Introduction

The most important property of humankind is the capacity to form and maintain relationships. These relationships are absolutely necessary for any of us to survive, learn, work, love and procreate. Human relationships take many forms but the most intense, most pleasurable and most painful are those relationships with family, friends and loved ones. Within this inner circle of intimate relationships, we are bonded to each other with "emotional glue" - bonded with love.

Each individual's ability to form and maintain relationships using this "emotional glue" is different. Some people seem "naturally" capable of loving. They form numerous intimate and caring relationships and, in doing so, get pleasure. Others are not so lucky. They feel no "pull" to form intimate relationships, find little pleasure in being with or close to others. They have few, if any friends and more distant, less emotional glue with family. In extreme cases an individual may have no intact emotional bond to any other person. They are self-absorbed, aloof or may even present with classic neuropsychiatric signs of being schizoid or autistic.

The capacity and desire to form emotional relationships is related to the organization and functioning of specific parts of the human brain. Just as the brain allows us to see, smell, taste, think, talk and move, it is the organ that allows us to love -- or not. The systems in the human brain that allow us to form and maintain emotional relationships develop during infancy and the first years of life. Experiences during this early vulnerable period of life are critical to shaping the capacity to form intimate and emotionally healthy relationships.
Empathy, caring, sharing, inhibition of aggression, capacity to love and a host of other characteristics of a healthy, happy and productive person are related to the core attachment capabilities which are formed in infancy and early childhood.

**Frequently Asked Questions**

**What is attachment?**

Well, it depends. The word attachment is frequently used by mental health, child development and child protection workers but it has slightly different meanings in these different contexts. The first thing to know is that we humans create many kinds of "bonds." A bond is a connection between one person and another. In the field of infant development, attachment refers to a special bond characterized by the unique qualities of the special bond that forms in maternal-infant or primary caregiver-infant relationships. The attachment bond has several key elements: (1) an attachment bond is an enduring emotional relationship with a specific person; (2) the relationship brings safety, comfort, soothing and pleasure; (3) loss or threat of loss of the specific person evokes intense distress. This special form of relationship is best characterized by the maternal-child relationship. As we study the nature of these special relationships, we are finding out about how important they can be for the future development of the child. Indeed, many researchers and clinicians feel that the maternal-child attachment provides the working framework for all subsequent relationships that the child will develop. A solid and healthy attachment with a primary caregiver appears to be associated with a high probability of healthy relationships with others while poor attachment with the mother or primary caregiver appears to be associated with a host of emotional and behavioral problems later in life.

In the mental health field, attachment is used loosely has come to reflect the global capacity to form relationships. For the purposes of this paper, attachment capabilities refer to the capacity to form and maintain an emotional relationship while attachment refers to the nature and quality of the actual relationship. A child, for example, may have an "insecure" attachment or "secure" attachment.

**What is bonding?**

Simply stated, bonding is the process of forming an attachment. Just as bonding is the term used when gluing one object to another, bonding is using our emotional glue to become connected to another. Bonding, therefore, involves a set of behaviors that will help lead to an emotional connection (attachment).

**Are bonding and attachment genetic?**

The biological capacity to bond and form attachments is most certainly genetically determined. The drive to survive is basic in all species. Infants are defenseless and must
depend upon a caregiving adult for survival. It is in the context of this primary dependence, and the maternal response to this dependence, that a relationship develops. This attachment is crucial for survival.

An emotionally and physically healthy mother will be drawn to her infant - she will feel a physical longing to smell, cuddle, rock, coo and gaze at her infant. In turn the infant will respond with snuggling, babbling, smiling, sucking and clinging. In most cases, the mother's behaviors bring pleasure, soothing and nourishment to the infant and the infant's behaviors bring pleasure and satisfaction to the mother. This reciprocal positive feedback loop, this maternal-infant dance, is where attachment develops.

Therefore, despite the genetic potential for bonding and attachment, it is the nature, quantity, pattern and intensity of early life experiences that express that genetic potential. Without predictable, responsive, nurturing and sensory-enriched caregiving, the infant's potential for normal bonding and attachments will be unrealized. The brain systems responsible for healthy emotional relationships will not develop in an optimal way without the right kinds of experiences at the right times in life.

What are bonding experiences?

The acts of holding, rocking, singing, feeding, gazing, kissing and other nurturing behaviors involved in caring for infants and young children are bonding experiences. Factors crucial to bonding include time together (in childhood, quantity does matter!), face-to-face interactions, eye contact, physical proximity, touch and other primary sensory experiences such as smell, sound, and taste. Scientists believe the most important factor in creating attachment is positive physical contact (e.g., hugging, holding, and rocking). It should be no surprise that holding, gazing, smiling, kissing, singing, and laughing all cause specific neurochemical activities in the brain. These neurochemical activities lead to normal organization of brain systems that are responsible for attachment.

The most important relationship in a child’s life is the attachment to his or her primary caregiver, optimally, the mother. This is due to the fact that this first relationship determines the biological and emotional ‘template’ for all future relationships. Healthy attachment to the mother built by repetitive bonding experiences during infancy provides the solid foundation for future healthy relationships. In contrast, problems with bonding and attachment can lead to a fragile biological and emotional foundation for future relationships.

When are these windows of opportunity?

Timing is everything. Bonding experiences lead to healthy attachments and healthy attachment capabilities when they are provided in the earliest years of life. During the first three years of life, the human brain develops to 90 percent of adult size and puts in place the majority of systems and structures that will be responsible for all future emotional, behavioral, social and physiological functioning during the rest of life. There are critical periods during which bonding experiences must be present for the brain systems responsible for attachment to develop normally. These critical periods appear to be in the first year of life and are related to the capacity of the infant and caregiver to develop a positive interactive relationship.

What happens if this window of opportunity is missed?
The impact of impaired bonding in early childhood varies. With severe emotional neglect in early childhood the impact can be devastating. Children without touch, stimulation and nurturing can literally lose the capacity to form any meaningful relationships for the rest of their lives. Fortunately most children do not suffer this degree of severe neglect. There are, however, many millions of children who have some degree of impaired bonding and attachment during early childhood. The problems that result from this can range from mild interpersonal discomfort to profound social and emotional problems. In general, the severity of problems is related to how early in life, how prolonged and how severe the emotional neglect has been.

This does not mean that children with these experiences have no hope to develop normal relationships. Very little is known about the ability of replacement experiences later in life to “replace” or repair the undeveloped or poorly organized bonding and attachment capabilities. Clinical experiences and a number of studies suggest that improvement can take place, but it is a long, difficult and frustrating process for families and children. It may take many years of hard work to help repair the damage from only a few months of neglect in infancy.

Are there ways to classify attachment?

Like traits such as height or weight, individual attachment capabilities are continuous. In an attempt to study this range of attachments, however, researchers have clustered the continuum into four categories of attachment: secure, insecure-resistant, insecure-avoidant, and insecure-disorganized/disoriented. Securely attached children feel a consistent, responsive, and supportive relation to their mothers even during times of significant stress. Insecurely attached children feel inconsistent, punishing, unresponsive emotions from their caregivers and feel threatened during times of stress.

<table>
<thead>
<tr>
<th>Classification of Attachment</th>
<th>Percentage at One-Year</th>
<th>Response in Strange Situation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Securely attached</td>
<td>60-70 %</td>
<td>Explores with M in room; upset with separation; warm greeting upon return; seeks physical touch and comfort upon reunion</td>
</tr>
<tr>
<td>Insecure: avoidant</td>
<td>15-20 %</td>
<td>Ignores M when present; little distress on separation; actively turns away from M upon reunion</td>
</tr>
<tr>
<td>Insecure: resistant</td>
<td>10-15 %</td>
<td>Little exploration with M in room, stays close to M; very distressed upon separation; ambivalent or angry and resists physical contact upon reunion with M</td>
</tr>
<tr>
<td>Insecure: disorganized disoriented</td>
<td>5-10 %</td>
<td>Confusion about approaching or avoiding M; most distressed by separation; upon reunion acts confused and dazed – similar to approach-avoidance confusion in animal models</td>
</tr>
</tbody>
</table>

Above -- Dr. Mary Ainsworth developed a simple process to examine the nature of a child’s attachment. This is called the Strange Situation procedure. Simply stated, the mother and infant are observed in a sequence of “situations:“ parent-child alone in a playroom; stranger entering room; parent leaving while the stranger stays and tries to comfort the baby; parent returns and comforts infant; stranger leaves; mother leaves infant all alone; stranger enters to comfort infant; parent returns and tries to comfort and engage the infant. The behaviors during each of these situations is observed and “rated.” The behaviors of children in this testing paradigm
What other factors influence bonding and attachment?

Any factors that interfere with bonding experiences can interfere with the development of attachment capabilities. When the interactive, reciprocal "dance" between the caregiver and infant is disrupted or difficult, bonding experiences are difficult to maintain. Disruptions can occur because of primary problems with the infant, the caregiver, the environment or the "fit" between the infant and caregiver.

**Infant:** The child’s “personality” or temperament influences bonding. If an infant is difficult to soothe, irritable or unresponsive compared to a calm, self-soothing child, he or she will have more difficulty developing a secure attachment. The infant's ability to participate in the maternal-infant interaction may be compromised due to a medical condition such as prematurity, birth defect, or illness.

**Caregiver:** The caregiver's behaviors can impair bonding. Critical, rejecting, and interfering parents tend to have children that avoid emotional intimacy. Abusive parents tend to have children that become uncomfortable with intimacy and withdraw. The child’s mother may be unresponsive to the child due to maternal depression, substance abuse, overwhelming personal problems, or other factors that interfere with her ability to be consistent and nurturing for the child.

**Environment:** A major impediment to healthy attachment is fear. If an infant is distressed due to pain, pervasive threat or a chaotic environment, they will have a difficult time participating in even a supportive caregiving relationship. Infants or children in domestic violence, refugee, community violence or war zone environments are vulnerable to developing attachment problems.

**Fit:** The "fit" between the temperament and capabilities of the infant and the mother is crucial. Some caregivers can be just fine with a calm infant but are overwhelmed by an irritable infant. The process of paying attention to, reading each other's non-verbal cues and responding appropriately is essential to maintain the bonding experiences that build in healthy attachments. Sometimes a style of communication and response familiar to a mother from one of her other children may not fit her current infant. The mutual frustration of being "out of sync" can impair bonding.

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**ATTUNEMENT**

- Reading and responding to the cues of another
- Synchronous and interactive
- Helps prevent mismatch between need and provision
- *Can be taught* - reading the non-verbal, social-emotional "language" of another

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How does abuse and neglect influence attachment?

There are three primary themes that have been observed in abusive and neglectful families. The most common effect is that maltreated children are, essentially, rejected. Children that are rejected by their parents will have a host of problems (see below) including difficulty developing emotional intimacy. In abusive families, it is common for this rejection and abuse to be transgenerational. The neglectful parent was neglected as a child. They pass on the way they were parented. Another theme is "parentification" of the child. This takes many forms. One common form is when a young immature girl becomes a single parent. The infant is treated like a playmate and very early in life like a friend. It is common to hear these young mothers talk about their four-year-old as "my best friend" or "my little man." In other cases, the adults are so immature and uninformed about children that they treat their children like adults - or even like another parent. As a result, their children may participate in fewer activities with other children who are "immature." This false sense of maturity in children often interferes with the development of same-aged friendships. The third common theme is the transgenerational nature of attachment problems -- they pass from generation to generation.

It is important to note that previously secure attachments can change suddenly following abuse and neglect. The child’s perception of a consistent and nurturing world may no longer “fit” with their reality. For example, a child’s positive views of adults may change following physical abuse by a babysitter.

Are attachment problems always from abuse?

No, in fact the majority of attachment problems are likely due to parental ignorance about development rather than abuse. Many parents have not been educated about the critical nature of the experiences of the first three years of life. With more public education and policy support for these areas, this will improve. Currently, this ignorance is so widespread that it is estimated that 1 in 3 people has an avoidant, ambivalent, or resistant attachment with their caregiver. Despite this insecure attachment, these individuals can form and maintain relationships - yet not with the ease that others can.

What specific problems can I expect to see in maltreated children with attachment problems?

The specific problems that you may see will vary depending upon the nature, intensity, duration and timing of the neglect and abuse. Some children will have profound and obvious problems and some will have very subtle problems that you may not realize are related to early life neglect. Sometimes these children do not appear affected by their experiences. However, it is important to remember why you are working with the children and that they have been exposed to terrible things. There are some clues that experienced clinicians consider when working with these children.

Developmental delays: Children experiencing emotional neglect in early childhood often have developmental delay in other domains. The bond between the young child and caregivers provides the major vehicle for developing physically, emotionally and cognitively. It is in this primary context that children learn language, social behaviors, and a host of other key behaviors required for healthy development. Lack of consistent and enriched experiences in early childhood can result in delays in motor, language, social and cognitive development.

Eating: Odd eating behaviors are common, especially in children with severe neglect and attachment problems. They will hoard food, hide food in their rooms, eat as if there will be
no more meals even if they have had years of consistent available foods. They may have failure to thrive, rumination (throwing up food), swallowing problems and, later in life, odd eating behaviors that are often misdiagnosed as anorexia nervosa.

**Soothing behavior:** These children will use very primitive, immature and bizarre soothing behaviors. They may bite themselves, head bang, rock, chant, scratch or cut themselves. These symptoms will increase during times of distress or threat.

**Emotional functioning:** A range of emotional problems is common in these children including depressive and anxiety symptoms. One common behavior is “indiscriminant” attachment. All children seek safety. Keeping in mind that attachment is important for survival; children may seek attachments -- any attachments -- for their safety. Non-clinicians may notice abused and neglected children are “loving” and hug virtual strangers. Children do not develop a deep emotional bond with relatively unknown people; rather, these "affectionate" behaviors are actually safety seeking behaviors. Clinicians are concerned because these behaviors contribute to the abused child’s confusion about intimacy and are not consistent with normal social interactions.

**Inappropriate modeling:** Children model adult behavior - even if it is abusive. They learn abusive behavior is the “right” way to interact with others. As you can see, this potentially causes problems in their social interactions with adults and other children. For children that have been sexually abused, they may become more at-risk for future victimization. Males that have been sexually abused may become sexual offenders.

**Aggression:** One of the major problems with these children is aggression and cruelty. This is related to two primary problems in neglected children: (1) lack of empathy and (2) poor impulse control. The ability to emotionally "understand" the impact of your behavior on others is impaired in these children. They really do not understand or feel what it is like for others when they do or say something hurtful. Indeed, these children often feel compelled to lash out and hurt others - most typically something less powerful than they are. They will hurt animals, smaller children, peers and siblings. One of the most disturbing elements of this aggression is that it is often accompanied by a detached, cold lack of empathy. They may show regret (an intellectual response) but not remorse (an emotional response) when confronted about their aggressive or cruel behaviors.

**What Can I Do To Help?**

Parents and caregivers make all the difference in the lives of maltreated children. This section suggests a few different ways to help.

**Nurture these children:** These children need to be held and rocked and cuddled. Be physical, caring and loving to children with attachment problems. Be aware that for many of these children, touch in the past has been associated with pain, torture or sexual abuse. In these cases, make sure you carefully monitor how they respond – be “attuned” to their responses to your nurturing and act accordingly. In many ways, you are providing replacement experiences that should have taken place during their infancy – but you are doing this when their brains are harder to modify and change. Therefore they will need even more bonding experiences to help develop attachments.

**Try to understand the behaviors before punishment or consequences:** The more you can learn about attachment problems, bonding, normal development and abnormal development, the more you will be able to develop useful behavioral and social interventions. Information about these problems can prevent you from misunderstanding the child’s
behaviors. When these children hoard food, for example, it should not be viewed as "stealing" but as a common and predictable result of being food deprived during early childhood. A punitive approach to this problem (and many others) will not help the child mature. Indeed, punishment may actually increase the child's sense of insecurity, distress and need to hoard food. Many of these children's behaviors are confusing and disturbing to caregivers. You can get help from professionals if you find yourself struggling to create or implement a practical and useful approach to these problems.

**Parent these children based on emotional age:** Abused and neglected children will often be emotionally and socially delayed. And whenever they are frustrated or fearful, they will regress. This means that, at any given moment, a ten-year old child may emotionally be a two-year old. Despite our wishes that they would "act their age" and our insistence to do so, they are not capable of that. These are the times that we must interact with them at their emotional level. If they are tearful, frustrated, overwhelmed (emotionally age two) parent them as if they were that age. Use soothing non-verbal interactions. Hold them. Rock them. Sing quietly. This is not the time to use complex verbal arguments about the consequences of inappropriate behavior.

**Be consistent, predictable and repetitive:** Maltreated children with attachment problems are very sensitive to changes in schedule, transitions, surprises, chaotic social situations, and, in general, any new situation. Busy and unique social situations will overwhelm them, even if they are pleasant! Birthday parties, sleepovers, holidays, family trips, the start of the school year, and the end of the school year -- all can be disorganizing for these children. Because of this, any efforts that can be made to be consistent, predictable and repetitive will be very important in making these children feel "safe" and secure. When they feel safe and secure they can benefit from the nurturing and enriching emotional and social experiences you provide them. If they are anxious and fearful, they cannot benefit from your nurturing in the same ways.

**Model and teach appropriate social behaviors:** Many abused and neglected children do not know how to interact with other people. One of the best ways to teach them is to model this in your own behaviors - and then narrate for the child what you are doing and why. Become a play by play announcer: "I am going to the sink to wash my hands before dinner because...." or "I take the soap and get soapy here and...." Children see, hear and imitate.

In addition to modeling, you can "coach" maltreated children as they play with other children. Use a similar play-by-play approach: "Well, when you take that from someone they probably feel pretty upset so if you want them to have fun when you play this game..." By more effectively playing with other children, they will develop some improved self-esteem and confidence. Over time, success with other children will make the child less socially awkward and aggressive. Maltreated children are often "a mess" because of their delayed socialization. If the child were teased because of their clothes or grooming, it would be helpful to have "cool" clothes and improved hygiene.

One area that these children have problems in is in modulating appropriate physical contact. They don't know when to hug, how close to stand, when to establish or break eye contact, what are appropriate contexts to pick their nose, touch their genitals, or do other grooming behaviors.

Ironically, children with attachment problems will often initiate physical contact (hugs, holding hands, crawling into laps) with strangers. Adults misinterpret this as affectionate behavior. It is not. It is best understood as "supplication" behavior and it is socially inappropriate. How the adults handle this inappropriate physical contact is very important.
We should not refuse to hug the child and lecture them about "appropriate behavior." We can gently guide the child on how to interact differently with grown-ups and other children (Why don't you sit over here?). It is important to make these lessons clear using as few words as possible. They do not have to be directive -- rely on nonverbal cues. It is equally important to explain in a way that does not make the child feel bad or guilty.

**Listen to and talk with these children:** One of the most pleasurable things to do is just stop, sit, listen and play with these children. When you are quiet and interactive with them you find that they will begin to show you and tell you about what is really inside them. Yet as simple as this sounds it is one of the most difficult things for adults to do - to stop, quit worrying about the time or your next task and really relax into the moment with a child. Practice this. You will be amazed at the results. These children will sense that you are there just for them. They will feel how you care for them.

It is during these moments that you can best reach and teach these children. This is a great time to begin teaching children about their different "feelings." Regardless of the activity, the following principles are important to include: (1) All feelings are okay to feel -- sad, glad, or mad (more emotions for older children); (2) Teach the child healthy ways to act when sad, glad, or mad; (3) Begin to explore how other people may feel and how they show their feelings - "How do you think Bobby feels when you push him?" (4) When you sense that the child is clearly happy, sad, or mad, ask them how they are feeling. Help them begin to put words and labels to these feelings.

**Have realistic expectations of these children:** Abused and neglected children have so much to overcome. And, for some, they will not overcome all of their problems. For a Romanian orphan adopted at age five after spending her early years without any emotional nurturing, the expectations should be limited. She was robbed of some, but not all, of her potential. We do not know how to predict potential in a vacuum, but we do know how to measure the emotional, behavioral, social and physical strengths and weaknesses of a child. A comprehensive evaluation by skilled clinicians can be very helpful in beginning to define the skill areas of a child and the areas where progress will be slower.

**Be patient with the child's progress and with yourself:** Progress will be slow. The slow progress can be frustrating and many adoptive parents will feel inadequate because all of the love, time and effort they spend with their child may not seem to be having any effect. But it does. Don't be hard on yourself. Many loving, skilled and competent parents have been swamped by the needs of a neglected and abused child that they have taken in.

**Take care of yourself:** Caring for maltreated children can be exhausting and demoralizing. You cannot provide the consistent, predictable, enriching and nurturing care these children need if you are depleted. Make sure you get rest and support. Respite care can be crucial. Use friends, family and community resources. You will not be able to help your child if you are exhausted, depressed, angry, overwhelmed and resentful.

**Take advantage of other resources:** For more information on this and other like topics, visit [www.ChildTraumaAcademy.org](http://www.ChildTraumaAcademy.org). Many communities have support groups for adoptive or foster families. Professionals with experience in attachment problems or maltreated children can be very helpful. You will need help. Remember, the earlier and more aggressive the interventions, the better. Children are most malleable early in life and as they get older change is more difficult.
Glossary

Attachment: A special form of emotional relationship. Attachment involves mutuality, comfort, safety and pleasure for both individuals in the relationship.

Attunement: The ability to read and respond to the communicated needs of another. This involves synchronous and responsive attention to the verbal and non-verbal cues of another.

Bond: A bond is a relationship. Bonds may be of special mutual emotional nature such as an attachment or they may be based upon other emotions (e.g., fear – such as seen in the bond between captor and captive).

Bonding: Any activity, action or behavior that helps establish or maintain a relationship.

Strange-Situation procedure: A specialized clinical-research procedure involving eight separations and reunions with an infant and their caregiver designed to determine the nature of the attachments.

The ChildTrauma Academy

The ChildTrauma Academy* is a unique collaborative of individuals and organizations working to improve the lives of high-risk children through direct service, research and education.

We recognize the crucial importance of childhood experience in shaping the health of the individual, and, ultimately, society. By creating biologically-informed, child and family respectful practice, programs and policy The ChildTrauma Academy seeks to help maltreated and traumatized children.

A major activity of the CTA is to translate emerging findings about the human brain and child development into practical implications for the ways we nurture, protect, enrich, educate and heal children. The "translational neuroscience" work of the CTA has resulted in a range of innovative programs in therapeutic, child protection and educational systems.

Please visit our website (www.ChildTrauma.org) to learn more about our work, our educational videos, training materials and other products.

*The ChildTrauma Academy is a not-for-profit, 501(c)(3) organization.

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