Division of Pediatric Translational Research and Treatment Development (DPTR)

The Division of Pediatric Translational Research and Treatment Development supports programs of research and research training with the ultimate goal of preventing and curing childhood psychopathology. The Division stimulates and promotes an integrated program of research across basic behavioral/psychological processes, environmental processes, brain development, pediatric psychopathology and therapeutic interventions. DPTR supports research that employs a developmental perspective on a variety of related basic behavioral processes and the psychopathology that arises from their dysfunction. These efforts to translate knowledge from basic research to a new understanding of clinical disorders share the goal of developing novel treatment and prevention strategies.

Division Supported Research

- Focus on developmental processes and transitions from the prenatal period through adolescence, including both psychosocial and neurobehavioral processes responsible for sex differences in childhood mental disorders.
- Emphasis on studies with human subjects. Limited research with animals is included for studies that model aspects of developmental psychopathology.
- Support of research on normative, at-risk, and clinical populations to elucidate cognitive, emotional, personality, social, and biobehavioral processes relevant to understanding, preventing, and treating childhood mental disorders.
- Inclusion of behavioral-genetic and neurodevelopmental (e.g., neuroimaging, neuroendocrine) approaches to elucidate the interplay of biological and environmental factors relevant to childhood psychopathology and to identify behavioral and biological markers of vulnerability or resilience.
- Research on the efficacy of novel psychosocial and pharmacological preventive and therapeutic interventions, prediction of differential treatment response (e.g., via biomarkers), and research on the behavioral, biological, and environmental mechanisms of preventive and treatment interventions.

Division Offices and Branches

Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs (BT-BU)

Research Training and Career Development Program (BK-TK)

Child Abuse and Neglect Program (BC-CB)

Autism STAART Centers (BD-DD)

Neurodevelopmental Disorders Branch (B2-ND)

Psychosocial Stress and Related Disorders Branch (B3-PD)

Affective and Regulatory Disorders Branch (B4-AR)

Director

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Deputy Director

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Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs (BT-BU)

The Small Business Innovation Research Program supports research and development by small businesses of innovative technologies that have the potential to succeed commercially or provide significant societal benefits. The Small Business Technology Transfer Program has the same objectives, but requires academic research involvement. In this Division the SBIR and STTR programs support research aimed at the development and validation of new methods and techniques to advance understanding, prevention, and treatment of child psychopathology.

Areas of Emphasis

- Use of biomedical computation to advance and test new models of child psychopathology.
- Development of novel diagnostic tools and innovative measures of treatment response.
- Development of hardware and software tools to enable refined physiological and behavioral assessment of normal and atypical infant and child development.
- Development of hardware and software tools to support operations of multi-site clinical trials.

Contact

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Research Training and Career Development Program (BK-TK)

The Research Training and Career Development Program supports research training at the predoctoral, post-doctoral, and early investigator level of career development in areas relevant to the Division, such as neurodevelopmental disorders, psychosocial stress, and affective and regulatory disorders. The primary goal of the office is to ensure that sufficient numbers of highly trained, independent investigators will be available to address the complexities of developmental psychopathology.

Programs

Institutional Training Program (T32)

Mentored Career Development Program (K01, K08, K23, K25)

Individual Pre-doctoral and Post-doctoral Fellowships (F30, F31, F32)

Mental Health Education Program (R25)

Dissertation Research Grants to Increase Diversity (R36)

Areas of Emphasis

- Training researchers to lead/participate in multidisciplinary investigations.
- Equipping investigators with the knowledge to develop innovative therapeutic interventions for childhood mental disorders.

• Training investigators to develop innovative preventive strategies utilizing known risk and protective factors.

Contact

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Child Abuse and Neglect Program (BC-CB)

The support of research in child abuse and neglect is worthy of special attention in NIMH because of the profound impact that abuse and neglect have on children's immediate and long-term mental health. This program supports research that addresses child abuse and neglect, and familial aspects of traumatic stress as risk factors for psychopathology in children and adolescents.

Areas of Emphasis

- Identification of risk and protective factors and elucidation of the mechanisms by which these factors influence the development of psychopathology.
- Development of novel treatment and prevention strategies.

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Autism STAART Centers (BD-DD)

NIMH supports interdisciplinary research centers in the "Studies to Advance Autism Research and Treatment (STAART)" Program, in cooperation with NICHD, NINDS, NIDCD, and NIEHS. Funding is via the NIH cooperative agreement mechanism, involving NIH scientists as collaborators. Applications are accepted only in response to periodic solicitations (RFAs) that invite applications addressing specific goals identified in those solicitations.

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Neurodevelopmental Disorders Branch (B2-ND)

The Neurodevelopmental Disorders Branch supports research leading to a fuller understanding of childhood psychiatric disorders such as attention deficit hyperactivity disorder, schizophrenia, obsessive-compulsive disorder, and autistic spectrum disorders, as well as development of more efficacious prevention and treatment strategies for these disorders. Also supported is research on human neurodevelopment and on basic biobehavioral processes involved in these disorders, such as attentional and perceptual processing, executive function, inhibitory controls (e.g., sensory gating), social cognition and communication, and affiliative behaviors.

Branch Programs

Executive Control and ADHD Program (B2-NDH) Social Behavior and Autism Program (B2-NDA) Compulsive and Repetitive Behaviors Program (B2-NDO) Neurodevelopment and Neuroimaging Program (B2-NDN) Psychotic Disorders Program (B2-NDS)

Areas of Emphasis

See specific program descriptions below.

Acting Branch Chief

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Executive Control and ADHD Program (B2-NDH)

This program supports research of the causes, neurobiology, phenotypes, and efficacious treatments for Attention Deficit Hyperactivity Disorder and related disorders. It also supports basic research on related cognitive and biobehavioral processes such as executive functions, attentional processing, and sensory gating. Given that ADHD is by definition a disorder with onset in childhood and given that some important methods applicable to adults cannot be applied in child populations (e.g., receptor labeling with PET), this program will include grants on ADHD in adults.

Areas of Emphasis

- Investigations of the range of outcomes of individuals with ADHD and the factors that determine clinical course and prognosis.
- Establishing meaningful subtypes of the disorder (including comorbidities such as oppositional defiant disorder and others).
- Development of novel treatments, including pharmacological, psychosocial and cognitive treatments for the range of impairments seen in ADHD, including regulatory, motivational, and cognitive deficits that evolve across the lifespan.
- Understanding pathophysiology and mechanisms of treatment response.
- Identification of biomarkers.

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Social Behavior and Autism Program (B2-NDA)

This program supports investigations of the causes, neurobiology, behavioral phenotypes, and effective treatments for autism, autistic spectrum disorders (ASD) and other disorders within the category of Pervasive Developmental Disorders (PDD). It also supports basic research on related cognitive and biobehavioral processes such as social cognition, affiliative behaviors, and communication.

Areas of Emphasis

- Studies of the validity of diagnostic measures for autism.
- Identifying environmental risk factors for social and communication disorders.
- Biobehavioral models of stereotypic behaviors, including limited relevant animal studies.
- Development of novel treatments, including identification of mechanisms of action and predictors of response to treatment.

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Compulsive and Repetitive Behaviors Program (B2-NDO)

This program supports basic and disorder-focused research relating to inhibitory controls, repetitive behaviors, memory and impulse control. Research studies that lead to a fuller understanding of Tourette syndrome (TS), obsessive-compulsive disorder (OCD), and impulse control disorders (such as trichotillomania) are supported in this program. Research on the causes, neurobiology, behavioral phenotypes and efficacious treatments are of interest.

Areas of Emphasis

- Discovery of markers that identify individuals at-risk for OCD and TS.
- Development of novel psychotropic and behavioral treatments, including identification of mechanisms of action and predictors of response to treatment.
- Studies examining the validity of the PANDAS subtype of OCD and TS.
- Development of novel therapeutic interventions for OCD and TS somatic, behavioral, pharmacological, and combination approaches.

Contact

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Neurodevelopment and Neuroimaging Program (B2-NDN)

Pediatric neuroimaging is an important approach to understanding the etiology and pathophysiology of childhood psychopathology, as well as determining mechanisms of treatment response. This program supports the development of new methodologies and applications of neuroimaging to childhood disorders. Existing initiatives include a longitudinal study of normal brain development from birth through 18 years of age, using anatomic MRI, diffusion tensor imaging and magnetic resonance spectroscopy.

Areas of Emphasis

- Development of novel neuroimaging technologies and methods suitable for use in children.
- Development of fMRI paradigms to allow investigations of basic processes of interest across childhood psychiatric disorders (e.g., executive function, emotional regulation, response to reward, and decision-making).
- Adaptation and development of neuroimaging techniques for use in mapping normal and aberrant development.

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Psychotic Disorders Program (B2-NDS)

This program supports research leading to a fuller understanding of the causes, neurobiology, phenotypes, and effective treatments for schizophrenia and other psychotic disorders.

Areas of Emphasis

- Physiological risk factors for schizophrenia and psychosis.
- Neurofunctional correlates of thought disorder and psychosis.
- Development of novel pharmacological interventions for childhood psychotic disorders including predictors of treatment response.
- Development of psychosocial interventions aimed at optimizing adaptive functioning of children and adolescents with psychotic disorders.

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Psychosocial Stress and Related Disorders Branch (B3-PD)

The Psychosocial Stress and Related Disorders Branch supports research leading to a fuller understanding of pathological conditions in childhood and adolescence such as oppositional defiant disorder, conduct disorder, post-traumatic stress disorder, panic disorder, anxiety disorders, and pathological shyness, as well as development of more efficacious prevention and treatment strategies. Also supported is research on aggression, fear, inhibitory controls, learning, memory, and caregiver-child relationships, and studies of the effects of acute and chronic stress, that have implications for risk or resilience, susceptibility to disorders, or strategies for preventing or treating disorders.

Branch Programs

Disruptive Behavior Program (B3-PDC)

Fear and Anxiety Program (B3-PDX)

Stress and Trauma Program (B3-PDS)

Program on Biomarkers and Gene-Environment Interactions (B3-PDB)

Epidemiology and Risk Factors Program (B3-PDE)

Areas of Emphasis

See specific program descriptions below.

Acting Branch Chief

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Disruptive Behavior Program (B3-PDC)

This program supports research on the etiology, diagnosis, assessment, prevention, and treatment of problematic aggression, antisocial behavior, and other externalizing behavior problems, including oppositional defiant disorder and conduct disorder.

Areas of Emphasis

- Identification of risk and protective factors and processes, and translation of these findings into efficacious prevention strategies.
- Development of novel therapeutic interventions somatic, behavioral, pharmacological and combination approaches.

Contact

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Fear and Anxiety Program (B3-PDX)

This program supports research on the development of fear and anxiety in normally developing children, as well as studies of pathological anxiety, including separation anxiety disorder, generalized anxiety disorder, selective mutism, panic disorder, and phobias. The effects of acute and chronic stress during development are also of interest.

Areas of Emphasis

- Early identification of pathological anxiety.
- Identification of biological risk/protective factors and the social, emotional and cognitive processes contributing to vulnerability or resilience.
- Development of novel therapeutic and preventive interventions, including somatic, behavioral, and pharmacological approaches (single and combination medications).

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Stress and Trauma Program (B3-PDS)

This program focuses on psychosocial and neurobehavioral components of stress responses, on interpersonal violence and traumatic stress as risk factors for psychopathology, and on studies of post-traumatic stress disorder (PTSD) in children and adolescents. This encompasses research on the aftermath of personal trauma (such as rape or sexual assault, and physical assault) and witnessed violence, including exposure to community violence and school violence or bullying.

Areas of Emphasis

- Identification of risk and protective factors and processes.
- Basic cognitive and emotional mechanisms involved in pathological reactions (e.g., memory in PTSD).
- Characterization of the psychological, physiological, biological and behavioral reactions to stress and trauma.
- Development of efficacious prevention and treatment strategies.

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Program on Biomarkers and Gene-Environment Interactions (B3-PDB)

The primary aim of this program is to identify genetic, biological and environmental factors that confer vulnerability to, or protection from, psychopathology. Studies of gene-environment interactions are of particular interest. The program supports research that addresses individual biological and behavioral changes during healthy development and in the course of childhood psychopathology, as well as biological and environmental factors influencing response to treatment.

Areas of Emphasis

- Studies of gene-environment interactions.
- Identification of at-risk individuals prior to disease onset.
- Biological and/or behavioral predictors of treatment response.
- Identification of critical periods for gene-environment interactions.

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Epidemiology and Risk Factors Program (B3-PDE)

This program funds studies of: population and clinical epidemiology and comorbidity of mental disorders in children and adolescents; psychological, genetic, and environmental risk and protective factors and processes, and how these interact in the development of psychopathology; and the sequencing and temporal potency of risk factors that affect the development of mental disorders or resilience.

Areas of Emphasis

- Population-based studies of risk and protective processes for childhood psychopathology.
- Identification of symptom complexes and clinical phenotypes in developing individuals.
- Development of measures to assess child and adolescent psychopathology, functioning, impairment, and clinical outcomes.

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Affective and Regulatory Disorders Branch (B4-AR)

The Affective and Regulatory Disorders Branch supports research leading to a fuller understanding of pathological conditions in childhood and adolescence such as eating disorders, sleep disorders, major depressive disorder, dysthymia, suicide attempt and completion, and bipolar disorder, as well as development of more efficacious prevention and treatment strategies. Also supported is research on biobehavioral processes including emotion and mood regulation, feeding and appetite regulation, circadian rhythms, and developmental changes in neurobehavioral regulation (such as CNS maturation and neuroendocrine development), as well as the environmental influences on these processes, that has implications for risk or resilience, susceptibility to disorder, or strategies for preventing or treating disorders.

Branch Programs

Mood Regulation and Bipolar Disorder Program (B4-ARM)

Emotion, Mood, and Depressive Disorder Program (B4-ARD)

Sleep, Biological Rhythms, and Regulatory Disorders Program (B4-ARS)

Appetite, Satiety, and Eating Disorders Program (B4-ARE)

Areas of Emphasis

See specific program descriptions below.

Branch Chief

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Mood Regulation and Bipolar Disorder Program (B4-ARM)

This program supports research focused on identification of early signs, improved diagnosis, and efficacious treatment of bipolar disorder. Includes developmentally sensitive investigations of basic processes involved in mood regulation and mood lability, and investigations of biological and psychosocial mechanisms underlying emotion regulation in children and adolescents at environmental and genetic risk for developing bipolar disorder, as well as in children and adolescents with a diagnosis of bipolar disorder.

Areas of Emphasis

- Validation of diagnostic criteria for childhood bipolar disorder.
- Identification of risk factors and development of preventive interventions that delay or prevent onset and recurrence of manic/depressive episodes.
- Development and validation of efficacious pharmacological and psychosocial treatments that decrease severity of symptoms and improve overall functioning.

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Emotion, Mood, and Depressive Disorder Program (B4-ARD)

This program supports research that translates basic, risk, and developmental research into novel preventive and therapeutic interventions for mood dysregulation, depressive disorders, and suicidal behavior. Includes basic developmentally-sensitive research on biological, psychosocial, and environmental processes associated with emotion, temperament, and mood regulation, as well as developmentally-sensitive research on biological, psychosocial, environmental, and genetic influences on the development of or protection from depression.

Areas of Emphasis

- Integrative interdisciplinary research on the emergence of sex differences in the development of or protection from disorder during adolescence.
- Neurobehavioral mechanisms associated with pediatric affective disorders, including limited relevant studies in non-human animals.
- Phenotypic validation of clinically and neurobiologically relevant mood disorder subtypes.
- Development of interventions that delay or prevent the onset and recurrence of depressive episodes and secondary psychopathology.

Contact

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Sleep, Biological Rhythms, and Regulatory Disorders Program (B4-ARS)

This program supports research on sleep problems, disturbance of biological rhythms, and mood fluctuation related to affective disorders. Includes investigations of biological, genetic, and environmental influences on impairments in emotion regulation and sleep-wake regulation.

Areas of Emphasis

- Effects of brain maturation on mechanisms involved in sleep problems.
- Impact of periods of rapid development and associated neuroendocrine changes on risk or resilience.
- Identification of at-risk individuals and development of interventions to prevent onset or progression of psychopathology.

Contact

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Appetite, Satiety, and Eating Disorders Program (B4-ARE)

This program supports research on anorexia, bulimia, and the development of efficacious treatments. Includes research on appetite, feeding, and satiety, such as biological and psychosocial mechanisms involved in risk or resilience, as well as research on eating disorders. Encouraged are integrative approaches examining biological, behavioral, developmental, familial, peer, and cultural factors on the onset and clinical course of eating disorders.

Areas of Emphasis

- Identification of gender-specific cultural and biological factors contributing to risk and resiliency.
- Development of tools to facilitate early recognition of eating disorders and measurement of treatment response.
- Neurobehavioral mechanisms associated with anorexia, including limited relevant studies in animal models.
- Development of efficacious prevention and treatment strategies.

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