The NEATS: A Competency-Based, Ecological Assessment for Children and Families

Jane Gilgun & Alankaar Sharma

Module Overview

Summary

The NEATS is a competency-based, ecological assessment for children and families that directs practitioner attention to five areas of functioning that research has established as fundamental. These areas are neurobiology, executive function, attachment, trauma, and self-regulation. The title NEATS draws from the first letter of each of the five areas. The assessment is competency-based and ecological, meaning practitioners are guided to identify resources, strengths, competencies, and resilience within individuals and within the ecologies in which they live their lives.

These ecologies include family, extended family and social networks, and influences of schools, social services, community resources, social policies, and opportunity and access issues related to race, gender, ethnicity, socio-economic status, ability, and religion. The NEATS assessment provides a sound basis for a comprehensive case plan.

Relationship to Policy & Practice

The five areas of the NEATS are fundamental to human functioning and development. A thorough and comprehensive assessment is the basis of sound case plans. Social policy that promotes child and family well-being in these five areas will enhance quality of life.

Description

The NEATS is a child and family assessment that focuses on five areas that research has established as fundamental to human functioning and development. These areas are neurobiology, executive function, attachment, trauma, and self regulation. The title NEATS draws from the first letter of each of the five areas.

The NEATS is based upon the notion of *ecomap*, which depicts the individual in ecological and developmental perspectives. An ecomap diagrams a family's ecosystems as a set of nested circles that places individuals at the center and the family, extended family, community, and social policies and ideologies on the outer rings. These nested circles extend back in time and account for developmental history.

The goal of a NEATS assessment is the development of case plans characterized by interventions that build on client strengths. To do so, practitioners identify risks and adversities as well as resources, competencies, strengths, and resilience processes in the multiple ecologies. The result is a case plan that uses resources to help manage risk and adversities and thus to promote optimal client functioning.

The five elements of the NEATS are inter-related. For example, neurobiology provides a foundation for the development of attachment relationships. Secure attachment relationships, in turn, are the basis of optimal brain development, optimal executive skills such as judgment and planning, and capacities for the management of emotions and the effects of trauma. On the other hand, negative experience such as trauma, loss, and neglect, can affect brain development and as well as capacities for attachment, self-regulation, and executive function.

The NEATS is designed for practice with children and families, such as child protection, mental health, child and family services, and youth corrections. Not only does the NEATS alert service providers to areas fundamental to human functioning, but it also provides a basis for seeking additional information and for making referrals for therapy, medical care, and other specialized services. In short, the NEATS identifies areas that require further inquiry as well as avenues for action.

The NEATS is not a diagnostic tool. Diagnoses, such as those related to neurobiology and mental health, require specialized expertise that may be both medical and technological. Best practice with the NEATS involves collaboration with other professionals.

Rather, the NEATS guides practitioners to seek basic information about the five areas of functioning that practitioners can use to guide their next steps in case planning. These steps include planning for how to acquire additional information, for seeking further collaborations, and for making referrals. The NEATS provides a focus for case plans.

The case plans that result from a NEATS assessment are much more likely to be effective if clients have adequate food, safety, clothing, shelter, medical care, and stability. Sometimes services must be provided even when human needs go unmet. Case plans, no matter how grounded in comprehensive assessments, may not be achievable under these conditions.

The NEATS Assessment

Neurobiology

Neurobiology is a branch of biology concerned with the anatomy and physiology of the nervous system, especially the brain, under various conditions of health, stress, and pathology. Neurobiological systems are the foundation for how we think, feel, and behave, while simultaneously, how we think, feel, and behave shapes the workings of our brains. Who we are as human beings is inseparable from how our brains work.

Neurobiology has become so important that some researchers believe that the integration of neuroscience with social work practice will determine which social service organizations will be effective and which will be ineffective. Whether agencies will be winners and losers in the eyes of funders as well as with the general public may depend on this integration.

Some Basic Notions

Children are born with millions more brain cells, called neurons, than then they will ever use. Which neurons are kept, which are shed, and which develop into brain circuits that connect various parts of the brain depend upon experience and genetics. For example, children whose parents provide them with sensitive responsive care will develop brain circuits that encode expectations that others will treat them well. They also will encode capacities for sensitivity and caring themselves. Children who are talked to and provided with appropriate stimulation will encode these experiences that in turn will help them develop verbal skills and other capacities that will increase their brain's healthy development.

Sensitive, responsive caregiving promotes healthy neurological development. Inadequate care can lead to the formation of brain circuits that shape behaviors that may interfere with health development.

Children may be born with neurological conditions that place limits on how their brains may develop. With sensitive response care, these children will develop optimally, but some conditions permanently cause difficulties in functioning. Many of these conditions are genetic in origin, but some stem from experience.

In general, brain functioning stems from both genetics and experience. Genetics provides infants with innate capacities that are shaped by experience. Genetics can predispose children to neurological difficulties, but inadequate prenatal care, including poor nutrition and the ingestion of drugs and alcohol also can influence brain development. Birth accidents, such as cords around the neck, can limit the flow of oxygen to the brain and affect neurological functioning. Trauma and stress can affect brain development and even kill some brain cells. With quality care, children's neurological development will be optimal.

Children whose neurological development has been affected by trauma or physical injury can, with optimal care, develop new brain circuits, even new neurons, and other parts of the brain can "take over" the functions of damaged areas. These findings support the idea that the brain is plastic; that is, capable of change and adaptation in relationship to environmental and physically traumatic events.

Common Neurological Conditions

Common conditions that appear to be neurobiological in origin include autism spectrum disorders, fetal alcohol effects, attention deficit hyperactivity disorders, depression, anxiety disorders, bipolar disorders, Tourette's, and some forms of oppositional behaviors, among others.

Environmental conditions influence brain development and can optimize the workings of a well put-together brain, can harm a well functioning brain, or can improve the functioning of brains whose structures and functions are sub-optimal. Often a combination of medications, psychoeducation, the meeting of basic human needs, optimization of parents' mental health, and psychotherapy can enhance the functioning of children with neurological conditions. Pediatric neurologists, child psychiatrists, and child neuropsychologists would be important members of teams that work with children and families where children have neurological issues.

Need for Special Education and Advocacy

Children with neurological issues typically receive special education and have individual educational plans. Practitioners can play a major support and advocacy role for children and families when difficulties arise within school settings. Teachers frequently appreciate the support and information that knowledgeable social service professionals offer. Parents, often tired from the ongoing care of their children, may appreciate the advocacy efforts that professionals can make on behalf of their children.

Practitioners who are doing neurological assessments using the NEATS must have basic knowledge of the various neurological bases of childhood conditions, an understanding of their origins, and knowledge of effective interventions and referral sources for these conditions. The effects of neurological conditions on child and family functioning are other areas that are important for practitioners to understand. The readings and resources at the end of this module provide further information about neurobiology.

Neurobiology provides the basis for the formation of attachment relationships with care providers and also shapes children's capacities for planning and judgment and for managing emotions and trauma.

Parents Require Specialized Help

Children who have issues related to neurobiology may be challenging. Parents require specialized help to meet these changes. In some situations, even with the best of care, children's capacities may be severely limited because of their neurological make-up. The term "ceiling effect" stands for situations where children cannot progress beyond a certain point. For instance, the effects of alcohol on fetal brain development produce such ceiling effects even with the best of care.

These are relatively new learnings that are an important part of competent service provision. In the past, children's difficulties were assumed to be the result of inadequate parenting, particularly mothering. Now, neuroscience has taught us that some behaviors are related to brain structure and function and are not amenable to change, no matter how competent the care.

In short, children's neurobiological makeup is the foundation for the development of capacities for attachment, executive function, and self-regulation. Trauma, neglectful attachment figures, and inadequate care can negatively affect children's neurological functioning. Parents of child with neurological challenges require supportive services, and social service providers can contribute significantly to children's school success.

Executive Function

Executive function (EF) is a term that covers a broad range of capacities related to judgment, problem-solving, organization of self, anticipation of consequences, and following of rules and directions. Regulation of emotion and behaviors is part of executive function as well, but in the NEATS assessment, self-regulation is a separate category because of its significance to human behavior and functioning.

The neurological basis of executive function is located in the neocortex, which is in the front of the brain and is the seat of reasoning. The term "executive" fits these sets of capacities because an executive is someone who is in charge.

Like brain functioning in general, executive functions or skills arise from a combination of genetics and experience. Genetics can predispose children to executive function difficulties, but inadequate nutrition, stress and the use of drugs and alcohol during pregnancy can affect brain development and executive skills as well. At birth children have capacities for executive function. Subsequent experience contributes further to their development. For instance, children born with well-functioning brains may experience, stress, trauma, abuse, and neglect that undermine the development of executive skills.

Conversely, many children are born with brain functions that predispose them to executive function issues, but their quality of care is so high that they develop new neural circuits that they compensate for what might have been executive function deficits. Minimally, with quality care, children's executive skills develop optimally. Once again, however, there can be limits to the brain's plasticity and some individuals may have life-long issues with executive function skills.

Executive function issues include difficulties with attention, following directions and rules, self-soothing when stressed, self-regulation, and impulse control. Impulse control involves capacities for holding information in working memory and in considering alternatives and consequences.

Childhood issues connected to problems in executive function issues are those listed under "neurobiology," including fetal alcohol spectrum disorders, autism spectrum disorders,

conduct disorders, oppositional disorders, and attention deficit/hyperactivity disorders. In general, children may have good executive skills in some situations and not in others.

Attachment

Attachment is defined as behaviors that maintain contact with individuals who serve as a secure base from which to explore and to which to return under times of stress, as well as to serve as a source of nurturance and love. In addition, for children, attachment figures provide guidance and discipline, including limit setting, boundary maintenance, authoritative parenting, and contingent responsiveness and reciprocity. Based on the previous discussion, it follows that secure attachments foster optimal brain development in children, which, as shown, promotes good executive skills. Once again here is evidence that shows the interaction of experience with brain development.

Although the concept of attachment is complex, there are a few basic notions that contribute to a comprehensive assessment using the NEATS. Any attachment issues that the NEATS helps to identify require attention because attachment issues affect the other four dimensions of the NEATS. Any remediation in the other four areas is accessed through influencing attachment relationships. In fact, secure attachments promote optimal development in the other four areas. These include 1) variations in attachment styles, 2) children as active participants in attachment relationships, 3) parents with executive function issues have difficulty fostering secure attachments with their children.

Variations in Attachment Styles

Researchers have identified various styles of attachment that fit individuals as children and as adults. For children, attachments may be secure and insecure. Within the insecure category are avoidant, ambivalent, disorganized, and disordered. For adults, attachments are characterized as secure, resolved when parents have had traumas in their own histories, dismissive, preoccupied, and disorganized. Adult attachment styles are assumed to have their roots in adults' own relationships with their own care providers when they were children.

Many contemporary issues affect parents' capacities for attachment. Highly stressed parents are unlikely to be psychologically available while parents whose life is fairly smooth and who can manage stress well are likely to be psychologically available. Parents with unresolved histories of trauma typically are dismissive, preoccupied, and even disorganized and are unable to provide the safety and consistency that children require to develop secure attachments.

Secure attachments. For children to have secure attachments with parents, parents themselves must have capacities to be consistent, sensitive and nurturing. Parents with executive function issues may be unable to provide the care that lead to secure attachments and optimal child development.

Secure attachments in infancy and young childhood are characterized by sensitive, responsive caregiving provided to children who have capacities to respond to such care, with the result that the parent-caregiver relationship is mutually satisfying. Besides qualities already mentioned, secure attachments take place when carers provides structure and discipline in which children can develop executive skills, including regulation of emotion and behaviors, to the best of their capacities, and encouragement, guidance, and support for children to engage in age-appropriate activities.

Children with secure attachments to care providers develop inner working models (IWM) of self and others that lead them to expect that others will care for them and respond to their needs. They becoming trusting of others and in turn become trustworthy persons themselves. These inner working models are expectations of self, others, and how the world works. They are encoded in brain and become part of brain circuitry, because, as already discussed, brain circuits form and neurons are trimmed in response to experience.

Insecure attachments. Insecure attachments arise for the most part from inconsistent and detached styles of care giving associated with parental ambivalence, psychological unavailability, or rejection of parental roles. Sometimes insecure attachments occur even when the caregiving is exemplary, such as when children have undiagnosed, untreated, or untreatable neurological issues or physical and psychological trauma. There are three main types of insecure attachment: avoidant, ambivalent, and disorganized, and these reflect the kinds of caregiving children have received.

Reactive attachment disorders are an extreme form of insecure attachments where the children show either extreme avoidance of interaction with others or indiscriminant approaches to interactions with others. RAD arises from pathogenic care, which is serious deprivation of nurturance and love and often physical care often over a long period of time.

Children with insecure attachments also develop inner working models or schemas that encode their expectations of themselves, others, and how the world works. Insecure attachments are associated with mistrust and can set children up for problematic relationships with others, isolation, and/or aggressive and other inappropriate behaviors. In some ways, their attachment relationships help "program" their brains so that they behave as if every human being and situation are as untrustworthy as their care providers.

Children with secure attachments also have had some experience with secure attachments. They thus have capacities related to trust encoded in their brains. This means that under safe and secure conditions, schemas related to trust and security may be activated and such children can manage well.

Inner Working Models

Attachment styles are foundational to the formation of inner working models (IWM), which are internalized expectations about self, others, and how the world works, how to behave in the world, and the meanings of human actions and events. IWM are encoded in brain circuits and are related to brain and executive function. IWM or schemas are ready to be

activated depending on individuals' perceptions of events. There are schemas for every type of human action, thought, and feeling. IWM can be thought of as cognitive maps, schemas, tapes, and inner representations.

Over time, there are increasing numbers of sources of the components of schemas. Human beings are born with rudimentary or primary schemas such as sucking, crying, and other neurophysiological responses. Brain circuits become increasingly complex as individuals experience cognitive, emotional, and social developmental processes.

IWMs build on each other. Persons with secure attachment relationships have schemas that lead them to experience other people as safe, predictable, responsive to what they want and need and themselves as efficacious, loveable, and safe to be around. Persons with secure attachments tend to evoke positive relationships in others. Secure attachments thus set off feedback loops where success builds on success.

Persons with various types of insecure relationships may be confused and ambivalent about other people or they could be quite confident in their beliefs about others. For example, they may believe that antisocial behaviors are appropriate responses to perceived or actual slights or as a means to get what they want. Their inner working models, built from infancy and even in utero, lead them to believe that their perceptions and their decision-making fit situations in which they find themselves.

Persons with insecure attachments could have good executive skills in some situations, but they are more prone than persons with secure attachment styles to detach from their executive functions and behave in harmful or inappropriate ways.

Relationship of Attachments to Neurobiology and Executive Function

Parental incapacities related to neurobiology, executive skills, and any other conditions that interfere with their psychological availability interfere with development of attachment relationships. Child incapacities to participate in attachment relationships may make forming secure attachments more difficult than if they did not have these incapacities; also child incapacities typically affects parental satisfaction and can create stress for parents and added stress to children which can create negative feedback loops.

Trauma

Trauma is defined as an event that is life threatening or psychologically devastating to the point where persons' capacities to cope are overwhelmed. Trauma may change brain structures related to memory and emotion, as well as brain circuitry. Following trauma, individuals relive the traumatic event, fragmented memories arise unexpectedly, cognitive, emotional, and behavioral dysregulation occurs, and there is avoidance of reminders of the event.

Basic Notions

Some of the notions basic to trauma are the following. Traumatic responses are expectable to such extraordinary events. A kind of "hot button" or trigger becomes encoded in the emotion centers of the brain and become encoded in schemas. Schemas can be reactivated when persons experience reminders of the original trauma. Reminders can involve any of the five senses. An example is a child who is afraid of women with blonde hair because a social worker with blonde hair took him from his biological family into foster care. When hot buttons are triggered, children and older persons are at risk to dysregulate; that is, to relive the trauma.

When children relive trauma, reminders of the traumatic event trigger brain circuits that by-pass the neocortex, which is the brain's seat of reasoning. Researchers call this the low-road response because the response goes directly to the emotion center and does not engage reasoning, which is located high in brain in the neocortex, as already discussed.

The high road response involves the triggering of traumas, but the individual is able to manage the trauma and not dysregulate because the brain circuits present in the neocortex are engaged. Without the engagement of reasoning, the child truly is on automatic. Whatever is encoded in the brain will be activated. Children with histories of witnessing violence or of being victims of abuse and neglect are at high risk to respond inappropriately when they respond automatically with low road responses.

Roles of Parents and Other Adults

Parents and other adults are the role of key to helping children manage and integrate trauma. This requires direct and supportive interventions to help children build new neural circuits. This is very challenging and requires high competence on the part of parents and service providers. Children with histories of secure attachments, good executive skills, and relatively resilient brain structures may be more likely to seek and use help when traumatized and more likely to seek and use help when effects of trauma are triggered.

Children with histories of insecure attachments, compromised executive skills, and vulnerable brain structures may cope in avoidant, ambivalent, disorganized, and disordered ways. They may not get the help they need or they help available is unable to deal with the multiple issues that the trauma gives rise to. In addition, parents of insecurely attached children may be unavailable psychologically or rejecting of children's bids for help.

As children grow older and experience the effects of trauma, they may not trust parents or, they may not believe parents care, or they do not want to upset parents. Some may make seek peers as confidants. Some peers can be helpful, but others are not. They also may seek other adults besides their parents for help with trauma-related issues. Children can have sustained, long-term, prolonged episodes of dysregulation such as needing to scream and cry for long periods of time. The origins of trauma are important to understand so that appropriate interventions can be tailored to children's situations.

Traumatized children can be difficult. Children may become dysregulated when they re-experience trauma. Parents, teachers, others may mistake dysregulation related to trauma as oppositional disorder. Persons involved with children who have experienced trauma require a great deal of psychoeducation. Most of all, parents and professionals must engage their higher order reasoning, take the high road, and not let themselves be triggered by what could be extreme child behaviors.

When children are reliving trauma, they must be made safe and precautions must be taken to ensure the safety of others. The children should not be left alone but a caring adult must be present, sometimes describing the child's behaviors, but overall allowing the emotions to take their course. Once the children become re-regulated, adults can talk to children about what triggered these responses. Eventually the children will learn positive ways with coping when their traumas are triggered, if the adults have the training and experience first to keep the child and others self and then to help the child develop new executive skills to manage their dysregulated behaviors.

Children who have experienced trauma can act out in destructive ways to property, to other persons, and to the self. They require interventions that help them to feel safe, help them to relive and re-process the trauma, and a web of schemas that will help them to cope prosocially. They require parents and other adults who are psychologically and physically available to them. Adults must be able to manage their own traumas, which can be triggered when dealing with children who have experienced trauma. They may require their own therapy and they often require a great deal of instrumental, social, and emotional support and encouragement.

Self-Regulation as Process

Learning to self-regulate is a process. Temper tantrums in toddlers is normative and is a type of dysregulation. Parents and other adults help infants and young children re-regulate when they have tantrums. Children eventually develop internalized capacities for self-regulation in response to sensitive, contingent caregiver characteristic of secure relationships. Children with insecure attachments have a much harder time with self-regulation because parents and other adults may not be helpful consistently, or children may not trust adults to help them manage their strong emotions.

When children and persons of whatever age are under stress, they seek to re-regulate which is to get oneself back on an even keel. Responses to trauma For the purpose of the NEATS assessment, schemas that activate themselves in response to stress can be of four general types: prosocial, antisocial, self-destructive, and inappropriate. When schemas are associated with antisocial, inappropriate, or self-destructive behaviors, it becomes important to become aware of expectations, assumptions, and behavioral guidelines encoded in schemas, and learn to redirect and manage behaviors, thoughts, emotions, associated with particular schemas. Some schemas, formed during times of stress and trauma remain in the same undifferentiated state in which they originally formed. They may sit inactivated for years within brain circuits but may re-activate when individuals

perceive themselves to be in situations similar to those that led to their formation in the first place.

Children also learn to regulate, dysregulate, and re-regulate their behaviors through observing parents, siblings, peers, and others with whom they identify, including fictional characters in stories, films, video games, and cartoons. Strategies of self-regulation are linked to family traditions, culture, gender, and age.

Four General Styles of Self-Regulation

For the purpose of the NEATS assessment, schemas that activate themselves in response to stress can be of four general types: prosocial, antisocial, self-destructive, and inappropriate. When schemas are associated with antisocial, inappropriate, or self-destructive behaviors, it becomes important to become aware of expectations, assumptions, and behavioral guidelines encoded in schemas, and learn to redirect and manage behaviors, thoughts, emotions, associated with particular schemas. Some schemas, formed during times of stress and trauma remain in the same undifferentiated state in which they originally formed. They may sit inactivated for years within brain circuits but may re-activate when individuals perceive themselves to be in situations similar to those that led to their formation in the first place.

Intervention

With intervention, children can learn to self-regulate. Typical interventions include sensitive, continent responses to episodes of dysregulation that include the assurance of safety, permission to dysregulate, and problem solving and empathy once the dysregulated episode is concluded. Parents of children with dysregulation issues will benefit from parent support groups and psychoeducation. If they have issues with dysregulation themselves, they and their families will benefit from therapy. Professionals, such as teachers and social workers also must educate themselves about issues related to self-regulation and dysregulation and provide themselves with the support they need to be helpful to children. If they find that their personal responses interfere with their effectiveness, then therapy might benefit them.

Summary

Self-regulation is one of the executive skills, but children under the care of social services often have serious issues with self-regulation. Thus, in the NEATS assessment, self-regulation is a separate category.

Capacities for self-regulation are both genetic and environmental. Children with abuse and neglect histories, histories of inadequate care, histories of trauma or who have parents who do not model self-regulation and help children to achieve it, are at high risk to have issues with self-regulation. Interventions that are effective in helping children learn to self-regulate must include both the children and the adults, such as parents, teachers, and others who have responsibility for the care of children with self-regulation issues.

Discussion Questions

- Define neurobiology. How does neurobiology contribute to capacities for executive function and attachment?
- How does quality of attachment contribute to executive function?
- How do environmental influences affect brain development? Attachment? Executive function? Self-regulation?
- How do structural variables such as race, age, and ethnicity directly and indirectly affect the five areas of functioning that the NEATS covers?
- What principles can you extract from the NEATS that would guide you in work with children and families who have experienced inter-generational trauma?
- Describe how the executive skills of parents affect the development of their children's executive skills.
- Children can't do what parents can't do. What do you think this means in relation to the five areas of the NEATS? Hint: parents with unresolved trauma may not be psychologically available to their children.
- In medicine, the saying, "Physician, heal thyself" is a practice guideline. Apply this practice guideline to work with children and families using concepts from the NEATS.
- Both medication and treatment have been shown to contribute to the alleviation of mental health issues. How does the NEATS help you to understanding this?

Selected References for Additional Readings

Anderson, P. (2002). Assessment and development of executive function (EF) during childhood. *Child Neuropsychology, 8*(2), 71-82.

Cicchetti, D., & Blender, J. (2006). A multiple levels-of-analysis perspective on resilience: Implications for the developing brain, neural plasticity, and preventive interventions. *Annals of the New York Academy of Sciences, 1094*, 248-258.

Cicchetti, D., & Curtis, J. W. (2007). Multilevel perspectives on pathways to resilient functioning. *Development and Psychopathology, 19*, 627-629.

Davies, D. (2004). *Child development: A practitioner's guide* (2nd ed.). New York, NY: Guilford.

Georgieff, M. K. (2007). Nutrition and the developing brain: Nutrient priorities and measurement. *American Journal of Clinical Nutrition, 85*(2), 614-620.

Hinshaw-Fusilier, S., Boris, N. W., & Neanah, C. H. (1999). Reactive attachment disorder in maltreated twins. *Infant Mental Health Journal, 20*(1), 42-59.

Hohman, M., Oliver, R., & Wright, W. (2004). Methamphetamine abuse and manufacture: The child welfare response. *Social Work, 49*(3), 373-381.

Koren-Karie, N., Oppenheim, D., & Getzler-Yosef, R. (2004). Mothers who were severely abused during childhood and their children talk about emotions: Co-construction of narratives in light of maternal trauma. *Infant Mental Health Journal, 25*(4), 300-317.

LeDoux, J. (2002). *Synaptic self: How our brains become who we are*. New York, NY: Penguin.

LeDoux, J. (1996). *The emotional brain*. New York, NY: Simon and Schuster.

Lieberman, A. F. (2004). Traumatic stress and quality of attachment: Reality and internalization in disorders of infant mental health. *Infant Mental Health Journal, 25*(4), 336-351.

Mash, E. J., & Wolfe, D. A. (2006). *Abnormal child psychology* (3rd ed.). Belmont, CA: Wadsworth (Thomson Learning).

Massaro, A., Rothbaum, R., & Aly, H. (2006). Fetal brain development: The role of maternal nutrition, exposures and behaviors. *Journal of Pediatric Neurology, 4*(1), 1-6.

Shields, A., & Cicchetti, D. (1998). Reactive aggression among maltreated children: The contributions of attention and emotion dysregulation, *Journal of Clinical Child Psychology, 27*, 381-395.

Sokol, R. J., Delaney-Black, V., & Nordstrom, B. (2003). Fetal alcohol spectrum disorder. *Journal of the American Medical Association, 290*(22), 2996-2999.

Teicher, M. H. (2002). Scars that won't heal: The neurobiology of child abuse: Maltreatment at an early age can have enduring negative effects on a child's brain, *Scientific American, 286*, 68-76.

Resource List

- Amen Clinics: http://www.amenclinic.com/ac/
- Autism Society of Canada: http://www.autismsocietycanada.ca/asd_research/asc_initiatives/index_e.html
- Child Trauma Academy: http://www.childtrauma.org/ctamaterials/Professions.asp
- Medline Plus: http://www.nlm.nih.gov/medlineplus/childmentalhealth.html
- National Institute of Mental Health: http://www.nimh.nih.gov/health/topics/child-and-adolescent-mental-health/index.shtml

Potential Guest Speakers

- Dante Cicchetti, Institute of Child Development, University of Minnesota, Minneapolis, MN. 612-624-0526
- Anne Gearity, Washburn Child Guidance, Minneapolis, MN. 612-871-1454
- Abi Gewirtz, Washburn Child Guidance and University of Minnesota, Minneapolis, MN. 612-871-1454
- Danette Jones, St. Paul Youth Services. 651-771-1301
- Scott McConnell, Center for Early Education and Development, University of Minnesota, Minneapolis, MN. 612-625-3085