - Autism Society

Autism is a neurobiological disorder that causes discrepancies or differences in the way information is processed (Essential Guide to Finally Understanding Autism). The process of obtaining information affects an individual with autisms ability to do many things.

Home All Stories On the Spectrum: Understanding the Nature of Autism On the Spectrum: He seems to be unaware of the speed he and fellow hospital resident, Claire, are traveling at in the backseat and slips on a pair of gloves. Only he knows something is wrong â€" he only needs to find a small spot on the MRI film in order to tell. Ignoring Claire and the driver, he reaches into the large container sitting between them and studies what looks to be a raw steak wrapped in plastic, feeling the flesh with his eyes closed. The scans show no clot, but there is a clot! The protagonist, played by Freddie Highmore, is a gifted surgeon â€" seemingly a prodigy as he is decades younger than many of his peers, but quietly suffers from autism. It may seem at once unusual to find a character like Shaun Murphy in an occupation of this nature, and refreshing to see a character on the spectrum portrayed in a good light â€" but it leaves many viewers wondering if such a person could exist in real life. However, the idea that people who suffer with autism are capable of honing complex skills and talents is slowly prevailing. What sets someone like Murphy apart from the rest of us? The information technology business Auticon has employed 15 consultants â€" all of whom suffer from varying degrees of autism â€" and were given their jobs following long periods of unemployment. Just last year, the German-based company opened offices in London and Paris, with the hopes of employing consultants from such high-profile clients such as GlaxoSmithKline and Experian. The number of people worldwide affected with autism is estimated to be However, over the last several years, researchers have identified a number of risk factors closely associated with the prevalence and severity of symptoms. Genetic factors are thought to play a factor â€" and studies consistently show that degrees of autism are between 15 and 30 times more common in the siblings of autistic children than within the general population. Autism spectrum disorders ASD are also much more prevalent among identical twins than fraternal twins. Rather than isolating a singular gene, researchers suspect that several genes acting in a pattern may be responsible â€" that ASD may be the result of both brain enlargement in some portions of the brain while others are reduced. Because symptoms typically occur after the first year of age when the brain is developing, the neurons may not be distributed evenly throughout the brain. The frontal lobes of ASD patients, as well as the mirror neuron system, the limbic system, the temporal lobe, and the corpus callosum have all shown abnormalities. The mirror neuron system of the brain is a pipeline of regions associated with processing empathy in humans. Located in the inferior frontal gyrus and the inferior parietal lobule, you activate this network when observing or imitating other people. Irregularities in this region could explain why those higher on the ASD spectrum have trouble with recognizing emotions. The temporal lobe also consists of the superior temporal sulcus and the fusiform face area, which are also used to process facial expressions. ASD patients have even demonstrated lower activity in the temporal lobes during fMRI functional magnetic resonance imaging scans, as they were given faces to look at. Back in , scientists formed a consensus on another possibility â€" that ASD is actually the result of trouble with connections between these regions and the way they function, rather than a problem with any specific one â€" that persons with ASD are simply wired differently. Neuroscientist Ted Abel of the University of Iowa took another approach. He and his researchers chose to look at why ASD targets boys at four times the same rate as girls. A similar pattern of male bias is seen in other neurodevelopmental disorders, such as attention deficit hyperactivity disorder, and even language impairments. The researchers decided to look at a genetic deletion occurring in ASD patients â€" a copying variation that left out ERK1 extracellular signal-regulated kinase 1 , a signaling protein. Mice without the ERK1 failed to exhibit reward-seeking behavior â€" pulling levers for treats, for example. Female mice with the same deletion did not have trouble making the connection between rewards and the associated behaviors. However, they also address the broader question of how sex and gender influence the neurobiology of how we learn and behave, which may be involved in the different levels of risk between women and men for developing many other neuropsychiatric

conditions, as well. Females showed no difference in dopamine receptor D2 expression. The next step is to further investigate other autism-linked genes in mice, as the ERK1 disruption occurs in about 1 of every ASD cases. One thing that seems consistent so far is that reward learning may be a key component of ASD cases. Dopamine is typically distributed in human relationships â€" when we interact with friends, significant others, or even have conversations online with strangers â€" but when the reward circuitry is blocked, this no longer occurs, and could be a primary reason that persons with ASD, particularly in extreme cases, do not socialize. Abel is optimistic moving forward: This has implications for how we think about the underlying behavioral differences in autism, and implications for how we develop both behavioral or pharmacological therapies to improve the lives of those with autism.

Chapter 5 : The Elusive Etiology of Autism: Nature and Nurture?

Understanding the Nature of Autism: A Guide to the Autism Spectrum Disorders / Edition 3 Appropriate for use with any age and ability level, this resource is a valuable tool for therapists, teachers, and parents.

Chapter 6 : Understanding the Nature of Autism

Edward R. Ritvo MD is an internationally recognized medical expert, researcher and pioneer in the field of autism and Asperger's disorder and co-author of the official diagnostic criteria in the DSM (Diagnostic and Statistical Manual of Mental Disorders). Much of what is known about these disorders.

Chapter 7 : The Nature of Autism and Autistic Spectrum Disorder (ASD) by Mike Connor

Details about Understanding the Nature of Autism: Appropriate for use with any age and ability level, this resource is a valuable tool for therapists, teachers, and parents. This new edition presents an integrated approach to teaching and intervention.

Chapter 8 : Understanding the Nature of Autism and Asperger's Disorder

On the Spectrum: Understanding the Nature of Autism April 2, James Sullivan All Stories, health, science, wellness (Editor's note: This article from the Winter issue of Brain World magazine.