The Neuroscience Of Autism Spectrum Disorders By Joseph D Buxbaum | 70809d9040bfc7038b5261e32d8794b1

Autism

This book contains the latest research on assessment, diagnosis, treatment, intervention and support of individuals with ASD, and examines their implications at various stages of life. A wide range of neurological, genetic, psychological, developmental, social, and emotional issues are covered. The first edition of the Textbook of Clinical Neuropsychology set a new standard in the field in its scope, breadth, and scholarship. The second edition comprises authoritative chapters that will both enlighten and challenge readers from across allied fields of neuroscience, whether novice, mid-level, or senior-level professionals. It will familiarize the young trainee through to the accomplished professional with fundamentals of the science of neuropsychology and its vast body of research, considering the field’s historical underpinnings, its evolving practice and research methods, the application of science to informed practice, and recent developments and relevant cutting edge work. Its precise commentary recognizes obstacles that remain in our clinical and research endeavors and emphasizes the prolific innovations in interventional techniques that serve the field’s ultimate aim: to better understand brain-behavior relationships and facilitate adaptive functional competence in patients. The second edition contains 50 new and completely revised chapters written by some of the profession’s most recognized and prominent scholar-clinicians, broadening the scope of coverage of the ever-expanding field of neuropsychology and its relationship to related neuroscience and psychological practice domains. It is a natural evolution of what has become a comprehensive reference textbook for neuropsychology practitioners. The multidimensional manifestation of autism spectrum disorders has long been intriguing to researchers. The Neuroscience of Autism provides a comprehensive account of autism spectrum disorders by integrating scientific findings from behavioral, cognitive, and neurobiological research. The book begins by defining autism, identifying characteristics, prevalence, and exploring the history, then moves on to the cognitive and social bases of the behavioural symptoms, then to brain bases of behavioural and cognitive symptoms, and ends with intervention practices. The Neuroscience of Autism examines theoretical models such as weak central coherence, enhanced perceptual functioning, and the extreme male brain hypothesis. It also addresses the increased attention on the brain connectivity model of autism, looking at the synchronization of brain activity across different brain areas, causal influence of a brain region on another, and the white matter cable connections in the brain. Delves into the increasing prevalence of autism in the United States Focuses on screening tools for early identification Discusses the neuroanatomical differences seen in individuals with autism Examines the inferences gained from functional MRI studies of autism Summarizes the insights available from animal models of autism Identifying Special Needs provides expert guidance to recognizing and categorising the specific characteristics of a range of special needs. Drawing on her experience as an educational psychologist and special education teacher, Glynis Hannell provides easy-to-use checklists to help teachers quickly and accurately gather information to determine whether individual students need specialised attention and services, and guidelines on how to provide this help. This unique book offers diagnostic criteria and supporting notes for a wide range of special educational needs, including autism spectrum disorders, communication disorders, social and emotional issues, cognitive disabilities and specific learning disorders. Relevant to both primary and secondary school students, all checklists can be photocopied for ease of use and downloaded from the companion website. This fully revised third edition includes additional information on guiding conversations with parents, children and colleagues, as well as advice on parents on how to select outside professionals. The practical checklists and resources help teachers and educational professionals to: Identify and understand special needs screen any student for possible special needs; understand the causes and characteristics of various types of special needs; link classroom observations to diagnostic criteria used by specialists. Profile individual differences create accurate and comprehensive profiles for individual students, including positive characteristics; record each student’s unique pattern of development within a special needs ‘label’. Work together with colleagues and parents quickly record important information and avoid writing time-consuming reports; request and prepare for further assessment and intervention; coordinate information from several teachers or professionals; involve parents in observing and discussing their child’s pattern of strengths and challenges; plan effective, inclusive intervention in the classroom setting; follow up with recommended further reading, websites and professional references. Based on internationally accepted diagnostic criteria, and relevant for educational professionals worldwide, this is an essential book for teachers, psychologists and other specialists to ensure that the children and adolescents in their care receive the support they need to succeed.In Tracing Autism, Des Fitzgerald offers an up-close account of the search for a neurological explanation of autism. As autism has gained cultural prominence with more diagnoses and more controversy, its biological causes remain
elusive. Through in-depth interviews with neuroscientists, psychologists, and psychiatrists, Fitzgerald examines what it means to do scientific research in the ambiguous terrain of autism research, a field marked by shifting horizons of uncertainty and ambivalence. He draws out how autism scientists talk and feel their way through their research, demonstrating its profoundly affective character, and expanding our understanding of what is at stake in the new brain sciences. From a preeminent researcher, this book looks at the key role of joint attention in both typical and atypical development. Peter C. Mundy shows that no other symptom dimension is more strongly linked to early identification and treatment of autism spectrum disorder (ASD). He synthesizes a wealth of knowledge on how joint attention develops, its neurocognitive underpinnings, and how it helps to explain the learning, language, and social-cognitive features of ASD across the lifespan. Clinical implications are explored, including reviews of cutting-edge diagnostic methods and targeted treatment approaches. The Neuropsychology of Autism provides an up-to-date summary on the neuropsychology of autism spectrum disorders (ASD), written by leaders in the field. It summarizes current knowledge about neurochemistry, neuroanatomy, genetics, and clinical presentations and provides helpful discussions on key functions such as language, memory, attention, executive functions, social cognition, motor and sensory functioning. This stimulating analysis reviews the broad potential of animal models to foster a deeper understanding of human pathology, strengthen connections between genetic and behavioral studies, and develop more effective treatments for mental disorders. Widely-studied and lesser-used species are examined in models that capture features along the continuum of normative and pathological behavior. The models highlight deficits in multiple functions, or endophenotypic features of the disorders. The contributors address questions ranging from how suitable species are chosen for study to the costs and benefits of using inbred versus outbred strains, and the effects of housing environment on subject animals. Larger issues addressed include how to evaluate the applicability of animal behavioral models to the human condition and how these models can harness emerging molecular technologies to further our understanding of the genetic basis of mental illness. Included in the coverage: Matting and fighting in Drosophila. Attachment and social bonding. Impulsivity in rodents and humans. Animal models of cognitive decline. Animal models of social cognition. Future directions for animal models in behavioral genetics. A detailed map of where this evolving field is headed, Animal Models of Behavior Genetics shows geneticists, molecular biologists, and cognitive neuroscientists paths beyond established concepts toward a more knowledgeable and collaborative future. This book is a printed edition of the Special Issue “The Identification of the Genetic Components of Autism Spectrum Disorders 2017” that was published in JIMSNeuronal and Synaptic Dysfunction in Autism Spectrum Disorder and Intellectual Disability provides the latest information on Autism spectrum disorders (ASDs), the lifelong neurodevelopmental disorders that present in early childhood and affect how individuals communicate and relate to others and their surroundings. In addition, three quarters of ASD patients also manifest severe intellectual disability. Though certain genes have been implicated, ASDs remain largely a mystery, and research looking into causes and cellular deficits are crucial for better understanding of neurodevelopmental disorders. Despite the prevalence and insidious nature of this disorder, this book remains to be an extensive resource of information and background on the state of current research in the field. The book serves as a reference for this purpose, and discusses the crucial role synaptic activity plays in proper brain function. In addition, the volume discusses the neurodevelopmental synaptopathies and serves as a resource for scientists and clinicians in all biomedical science specialties. This research has been crucial for recent studies that have provided insights into the genetic mechanisms for the development of pheromone processing and pheromone processing and related symptoms. Introduces the genetic and non-genetic causes of autism and associated intellectual disabilities. Describes the genes implicated in autistic spectrum disorders and their function. Considers major individual genetic causes of autism, Rett syndrome, Fragile X syndrome, and other autism spectrum disorders, as well as their classification as synaptopathies. Presents a thorough discussion of the clinical aspects of multiple neurodevelopmental disorders and the experimental models that exist to study their pathophysiology in vitro and in vivo, including animal models and patient-derived stem cell culture. Autism is no longer considered a rare disease, and the Center for Disease Control now estimates that upwards of 730,000 children in the US struggle with this isolating brain disorder. New research is leading to greater understanding of and ability to treat the disorder at an earlier age. It is hoped that further genetic and imaging studies will lead to biologically based diagnostic techniques that could help speed detection and allow early, more effective intervention. Edited by two leaders in the field, this volume offers a current survey and synthesis of the most important findings of the neuroscience behind autism in the past 20 years. With chapters authored by experts in each topic, the volume explores etiology, neuropathology, imaging, and pathways/models. Offering a broad background of ASDs with a unique focus on neurobiology, the volume offers more than the others on the market with a strictly clinical focus or a single authored perspective that fails to offer expert, comprehensive coverage. Researchers and graduate students alike with an interest in developmental disorders and autism will benefit, as will autism specialists across psychology and medicine looking to expand their expertise. Uniquely explores ASDs from a neurobiological angle, looking to uncover the molecular/cellular basis rather than to merely catalog the commonly used behavioral interventions. Comprehensive coverage synthesizes widely dispersed research, serving as one-stop shopping for neurodevelopmental disorder researchers and autism specialists. Edited work with chapters authored by leaders in the field around the globe – the broadest, most expert coverage available. Following on from the popular and provocative First Edition, the Second Edition offers the latest research on autistic spectrum disorders, exploring theories at the psychological, neurobiological and ‘first cause’ levels through methods of assessment, intervention, education and support. In this book, a group of international experts guide the reader through the clinical features of adults with autism spectrum disorders, describe the care needs of patients and their families, explain the evolution of the disorder into old age, and highlight what can be done to help. Detailed attention is paid to the medical and psychiatric problems of adults with these disorders and the approach to their education and professional integration. In addition, expert neuroscientists summarize current views on the neurobiology of autism. Autism spectrum disorders are devastating neurodevelopmental disorders. Although diagnosis and therapeutic interventions usually take place in infancy, they are chronic lifelong conditions. Surprisingly, the literature on autism spectrum disorders in adults is scarce. Moreover, most mental health professionals working with adults have little training in autism, and adult mental health services around the world are rarely prepared to address the needs of these patients, which tend to increase with age. This book therefore fills a crucial gap in the literature and will prove useful for all who care for and deal
with adults in the Autistic Spectrum. Autism spectrum disorder (ASD) affects approximately 1% of the human population and is characterized by a core symptomatology including deficits in social interaction and repetitive patterns of behaviour plus various co-morbidities. Although a lot of progress has been made to uncover underlying causes and mechanisms throughout the last decade, we are still at the very beginning to understand this enormously complex neurodevelopmental condition. This special volume is focused on translational anatomy and cell biology of ASD. International experts from the field including several members of the EU-AIMS initiative, launched to develop open access to anonymous cell models for ASD, have contributed chapters on several topics covering all crucial aspects of translational ASD research with a special emphasis on ASD model systems including stem cells and animals. Primary objective is to clarify how anatomical and cell biological phenotypes of ASD will help to translate basic mechanisms to clinical practice and to efficiently treat affected individuals in the near future. Information from neuroscience is growing and being properly used, and misused which makes it imperative that educators receive accurate and practical information. This book provides the accurate and practical information educators (pre-service and in-service) and caregivers serving children birth through age 8 need to know. This volume takes a practical and cautionary stance. It reminds educators to consider the ethical implications of neuroscience when it is applied to education, reviews current findings from neuroscience and reveals the dangers of oversimplification and inappropriate extensions of neuroscience into curricula. It brings together a group of authors with varied expertise writing on an array of inter-related educational topics that will help educators use neuroscience to understand the develop of the autistic child’s social, emotional, academic, behavioral, and other needs. The book’s practical and explicit approach to neuroscience can be insightful and useful to educators if applied ethically and with care. The book offers strategies educators and caregivers can use to affect children today and the adults they can become. Autism is no longer considered a rare disease, and the Center for Disease Control now estimates that upwards of 730,000 children in the US struggle with this isolating brain disorder. New research is leading to greater understanding of and ability to treat the disorder at an earlier age. It is hoped that further genetic and imaging studies will lead to biologically based diagnostic techniques that could help speed detection and allow early, more effective intervention. 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Comprehensive coverage synthesizes widely dispersed research, serving as one-stop shopping for neurodevelopmental disorder researchers and autism specialists. Edited work with chapters authored by leaders in the field around the globe - the broadest, most expert coverage available. Neurodevelopmental Disorders, the latest release in the Comprehensive Developmental Neuroscience series, presents the most thorough coverage available, addressing all aspects on how the nervous system and its components develop. This book brings together the latest research in this rapidly evolving field, with section editors discussing the technological advances that are enabling new research on brain development in human babies. Particular attention is paid to the effects of abnormal development and on new psychiatric/neurological treatments being developed based on our increased understanding of developmental mechanisms. Features leading experts in various subfields as section editors and article authors. Presents articles that have been peer reviewed to ensure accuracy, thoroughness and scholarship. Covers disorders of the nervous system that arise through defects in neural development. Taking an all-inclusive look at the subject, Understanding Autism: From Basic Neuroscience to Treatment reviews state-of-the-art research on the diagnosis, treatment, and prevention of autism. The book addresses potential mechanisms that may underlie the development of autism and the neural systems that are likely to be affected by these molecular, genetic, and infectious etiologies. It reviews key findings that inform diagnosis, epidemiology, clinical neuroscience, and treatment. The book concludes with a discussion of the economic cost of autism and provides a biomedical and public health perspective of the impact of this devastating disease. With chapters authored by clinical and basic researchers at the forefront of molecular and systems neuroscience, clinical neuroscience, and health economics, the book presents a powerful and comprehensive synthesis of current research on autism and its underlying neural substrates. The book’s two editors are considered elite pioneers in this area of research. Dr. Rubenstein was recently elected to the highly prestigious Institute of the Medicine, an honor reserved for those most committed to professional achievement and public service. Explores environmental factors during fetal development that may contribute to autism. It is well documented that in the majority of the cases, an autistic child’s brain has acquired the genetic and organismal abnormalities that were initiated during the first trimester of their gestational period. Yet, scientists still don’t know what is causing these abnormalities; this book explains how the human brain develops and what the critical stages are in which a fetal brain may acquire genetic and developmental abnormalities. It presents scientific data supporting previous anecdotal observations to attempt to understand the complex puzzle that is autism. From chemical fragrances to herbicides, synthetic chemicals are abundant in everyday life and this book examines the evidence surrounding these chemicals and their effects, including on the developing human brain and how that might explain certain characteristics observed in autism. Discussing various aspects of potential ASD causing factors, Autism and Environmental Factors brings together as many pieces of the autism puzzle as possible in one place to begin to clarify the picture and spark discussion to ensure a safe environment for everyone, especially our developing children. Discusses the genetic and environmental factors that may contribute to autism Covers how the human brain develops and the critical stages in which a fetal brain may acquire genetic and developmental abnormalities. Describes the rapid proliferation of synthetic chemicals in our modern world and the effects on the developing human brain—endocrine-disturbing chemicals that alter DNA, epigenetics, and hormones. Written in a clear and accessible style Autism and Environmental Factors is an important book for researchers and students in neuroscience, neuroanatomy, developmental neurobiology and anyone focusing on autism research. Based on Francesca Happé’s best-selling textbook, Autism: An Introduction to Psychological Theory, this completely new edition provides a concise...
overview of contemporary psychological theories about autism. Fletcher-Watson and Happé explore the relationship between theories of autism at psychological (cognitive), biological and behavioral levels, and consider their clinical and educational impact. The authors summarise what is known about the biology and behavioural features of autism, and provide concise but comprehensive accounts of all influential psychological models including ‘Theory of Mind’ (ToM) models, early social development models and alternative information processing models such as ‘weak central coherence’ theory. The book also discusses more recent attempts to understand autism using the ‘double empathy problem’ and clinician theories. In each case, the authors describe the theory, review the evidence and provide critical analysis of its value and impact. Recognising the multiplicity of theoretical views, and rapidly changing nature of autism research, each chapter considers current debates and major questions that remain for the future. Importantly, the book includes the voices of autistic people, including parents and practitioners, who were asked to provide commentaries on each chapter, helping to contextualise theory and research evidence with accounts of real-life experience. The book embraces neurodiversity whilst recognising the real needs of autistic people and their families. Thus Autism: A New Introduction to Psychological Theory and Current Debate provides the reader with a critical overview of psychological theory but also embeds this within community perspectives, making it a relevant and progressive contribution to understanding autism, and essential reading for students and practitioners across educational, clinical and social settings.Autism Spectrum Disorder: Perspectives from Psychoanalysis and Neuroscience, offers a guide to understanding and treating the ASD toddler from the dual perspectives of psychoanalysis and neuroscience, with input from four early childhood experts. The authors hypothesise that dyadic therapy and Reflective Network Therapy can impact a child by modifying the biochemistry of the brain, resulting in alteration of emotion and cognition. Their chapter on neurobiological mechanisms of change describes these hypotheses in depth. Written by the leading experts in autism research, this text provides a summary of all current knowledge related to the behavioral, experiential, and biomedical features of the autism spectrum disorders.This volume in the International Review of Neurobiology is a comprehensive overview of the state-of-the-art research into autism pathophysiology. Its chapters cover a wide range of etiologies, from genetics and development to environmental factors. In addition, it discusses key cell and behavioral phenotypes, including cortical and cerebellar phenotypes, as well as language and motor outputs. Finally, this volume’s chapters on gene expression in the brain describe how genes may be connected to phenotypes in autism. Broad coverage of genetic and cellular phenotypes in autism Focused on basic research Chapters primarily written by new investigators with a fresh perspective on the biological underpinnings of autism M an exploration of bringing concepts from other disciplines to Chinese as a foreign language, a comparison between individuals diagnosed with Autism Spectrum Disorder (ASD) and foreign language learners help us analyze and better understand how foreign language learners can successfully be socialized into a target language and culture. According to the Diagnostic and Statistical Manual of Mental Health Disorders V (2013), a diagnosis of ASD includes persistent deficits in social communication and social interaction across multiple contexts; furthermore, individuals with ASD are often described as visual learners and are claimed to exhibit relative strength in visual processing. ASD is both a linguistic and social disorder. Ochs et al. (2004) declare that the struggles and successes of those individuals who are diagnosed with autism make apparent what is most essential to participation in human society. Exploring the struggles of individuals diagnosed with ASD can shed light on the parallels of learning to comprehend social cues and to communicate in Chinese culture. This in turn better informs all Chinese as a foreign language (CFL) curriculum.In Neurology of Autism, Mary Coleman, Catalina Betancur, G. Robert DeLong, Christopher Gillberg, Yoshiro Nomura, Lorenzo Pavone, Martin Ruggieri, and Michele Zappella use the tools of neurological analysis to address a number of the major questions that have arisen in the study of autism. The answers they present have important implications for the direction of future autism research, diagnosis, and treatment. What are the neurological signs and symptoms of autism? The latest information is presented here in an in-depth discussion of epilepsy, cranial circumferencce, changes in muscle tone, stereotypies, and autism found in children with autism. In addition, a template is provided for practitioners to follow when conducting neurological examinations of a child with autism. What are the best options for the treatment of autism? The current medical, educational, and alternative therapies are thoroughly reviewed and evaluated. Is autism reversible? The question is explored for syndromic autism, where diseases may have a transient autistic phase, and reviewed in detail for nonsyndromic autism. Is autism primarily a single disease, as originally described by Leo Kanner? Research presented here suggests that autism is, instead, a syndrome involving many disease entities. Has the incidence of autism been increasing in recent years? A sophisticated, historical review of autism prevalence rates suggests that it has never been rare. What is the relationship between autism and Asperger syndrome? The latest evidence presented here sheds light on the degree to which both syndromes share more than clinical characteristics; they also have some similar findings in imaging, neuropathological, and genetic studies. Which components of the brains neural networks need to be impaired to cause the appearance of autistic symptoms? Although there are many candidate regions, dysfunction of the cerebellum and its circuits is noted to be of great interest. Student and professional researchers, practitioners, and parents will find this book to be a valuable resource for both the latest information from basic-science research and its application to the diagnosis and treatment of autism. “[This book] includes up-to-date genetic evidence, underlining the complexities of genetic/environmental interactions! Recommend this easy and informative read.” - European Journal of Pediatric Neurology “Authoritative.” - The Lancet Neurology “Coleman’s new book is an absolute must-read for anyone interested in the progress made in understanding the causes of autism. The field owes her a tribute worthy of someone who has transformed an area of neuroscience.” Simon Baron-Cohen in Nature Neuroscience “[]Informative and comprehensive in its treatment of the neurologic basis of autism well written and easy to understand the contributing authors have done an excellent job of making complex medical concepts understandable to all. The glossary at the end of the book is extremely helpful in this regard. The book is well referenced, provides helpful tables throughout, and includes a summary of relevant points at the end of each chapter. The authors are to be commended for presenting a very balanced view of current knowledge; they also indicate what we do not yet understand about brain functioning in autism and provide an important road map for ongoing exploration.” - Marshaly Yeargin-Allsopp in The New England Journal of Medicine “At last it is recognised that developmental neurology is the appropriate context in which to explain autism. The authors of this volume,
all pioneers in the field, consider new ideas on autism in this context. They succeed in making surprising and illuminating comparisons between autism and neurological disorders whose origin is already known. This work is a significant step towards understanding the causes of autistic disorders.” - Uta Frith, Institute of Cognitive Neuroscience and Department of Psychology, University College London “When and if the secret of autism is teased from the myriad disease states that exhibit the syndrome, it will be through origins as such are represented in this volume. Dr. Coleman has 'picked the brains' of recognized experts from neurology and related sciences, and has assembled a wealth of up-to-date and methodical information regarding both those diseases and the core symptoms of autism.” - Peter B. Rosenberger, Massachusetts General Hospital

In DSM-5, published in 2013, the classification of autism spectrum disorder (ASD) was created, subsuming several diagnoses and representing a significant evolution from its first appearance in the DSM-III three decades earlier. Autism Spectrum Disorders reflects this evolution, offering clinicians and families a succinct, definitive, and up-to-date guide to current research in the field and its impact on assessment and treatment. The book begins with the epidemiology of ASDs, which have increased in prevalence, and explores genetic heritability and environmental risk factors. It then explains the roles of the psychiatrist, neurologist and pediatrician in assessing the patient, examines assessment tools and processes, and describes the latest advances in a variety of treatments and interventions. The text’s focus is on educating and empowering families and health care providers to determine whether appropriate genetic testing and counseling have been undertaken, whether the individual has had the relevant assessment, and whether skilled behavioral and floor time. In addition, the Handbook discusses methodology factors impacting the estimation of prevalence and the interpretation of changes in prevalence estimates over time. Evaluates genomic and epigenetic research over the last decade in the context of translating findings to practice, in terms of testing (e.g., copy number variants and whole-exome sequencing) and counseling. Examines the role of environmental toxicity in immune dysregulation, which has now been noted among individuals with ASD and their family members by numerous studies. Reviews medical and cognitive assessments that may be needed. Reviews targeted treatments that have the potential to reverse neurobiological abnormalities in ASD Reviews behavioral treatments that are effective in promoting development and improving behavior. Describes the Developmental, Individual Difference, Relationship-based (DIR) model, a comprehensive developmental theory with relevance across the lifespan, which targets the core deficits of ASD identified in DSM-5. Provides an overview of school-based interventions for students with autism, exploring the rationale for conducting school-based research and examining existing teacher-, paraprofessional-, and peer-mediated interventions school-based interventions. Explores other approaches to ASDs, such as complementary and integrative approaches and non-invasive brain stimulation technologies, including transcranial magnetic stimulation. The push for early screening is resulting in earlier diagnosis of ASDs and the provision of evidence-based interventions that have a positive impact on outcomes. Autism Spectrum Disorders provides a bench-to-bedside guide that is essential reading for health care providers and families facing the challenges inherent in these complex disorders. This book addresses and synthesizes recent basic, translatable, and clinical research with the goal of understanding the mechanisms behind autism spectrum disorder (ASD) and how they lead to altered brain function and behavior. Bringing clarity to these mechanisms will lead to more effective therapies for the various heterogeneous pathologies that comprise ASD. Currently there are few, if any, proven therapies for the majority of the disorders. Among the topics addressed are neural plasticity, neuroimmunology, neuroinflammation, neuroimaging, and appropriate animal and genetic models. This book is the result of evolutionary research and provides up-to-date perspectives from leading investigators who are at the cutting edge of studies in autism spectrum disorders. The book allows readers to grasp new approaches to understanding the autism spectrum. Key areas of theory and research are covered, from classification and diagnosis, genetics, neurology and biochemistry, to socio-cognitive, developmental and educational perspectives, essential to a broader understanding of the autism spectrum. In addition it introduces new emphases on MEG, epilepsy and memory. In highlighting both biomedical and psychological perspectives, this book reflects the multi-level emphasis of contemporary thinking about autism. By addressing key unanswered questions, Researching the Autism Spectrum acts as a guidepost for future research and provides an authoritative and multidisciplinary perspective. Autism is an extremely complex neurodevelopmental disorder that is expressed in a spectrum of phenotypes and is characterised by impaired reciprocal social communication and stereotyped patterns of interests and activities. Its aetiopathogenesis remains poorly understood. This exhaustive synthesis discusses various aspects: A focus on the neurobiology of autism: the candidate genes implicate an involvement of numerous brain regions and a concomitant malfunctioning of neurotransmitter, immunologic, and other mechanisms; The most inclusive rehabilitation models in their original formulation and the results achieved with the same or similar protocols in Italian centres (understanding, language therapy, social skill training; The psychopharmacologic options for the condition of autism per se and for its associated, very frequent, comorbidities. It suggests a potential influence on professional practice and enables an up-to-date approach to effective diagnosis and treatment. This handbook provides a comprehensive review of the numerous factors associated with treatments for children, youth, and adults with autism spectrum disorder (ASD). It offers in-depth analysis of evidence-based treatments for young children, providing coverage on interventions within social skills training, school curricula, communication and speech training, and augmentative communication. It also covers treatments for adolescents and adults, including vocational programs, social integration programs, and mental health resources. Chapters also review several popular interventions such as functional behavior analysis, sensory integration therapy, early intensive behavioral interventions (EIBI), and floor time. In addition, the Handbook discusses standards of practice, focusing on ethical issues, review boards, training concerns, and informed consent. Topics featured in the Handbook include: Training for parents of individuals diagnosed with ASD. Treatment of socially reinforced problem behavior. Comorbid challenging behaviors. Post-secondary education supports and programs for adults. The TEACCH Program for people with ASD. Treatment of addiction in adults with ASD. Diet and nutrition based treatments targeted at children with ASD. The Handbook of Treatments for Autism Spectrum Disorder is a must-have reference for researchers, clinicians/professionals, and graduate students in clinical child, school, and developmental psychology, child and adolescent psychiatry, and social work as well as rehabilitation medicine/therapy, behavioral therapy, pediatrics, and educational psychology.
our own thoughts and worries to be able to really listen to each other for long. Often, we seem to somehow "miss" each other, misunderstand each other, or talk past each other. Our ability to tune in to ourselves and to others seems to be withering. Many of us are left wishing for someone who could really listen, understand, and genuinely connect with us. In Missing Each Other, researchers and clinicians Edward Brodkin and Ashley Pallathra argue that we must find the ability to be in tune with each other again, and they show us how. Based on years of research that they conducted together in a National Institutes of Mental Health-funded clinical study, the authors take a wide-ranging and surprising journey through fields as diverse as social neuroscience and autism research, music performance, pro basketball, and tai chi. They use these stories to introduce the four principal components of attunement: Relaxed Awareness, Listening, Understanding, and Mutual Responsiveness. They outline the science, research, and biology underlying these pillars of human connection, but also providing readers with exercises through which they can improve their own skills and abilities in each. Autism Spectrum Disorder: Perspectives from Psychoanalysis and Neuroscience, offers a guide to understanding and treating the ASD toddler from the dual perspectives of psychoanalysis and neurofunction through describing in great detail intensive treatments of four children who began therapy as toddlers. The authors hypothesize that dyadic therapy and Reflective Network Therapy can impact a child by modifying the biochemistry of the brain, resulting in alteration of emotion and cognition. Their chapter on neurobiological mechanisms of change describes these hypotheses in depth. This Research Topic covers the pathogenetic processes in Autism Spectrum Disorder (ASD) that underpin the translation of genetic vulnerability to clinically significant symptoms. Available research data in ASD suggests that it is a neural connectivity disorder and that the social communication and related neurobehavioural symptoms result from reduced synchronization between key "social brain" regions. These interconnected neural systems can be understood through the relationship between functionally relevant anatomic areas and neurochemical pathways, the programming of which are genetically modulated during neurodevelopment and mediated through a range of epigenetic and environmental modulators. Elucidating the underlying molecular mechanisms can provide an invaluable window for understanding the neural wiring that regulates higher brain functions and consequent clinical phenotypes. In keeping with the multi modal and diverse origins of ASD, this Research Topic explores the genetic underpinnings and environmental modulation in the aetiology; neural substrates, biomarkers and endophenotypes that underlie clinical characteristics; as well as neurochemical pathways and pathophysiological mechanisms that pave the way for therapeutic interventions. Furthermore, since genetically mediated deficits and consequent functional impairments involve activity-dependent synapse development that depends on postnatal learning and experience, the trajectory towards the final clinical expression could be modulated by early interventions that exploit the neuronal maturation and brain plasticity. However, identifying these diverse pathogenetic processes and tailoring interventions would require subtyping ASD into homogeneous subgroups. In this regard, this topic covers the current state of evidence in the literature through topic reviews as well as ongoing original work that provides tangible hypotheses and directions for future research. Essay from the year 2014 in the subject Health Science, grade: B, Brunel University, language: English, abstract: Autistic spectrum disorder (ASD) is a group of neurodevelopmental disorders, characterised by varying degrees of social, imaginative and communicative deficits. ASD includes autism, pervasive developmental disorder, Rett's disorder and childhood disintegrative disorder. Some argue that ASD is genetic, with de novo mutations, copy number variations and chromosomal abnormalities, influencing an ASD individual’s behaviour. Others argue it may be caused by the environment and specific experiences, such as maternal stress during postpartum and prenatal development, may be the underlying cause. This essay will explore these arguments, looking at twin studies, at broader phenotype and at prenatal/postpartum development, specifically in relational to maternal stress. It will conclude that ASD is not solely genetic, but can also be influenced by environmental factors. The book focuses on implications of traditional and processed foods for autism spectrum disorder (ASD) intervention and management. Numerous phytonutrients and pharmacologically active compounds in edible natural products and diet could influence and offer protection to neuronal dysfunction that occurs due to ASD. The neuroprotective effects of various fruits, vegetables, nuts and seeds phytochemicals, and other natural bioactive ingredients against ASD and related conditions are discussed. Topics such as the possible neuroprotective mechanism of action of these foods and the therapeutic role of antioxidants in relation to ASD are addressed. This book also highlights the scope of using anti-inflammatory agents and antioxidants to promote neurogenesis and improve other symptoms in ASD. It emphasizes personalized nutritional approaches with dietary management of neurodevelopmental disorders/ASD cases. Information in this book is relevant to researchers in the field of complementary and alternative medicine, nutraceuticals, neuroscience, agriculture, nutrition, and food science. This volume is beneficial to students of varying levels, and across multiple disciplines.