Risk & Protective Factors Influencing Adjustment in Adopted Children

In order to understand the nature of challenges and needs in adoptive families, it is important to review the body of knowledge on risk and protective factors associated with adjustment in both adopted children and their families. Risk factors are associated with increased probability of negative life outcomes. Protective factors buffer the impact of negative influences, and for most children, adoption itself is a major protective factor, bringing permanency, safety and a nurturing environment to those boys and girls who have previously experienced less-than-adequate living situations. It is necessary to understand the complexity of factors shaping adoption adjustment prior to any consideration of finding solutions to problems or challenges.

The recent explosion of knowledge in neuroscience has revealed the surprising complexity of factors that interact to increase or decrease the risk of developing mental and behavioral disorders. For example, genetic variants, brain structure, increased activation of immune cells in the brain, changes in neurotransmitter functions, nutrition, medications, and other individual factors interact with environmental factors in influencing the brain, mind, and body connections (Pariante, 2016).

Primary Child Risk Factors

Primary risk factors that have been linked to developmental challenges in adopted children and research findings associated with these risk factors are summarized below. This is not an exhaustive list, but addresses the most common risk factors.

Genetic Predisposition to Mental Health and Other Challenges

In addition to physical health conditions, there are many other challenges influenced by genetics. Two categories of mental health disorders have very strong genetic influences – neurodevelopmental disorders, such as autism spectrum disorder and ADHD, and psychotic disorders. Emotional disorders have a weaker, but still significant, genetic link than the first two categories of mental health disorders (Pine & Fox, 2015). Cognitive functioning also is influenced by genetics, particularly specific learning disabilities and intellectual disabilities. Substance-related and addictive disorders are another area with a specific genetic component.

Genetic vulnerability is also linked to the circumstances that lead some children to be placed for adoption. For example, when children are removed from their families because of parental substance abuse or psychiatric disorders, mental health professionals and adoptive parents need to consider the possibility that they are predisposed to genetic risk for emotional and behavioral difficulties. In other situations, as in China, where the abandoned child was the "one child too many", genetic risk may be less of a consideration; similarly, in domestic infant adoptions, some birthparents place their children for adoption, not because of serious emotional difficulties that make it impossible to provide appropriate nurturing for their children, but because of inadequate support or resources that are needed to raise them. In short, in some cases, there is reasonably clear evidence for believing that adopted children are predisposed to genetic based vulnerabilities, whereas in other cases, they are not or, at best, there is only suspicion of genetic risk, but inadequate information to confirm it.

Prenatal Risk Factors

Malnutrition and low birth weight. Malnutrition in mothers during pregnancy, other maternal health problems, and poor prenatal care can lead to problems in fetal development, premature births and low birth weight. For example, insufficient protein and iron in the mother's diet is linked with problems in brain growth and later cognitive development. Premature birth or intrauterine growth deficiency, particularly in less-than-optimal medical environments, may compromise the infant's immune system, ability to take nourishment, and healthy brain development, and can increase other health and developmental risks as well. Low birth weight, in itself, poses some long-term risks for cognitive impairment and learning problems (Gunnar & Kertes, 2005).

Prematurity and being small for gestational age are more common in some regions of the world, particularly in Asian and African countries. These conditions also are widespread among children adopted from orphanages in Russia and Eastern Europe and can have long-term impact on adjustment. For example, in a longitudinal study of 105 children adopted from the former Soviet Union, their average birth weight was 5.8 pounds, and low birth weight (defined as less than 5.5 pounds) had a large negative impact on the children's adaptive behavior scores at two evaluation times (7.7 years on average and again as adolescents). In fact, during adolescence, low birth weight was the only pre-adoptive risk factor of the three examined – the other two were the ages at which children entered orphanages and the length of their stays – that significantly predicted higher behavior problem scores. Also, those who were premature had lower school competence scores (McGuiness & Pallansch, 2000; 2007). Another study found that infants placed in Russian orphanages had much higher rates of low birth weight and birth complications than other infants in the country (Groark, Muhamedrahimov, Palmov, Nikifororova, & McCall, 2005).

Prenatal Exposure to Toxic Substances. Prenatal exposure to alcohol, drugs, tobacco, and other substances that have toxic effects on fetal development has increasingly become a focus of research, beginning with investigations of fetal alcohol exposure in the early 1970s. Pre-term birth, restricted fetal growth, and low birth weight are common consequences for the children of parents who use these substances, including alcohol, cocaine, marijuana, nicotine, amphetamines, and opiates such as heroin. Researchers have quantified these risks through sophisticated research designs – for example, children prenatally exposed to cocaine are over 3 ½ times more likely to have low birth weight than those who do not experience such exposure. Moreover, prenatal risks escalate exponentially with exposure to multiple drugs (Bada & colleagues, 2005).

The chronic impact of heavy alcohol consumption during pregnancy results in some of the most devastating long-term challenges for children and their families, which are described as fetal alcohol spectrum disorders. The most severe form, fetal alcohol syndrome, is characterized by irreversible neurological and physical abnormalities. Low to moderate maternal drinking also poses higher risks for a range of symptoms, such as inattention and hyperactivity, learning problems, memory deficits, and mood disorders (Freundlich, 2000; Sokol, Delaney-Black, & Nordstrom, 2003). Children adopted from Russia and other Eastern European countries**,** where alcohol consumption is common, have a higher than average rate of fetal alcohol exposure (Aronson, 2000; Miller, et al., 2006). For example, a study of 105 children adopted from the former Soviet Union found that despite unknown prenatal histories for over half the children, 41% were known to have mothers who abused alcohol during pregnancy (McGuiness & Pallansch, 2000). Another study, of 234 residents of a baby home in Russia, assessed more than half of residents as having intermediate to high scores that indicated prenatal alcohol exposure (Miller, et al., 2006). If you are not very familiar with Fetal Alcohol Spectrum Disorder (FASD), you may want to review "Fetal Alcohol Exposure," from the National Institute of Alcohol and Alcoholism, which is under the Resources tab of this lesson.

Longitudinal studies have been conducted that collect detailed histories at several points during pregnancy and follow children for many years to investigate the long-term consequences of exposure to a range of drugs, while controlling for other relevant variables. For example, prenatal marijuana exposure has been linked with increased hyperactivity, impulsivity, attention problems, learning and memory deficits, and externalizing behavior problems of children at age 10 (Goldschmidt, Day, & Richardson, 2000; Richardson, Ryan, Willford, Day, & Goldschmidt, 2002).

For adopted children, prenatal exposure to drugs and alcohol is associated with an increased rate of externalizing behavior problems, particularly hyperactivity. The California Long-range Adoption Study compared the adjustment of children known to have been exposed prenatally to drugs (cocaine, marijuana, or heroin) with those who were not exposed to drugs at two, four, eight and 14 years after adoption (Barth & Needell, 1996; Barth & Brooks, 2000; Crea Barth, Guo, & Brooks, 2008). In the original data collection, the 1396 adopted children were

classified as drug-exposed (23%), not drug-exposed (33%), and unknown (44%). Those with known drug exposure were compared to those not drug-exposed, and at the four-year follow-up the two groups were alike on most measures, including parental satisfaction with the adoption and closeness to child; however, drug-exposed children were more likely to demonstrate hyperactivity. The 14-year follow-up compared the two groups at each wave of data collection, finding that drug-exposed children had slightly more behavior problems at baseline and largely remained that way across time.

A special program in California, TIES, which assists families adopting children from care who have been prenatally exposed to substances, collected data from the families of 16 children several months after placement and again about a year later (McCarty, Waterman, Burge, & Edelstein, 1999). They found that parents' appraisal of the children's overall adjustment improved significantly from Time 1 to Time 2, and their concerns about prenatal substance exposure lessened over time. (These parents received significant preparation and ongoing support.) On the Parenting Stress Index, almost half of the parents reported clinically significant distress caused by the child's mood or a mismatch in the child's behavior and their expectations at Time 1. The authors concluded that the period following adoptive placement is a particularly vulnerable time and that they need support services from the time of matching to help them adjust. This underscores the reality that while prenatal drug exposure increases developmental risks, good postnatal care and support services to parents can enhance children's adjustment and decrease parenting stress.

Heavy Maternal Stress During Pregnancy. Given the life circumstances faced by so many pregnant birthmothers whose children eventually are adopted, it is reasonable to assume that the developing fetuses of these women are at considerable risk for experiencing heightened maternal stress. Research indicates that a high levels of maternal stress during pregnancy impacts the developing brain circuits and neurochemistry of the fetus and can lead to post-natal problems in regulating attention and emotion (Gunnar & Kertes, 2005). Chronic exposure to elevated maternal cortisol levels impacts the development of the child's hypothalamic-pituitary-adrenal (HPA) system and may result in the child's slower recovery from stress, making him more vulnerable to developing later stress-related physical and psychological problems. It also increases cognitive dysfunctions overall (Shih, 2016).

Retrospective studies on children whose mothers experienced adverse events, high levels of psychological stress, including anxiety and depression, or received steroid hormones with cortisol during pregnancy find that their children are at risk for long-term neurodevelopmental problems. One is lower birthweight or smaller size of the baby. Maternal stress, depression and anxiety have been linked with increased basal HPA axis activity in the offspring at different ages, including 6 months, 5 years, and 10 years. Behavioral and mental health effects associated with this risk factor include unsociable and inconsiderate behaviors, ADHD, sleep disturbances, depressive symptoms, drug abuse, and mood and anxiety disorders (Lupien, McEwen, Gunnar, & Helm, 2009). These effects may help to explain the high rate of ADHD in adopted children, even those adopted soon after birth. Research also has found that positive care in the postnatal period can help reduce this impact.

Older Age at Adoption

It has been long known that older age at placement is a risk factor for adjustment difficulties, particularly in relation to risk for adoption disruption and behavior problems (Festinger, 1986; Barth & Berry, 1988, Berry & Barth, 1989; Sharma, et al., 1996b; Merz & McCall, 2010). For example, the latter study by Sharma and colleagues compared adopted teens in four groups by age at adoption: 0-1, 2-5, 6-10, and older than 10; the researchers found that infant-adopted youth were most similar to their non-adopted peers and those adopted after age 10 had the worst adjustment levels. The behavior of the teens in the middle two groups generally ranked between the early- and late-placed groups. Also, a study of adopted teens found that those adopted at age 4 or older had higher rates of depression than non-adopted youth or those adopted before age 4. Also, 23 percent of the later-adopted youth reported suicidal thoughts during adolescence (Festinger & Jaccard, 2012).

A meta-analysis of research on attachment in adopted children found that those adopted before age 1 were as securely attached as non-adopted peers, but those adopted after 12 months of age showed less attachment security (van den Dries, Juffer, van IJzendoorn, & Bakermans-Kranenburg, 2009).

Other studies do not find a clear linear relationship between age at adoptive placement and later adjustment difficulties (Howard & Smith, 2003; Verhulst, Althaus, Versluis-den Bieman, 1990; Verhulst, 2000). Nevertheless, the research literature generally supports the conclusion that children adopted after age 2 years show increased risk for a range of adjustment difficulties.

Also, in a Dutch longitudinal study of internationally adopted children, the older the age of the child at placement, the greater the probability of experiencing early maltreatment and multiple placements. Age at placement did not contribute to the increase in maladjustment independently from the influence of early adverse experiences (Verhulst, Althaus, & Versluis-den Bieman, 1992). The body of adoption research clearly demonstrates that it is the impact of early adverse experiences prior to adoptive placement that is most clearly linked with increased risk for adjustment difficulties.

Early Deprivation, Including Institutionalization and Chronic Neglect

Adequate nurture is the foundation of all areas of child development—physical, intellectual, social, and emotional. When children's basic needs are not met, all areas of their development suffer, with more extreme deprivation leading to more severe and long-lasting effects. A review of 29 studies on children adopted from orphanages in Romania, Russia, and China found that the most consistent predictor of ongoing problems is the length of time spent in orphanage care, with those in care a year or more having the highest risk for chronic problems (Meese, 2005).

Studies of children adopted from Eastern European orphanages have documented the enduring impact of profound deprivation for children spending over six months in institutions characterized by severe neglect. A longitudinal study led by a team of British researchers has followed over 150 children adopted from Romania into English families, with their age at adoption ranging up to 3½ years, and has compared these children to domestic adoptees. Children were assessed at ages 4-6 years and again at ages 11-12. This longitudinal study has used sophisticated methodologies to explore the underlying causes of the effects of institutionalization on children. Some of the primary findings of this series of studies include:

- Children adopted from Romania by 6 months of age were comparable to domestically adopted children in cognitive development, language development and attachment; however, the majority of those institutionalized more than 6 months showed deficits in one or more of these areas (Rutter, 2005).
- At age 11, children spending 6-24 months in institutions had IQ scores, on average, 15 points lower than peers with less time in institutions, but were not significantly better off than those institutionalized for two years or more. Also, there was marked heterogeneity in children's cognitive functioning that was not associated with the educational background of the adoptive families (Beckett, Maughan, Rutter, Castle, Colvert, Groothues, Kreppner, Stevens, O'Connor, & Sonuga-Barke, 2006).
- Children in institutions longer than six months were more likely to show a pattern of "disinhibited attachment," characterized by the relative failure to develop a normal attachment relationship rather than insecurity in an established attachment. (Children would act silly, seek attention, and readily go off with strangers.) The 98 children institutionalized 6-42 months were assessed as having: no (30%); mild (44%), or marked (26%) disinhibition. Disinhibited attachment was associated with other types of psychopathology and a marked increase in mental health service usage (Rutter, O'Connor, ERA Study Team, 2004; Rutter, Colvert, Kreppner, Beckett, Castle, Groothues, Hawkins, O'Connor, Stevens, & Sonuga-Barke, 2007).

- A pilot study investigating the impact of early deprivation on brain development through the use of MRIs found that Romanian adoptees, when compared with non-adopted adolescents, had significant differences in their brain structures. The primary difference that related to time spent in institutions was in the amygdala (a part of the brain involved in basic emotional processing and guiding social behaviors). They concluded that early global deprivation negatively affects brain development (Mehta, Golembo, Nosarti, Colvert, Mota, Williams, Rutter, & Sonuga-Barke, 2009).

For children adopted internationally, the level of deprivation varies across institutions within the same country and across caretakers. Some have toys to promote stimulation and a lower caregiver-child ratio to permit more interaction, but it is difficult for them to provide the quality of experiences needed to support optimal child development. One group studying six Romanian orphanages found that observed quality of the caregiving environment (such as the extent to which a caregiver was available, interacting with a child, and responsive) was associated with cognitive development and competence in young children. This was true even after controlling for several child characteristics and percent of life raised in an institution (Smyke, Koga, Johnson, Fox, Marshall, Nelson, Zeanah, & BEIP Group, 2007). In Tan's (2006) study of 115 girls adopted from China, he asked parents whether their daughters experienced neglect prior to their adoptions and to provide their basis for this assessment. For the girls known to have been neglected, 42% scored below average on a social competence scale, as compared to only 14% of girls not known to have experienced neglect. Not every study of intercountry adoptees has found a long-term impact of institutionalization on child behavioral adjustment; for example, one study of 695 girls adopted from China found that they had slightly fewer problems than those in the normative comparison group on all scales of the Child Behavior Checklist, except for the Anxious/Depressed subscale (Tan & Marfo, 2006). These studies indicate that not all orphanages are the same, and children living in the most deprived conditions are more likely to show serious, long-term negative outcomes.

One problem frequently found among children experiencing institutionalization or deprivation/neglect is sensory integration difficulties – a condition in which the brain cannot analyze, organize, and integrate sensory messages efficiently (Lin, Cermak, Coster, & Miller, 2005). For example, a study of 73 Romanian adoptees and a comparison group of American children found greater problems among the adoptees in five of six sensory-processing domains – touch, movement-avoids, movement-seeks, vision, and audition – as well as four of five behavioral domains -- activity level, feeding, organization, and social-emotional (Cermak & Daunhaurer, 1997). Children with sensory integration problems may demonstrate a range of atypical behaviors, including oversensitivity to tactile sensations such as shirt labels rubbing their necks or defensiveness to being touched, hypersensitivity to noises, an aversion to many tastes or food textures, being distractible or whiny, clumsiness, and others (Purvis, et al., 2007). This condition among adopted children has been researched primarily among those coming from institutions abroad, and while children experiencing chronic neglect in the U.S. also are likely to experience sensory integration difficulties, this is an area that needs further research.

Neuroendocrine imbalances, such as abnormally high or low cortisol levels (a hormone produced by the adrenal glands), also may be associated with profound deprivation and other traumas, with studies finding differential effects (Gunnar, Morison, Chisholm & Schuder, 2001; Gunnar & Kertes, 2005; Bruce, Fisher, Pears, & Levine, 2009). Gunnar and her colleagues (2001) found that 6½ years on average after their adoptions, children who spent eight months or more in Romanian orphanages showed higher cortisol levels than did two comparison groups of children. Cortisol is one of two major stress-related hormones, and having too much or too little of it for an extended period can cause a range of developmental problems.[1]

[1] Chronic stress during institutionalization or prolonged periods of trauma affects the limbic-hypothalamic-pituitary-adrenocortical (LHPA) system. Both cortisol and another, corticotrophin releasing hormone (CRH), operate in ways that suppress growth, resulting in growth retardation among some institutionalized children. Cortisol levels normally cycle throughout the day, peaking soon after waking and being the lowest in the evening. Elevated cortisol levels can contribute to negative emotionality and affective disorders and can also affect attention, learning and brain development. Elevated cortisol levels

For children in foster care or adopted from the child welfare system, neglect is the most common type of maltreatment experienced (USDHHS, 2017). There is a broad range of conditions classified under neglect, however, ranging from profound inattention to the child's basic needs to unsafe living conditions and inadequate supervision. A cluster analysis of 160 substantiated neglect cases found that about 20-25% of these cases pose a high level of risk to the child (Chambers & Potter, 2009).[2] Severely neglectful mothers interact minimally with their children, provide less affection, and give less instruction or encouragement, sometimes neglecting to even feed their children or tend to them for extended periods of time. It is this overall lack of involvement with their children that hampers normal child development in all its domains.

Neglect is sometimes erroneously perceived as less serious than physical or sexual abuse; however, a longitudinal study of at-risk children in the U.S. found that neglect in infancy was a significant predictor of aggression at ages 4, 6, and 8; whereas early abuse or later neglect or abuse were not significant predictors of later aggression for this group of children (Kotch, et al., 2008).

Experiencing Physical, Sexual, or Emotional Abuse, and other Traumas

In addition to neglect or deprivation, many children adopted internationally and from foster care have experienced other maltreatment and trauma including physical, sexual and/or emotional abuse, as well as witnessing violence. One study found that children entering an orphanage beyond one month of age were more likely to have experienced some type of maltreatment than those placed there soon after birth (McGuiness & Pallansch, 2000), but children also may be abused in orphanages by other children or by caretakers. In addition, some children experience multiple types of maltreatment as well as other types of trauma, such as witnessing violence and/or traumatic loss. Research indicates that cumulative trauma experiences are associated with greater complexity and severity of symptoms (Briere, Kaltman, & Green, 2008).

The types of abuse experienced by children adopted from the child welfare system in the U.S. are not completely known. Often children are removed due to a single indicated allegation (most commonly neglect) but later other types of maltreatment come to light. Neglect is a substantiated allegation in 75% of substantiated reports. A minority of substantiated child abuse and neglect cases involve physical abuse (17%) or sexual abuse (8%) (USDHHS, 2017). However, it is likely that some children entering foster care due to neglect may have experienced other types of maltreatment. In a study of over 1300 children adopted from foster care in Illinois, parents rated whether their children had experienced various types of maltreatment, including an "unsure" category. The incidence of various types of maltreatment reported were: serious neglect (63%), physical abuse (33%), and sexual abuse (17%), with another one-quarter of the parents stating they were unsure whether their children had been sexually abused (Howard & Smith, 2003).

Many of the behavioral symptoms of adopted children who are seen in mental health settings stem from the effects of trauma. In fact, a high percentage of children who have externalizing behavior disorders (attention deficit hyperactivity disorder (ADHD), oppositional defiant disorder (ODD), or conduct disorder) have trauma histories. One study reported that children diagnosed with externalizing disorders had experienced more trauma than had those with other diagnoses. In fact, 91% of children dually diagnosed with both ADHD and ODD were assessed as having a traumatic history, primarily physical or sexual abuse (Ford, Racussin, Ellis, Daviss, Reiser, Fleischer, & Thomas, 2000). The causal pathways for understanding the relationship of trauma to behavior is complex and needs further theory development and research.

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in early life are hypothesized to lead to the development of hypocortisolism or adrenal insufficiency in adults (Johnson, Kamilaris, Chrousos, & Gold, 1992; Gunnar, et al., 2001; Gunnar & Vazquez, 2001).

[2] The sub-type of neglect cases presenting the highest level of risk involves many poverty-related needs and caregivers who also experience mental health problems and/or domestic violence and moderate levels of substance abuse (Chambers & Potter, 2009).

Externalizing behavior problems have been found to be more prevalent among adopted children, and a maltreatment history has been identified in a number of studies as related to such behaviors (Berry & Barth, 1989; Verhulst, et al., 1992; Smith & Howard, 1991; Rosenthal & Groze, 1994; Simmel, et al., 2001; Howard & Smith, 2003; Juffer & van IJzendoorn, 2005). Also, sexual abuse has been shown to be even more strongly associated with a high level of acting out behavior problems and adoption instability than has physical abuse (Rosenthal & Groze, 1992; Smith & Howard, 1991, 1994; Smith, Howard, & Monroe, 1998; Groza & Ryan, 2002; Howard & Smith, 2003; Simmel, 2007; Nalavany, Ryan, Howard, & Smith, 2008). The maltreatment of children also puts them at increased risk for depression (Ji, Barth, Brooks, & Kim, 2010) – and can affect their adjustment into adulthood, especially when the maltreatment is severe (van der Vegt, van der Ende, Ferdinand, Verhulst, & Tiemeier, 2009).

Emotional abuse is less commonly reported and investigated than other types of maltreatment, including among adopted children. One English study examined the impact of "preferential rejection" on children placed for adoption -- a type of emotional abuse in which a child is singled out from siblings for negative parental attention in the birth family (Rushton & Dance, 2003). Those children experiencing preferential rejection had eight times greater odds of their adoptive parents' rating them as making unsatisfactory progress in forming healthy parent-child relationships.

The impact of abuse on children is both psychological and physiological. The psychological impact can include pervasive fearfulness, anxiety, depression, low self-esteem, difficulties in self-regulation of feelings and behaviors, and PTSD-related symptoms such as hyperarousal, intrusive thoughts, and avoidance responses ranging from avoiding stressful situations and numbing of feelings to dissociation. Trauma experts have coined the term "complex trauma" to describe the cumulative effects of prolonged exposure to traumatic experiences. Children experiencing complex trauma also may have a damaged world view involving mistrust of others, festering anger, aggression, and a strong need to control others to defend against feelings of powerlessness (Finkelhor & Browne, 1986; Terr, 1991; Ford, et al., 2000; Briere, Johnson, Bissada, Damon, Crouch, Gil, Hanson, & Ernst, 2001). Hart and Luckock (2004) suggest that the main legacy of previous maltreatment is in "the way children have organized, or have tried to organize, survival and coping strategies in the face of risk and adversity…" (p. 43).

Another line of inquiry related to the long-term impact of abuse and neglect on children is how such experiences alter the neurochemistry and physiology of the brain and can result in neurodevelopmental damage (Schiavone, Colaianna, & Curtis, 2015). One deficit in brain functioning linked with trauma relates to "executive functioning" or abilities located in the part of the brain associated with aspects of self-control, working memory, learning, attending, decision-making, and problem-solving (the pre-frontal cortex). A British study of foster and adopted children referred for a trauma-related assessment found that all of them had significant deficits in executive functioning and concluded that children's oppositional responses to adult instructions often result from the brain's difficulties in processing information – in other words, it is related to the fact that the child *can't do* rather than *won't do* tasks. These researchers stated that "unless these difficulties are identified and addressed, these children get 'left behind' and a growing gulf develops between them and their peers" (Lansdown, Burnell, & Allen, 2007, p. 49). There is a certain amount of plasticity or malleability in the neural systems involved in early life trauma, both in stimulating development of underdeveloped neural cells and the potential for other brain cells to take over functions carried out by damaged cells, particularly at very young ages (Fisher & Gunnar, 2010; Palacios, Roman, Moreno, Leon, & Penarrubia, 2014). Research suggests that if children are removed from trauma-related environments at a young age and placed in a nurturing adoptive home, developmental recovery is possible, at least to some extent.

An additional area of functioning challenged by maltreatment is children's emotional development, in particular their understanding of emotions and "theory of mind" abilities. "Theory of mind" is a psychological ability to understand that others may have differing perspectives than one's own, and it is the foundation for empathy and social competence in children. Research has shown that maltreated children may have difficulty identifying their own and others' feelings as well as in perspective-taking and responding to social cues (Pears & Fisher, 2005).

Overall, trauma experts have identified seven domains of impairment in children exposed to complex trauma – attachment, biology, affect regulation, dissociation, behavioral control, cognition, and self-concept (Cook, et al., 2005).

Number of Placements Prior to Adoption

An additional factor in the pre-adoption history of children that has been linked with greater risk for ongoing adjustment problems is their number of placements prior to adoption. Experiencing multiple moves in care prior to adoptive placement is associated with adoption instability and greater likelihood of adjustment problems (McRoy, 1999; Howard & Smith, 2003; Simmel, 2007; van der Vegt, et al., 2009). One study of moves in care among 415 foster children within their first 18 months in placement found a mean of 4 placement moves in this time period (ranging from 1-15). Behavior problems were both a cause and an effect of placement moves. Children with high levels of behavior problems were more likely to be moved; however, for children who did not have elevated behavior problems upon initial placement, their number of moves in care consistently predicted increased internalizing and externalizing behavior problems (Newton, Litrownik, & Landsverk, 2000).

Research studies have found that placement instability has more of a negative impact on children than the single event of removal from birth family and placement into foster care. For example, one study evidenced that adopted children with histories of multiple placement moves had poorer inhibitory control abilities and more oppositional behavior than adopted children who experienced only one foster placement prior to adoption, even after controlling for pre-adoption risk factors (Lewis, Dozier, Ackerman, & Sepulveda-Kozakowski, 2007). Similarly, another study of the relationship between placement instability and the risk of delinquency among foster youth found that male foster youth with only one or two placements had virtually the same risk of delinquency as those who were not placed; however, male youth with three or more moves had a much higher rate of delinquency (Ryan & Testa, 2005).

Placement instability undermines the development of a secure parent-child attachment, which is essential for building emotionally strong and psychologically healthy children. Children need adults who are invested in them and understand their nuances of temperament, behaviors, and needs. Without the reciprocal emotional investment of the parent-child relationship, children do not receive the emotional support they need from a caring adult whom they can count on to be there for them in the future.

Emotional Conflicts Related to Loss and Identity Issues

Over the course of their lives, adopted children and adults face the challenge of exploring the meaning of adoption and integrating this into their own identities. It is common for adopted children to struggle at times with their feelings about being adopted, and studies have documented that emotional turmoil and difficulty related to adoption issues is associated with greater adjustment problems, including depression, lower self-worth, anxiety, and behavior problems (Smith, Howard, & Monroe, 2000; Smith & Brodzinsky, 2002; Juffer, 2006). Also, loss is a central issue in adoption, and becomes particularly salient for children placed at older ages who have experienced many traumatic separations. These children typically have not been helped to mourn previous losses, which can contribute to ongoing emotional problems.

Generally, children do not become aware of the loss aspects of adoption until they are school age. During middle childhood, children's understanding of the implications of being adopted grows at a profound rate, and at the same time there is a decline in positive attitudes related to adoption and an increase in behavioral problems (Brodzinsky et al., 1992; Juffer & Van IJzendoorn, 2005). Adopted individuals fall along a continuum related to their interest in and involvement with adoption-related issues, and this varies in intensity at different times in their lives. Some show minimal interest in adoption, while others struggle and come to terms with issues, and still others remain unsettled (Dunbar & Grotevant, 2004). Smith and Brodzinsky (2002) examined the appraisals of birthparent loss of 82 adopted children between the ages of 8 and 12, as well as their coping strategies to manage

related stress, their levels of depression, anxiety, and self-worth, and their parents' ratings of behavior problems. They found that greater curiosity and preoccupation about birthparents – as well as a coping pattern of behavioral avoidance (staying away from the problem, being mean to someone when upset about the problem, etc.) – was associated with higher levels of externalizing behavior problems. Children who reported higher levels of negative emotions about birthparent loss also reported more depression and lower self-worth. Similarly, research with adopted adolescents has linked very high levels of preoccupation with adoption with significantly higher levels of alienation and lower levels of trust for their adoptive parents (Kohler, Grotevant, & McRoy, 2002).

Juffer (2006) studied the relationship between children's feelings about adoption and behavior problems in 176 7-year-old children who were transracially adopted into White Dutch families. She found 55% of these children had expressed the wish to be White and/or to have been born into their adoptive families, and these feelings predicted higher levels of behavior problems, according to both mothers' and teachers' ratings. There was some variation according to the children's country of origin; i.e., those with dark skin reported the greatest concern about difference.

Other research of adopted children and adolescents whose families received therapeutic counseling services confirmed the view that problem behaviors are often outward signs of underlying emotional struggles, including separation/attachment conflicts, grief, identity issues, depression, and post-traumatic stress symptoms (Smith & Howard, 1999; Smith, et al., 2000). The study explored the relationship of these issues to behavior problem severity and to whether the parents raised the possibility of ending the adoption (adoption dissolution). At the end of treatment, therapists rated six underlying emotional issues as to whether they were a concern for the child. Five of the six emotional issues examined (all but "need to search") were associated with severity of behavior problems, and all except identity issues, were associated with parents' raising dissolution.

Protective Factors among Adopted Children

Resilience is the ability to overcome adversity and function better than expected based on the high-risk or traumatic experiences of the child. A number of protective factors – buffers that mediate the impact of stressful events – exist within children, families, and their environments. Conversely, the absence of these factors, such as parental warmth and sensitivity, can be viewed as a risk factor for poor adoption adjustment.

As discussed earlier, a group of children can experience the same treatment or adversity and experience different outcomes. Some of this variability is due to protective factors and differential susceptibility. The body of research on risk and protective factors in child development has identified a range of factors fostering resiliency. On the individual level, temperament and genetic susceptibility can make children more or less vulnerable to negative outcomes.

Gender

Research on child development suggests that, on average, being born female is a protective factor. In the general population, for instance, girls show a lower risk for developing externalizing behavior problems such as hyperactivity, impulsivity, conduct problems, and oppositional behavior (Criss, Pettit, Bates, Dodge, & Lapp, 2002). Some adoption studies have confirmed these findings (Sharma, et al., 1998; Simmel, 2007; Howard & Smith, 2003), while others have not (Juffer & van IJzendoorn, 2005).

Temperament

Children's temperaments, which are both genetically predisposed and environmentally shaped, can be protective and can moderate their susceptibility to negative experiences. Research has established that, at birth, children have definite temperaments that vary on factors such as irritability, emotional expression, activity level, fearfulness, adaptability, and persistence; these dispositions are relatively consistent over time, though they may be shaped through interactions (Goldsmith, et al., 1987). Children with easy temperaments elicit and reinforce

nurturing responses from caretakers and peers and are less vulnerable to maltreatment and unhealthy attachment interactions (Wong, 2003; Flores, Cicchetti, & Rogosch, 2005). Therefore, an infant who is cute, easygoing, and very responsive may receive more positive attention in an orphanage setting, and thereby suffer fewer ill effects of institutionalization. Research also has shown that children with difficult temperaments are more susceptible to negative discipline, resulting in more acting out, but they also are influenced more by positive discipline than children with relatively easy temperaments (van Zeijl, et al., 2007). Children with difficult temperaments may evoke dysfunctional caregiving, and their parents may need support in maintaining effective discipline strategies.

Capacity to Develop Secure Attachments

Attachment is an emotional connection between a child and caregiver. It involves a healthy capacity to give and receive affection, physical touch such as hugging, and looking to an adult to meet needs such as getting reassurance during a frightening situation. The child is invested in the relationship and wants to spend time with the caregiver, trusts her/him, and tries to behave in a way consistent with caregiver expectations. The capacity of a child to attach to another person is another protective factor. Attachment styles and capacities of young children are shaped through interaction with the environment. Thus, the capacity of adopted children to form secure attachments with their adoptive parents depends, in part, on the quality of care they received from others prior to their placement – i.e., birth parents, foster parents, orphanage staff. Children whose early caregivers were warm, loving, emotionally attuned to them, and regularly available are more likely to develop security with their adoptive parents; conversely, those whose previous caregivers were cool, emotionally withdrawn, harsh, poorly attuned to their needs, and inconsistent in their availability are less likely to experience a sense of security in relationships with their adoptive parents. There is also an emerging body of research indicating that there are genetic factors in children that make them more or less susceptible to inadequate caregiving and to positive changes in caregiving environments[3] (Spangler, Johann, Ronai, & Zimmermann, 2009; Bakermans-Kranenburg, Van IJzendoorn, Mesman, Alink, & Juffer, 2008).

Once children are placed for adoption, the development of a secure attachment is a reciprocal process between them and their caregivers, and that attachment is shaped by both parties. Research indicates that the child's ability to accept nurturance and develop an attachment to the parents, particularly the mother, is significantly linked with adoption outcomes. One study found that when an adoptive mother perceives a lack of attachment by the child, there is an eightfold increase in adoption disruption (Dance & Rushton, 2005). In an Illinois study of the adjustment of youth adopted from foster care, the child's ability to give and receive affection (rated as very well or fairly well by parents, rather than poorly or not at all) was the strongest protective factor in predicting fewer behavior problems. Being able to give and receive affection decreased a child's Behavior Problem Index score (ranging from 0-28) by 5.5 points overall (Howard & Smith, 2003).

Family-related Protective Factors

The protective factors that contribute to positive outcomes and resiliency in adoptive families are primarily the same as in other families: 1) a stable marriage or partner relationship with good communication; 2) a warm, cohesive pattern of family interaction; 3) an authoritative but nurturing parenting style; 4) openness in communication; and 5) good social support from outside the family. In addition, adoption experts stress the importance of realistic expectations and parental preparation for adoption as critical factors promoting resilience in their ongoing adjustment (Brodzinsky, 2008).

Realistic Expectations and Thorough Parental Preparation

[3] For example, in a study of 106 mother-infant dyads when the infants were 12 months old, attachment disorganization (present in 24%) was four times as high in those with a certain genotype. Attachment disorganization was assessed as 11% among infants with two long alleles, 26% among those with one long allele, and 42% among those with two short alleles on the serotonin transporter gene (Spangler, et al., 2009).

Parents' cognitive appraisal of their situation helps to shape both their efforts to cope and their overall commitment to parenting. One major influence on their appraisal of their adoption is the expectations they had going into it and the congruence between those expectations and the reality of their parent-child relationship. These include expectations regarding themselves as a parent, their ability to manage difficult situations and meet their child's needs. Also important is their expectations of their child's ability to adjust to the family, to attach to them and accept them as her parents. Often parents expect an adjustment period of a year or so, with the child settling in and challenges dissipating. When several years later problems seem to be escalating despite attempts to seek help, the mismatch between their expectations and reality may lead to their concluding that the child is "bad" and they are "bad" parents (Smith & Howard, 1999).

The importance of parents having realistic expectations for adoption is a recurring theme in adoption literature and research (Pinderhughes, 1996; McRoy, 1999; Reilly & Platz, 2003). According to the latter study of 259 child welfare adoptive families, parental expectations represented the only one of five variables assessed that had a significant influence on all four adoption outcomes evaluated (parental satisfaction, quality of parent-child relationship, and impact of the adoption on the family and the marriage). Also, a qualitative study of 37 successful adoptions of teens from foster care found that a major key to success identified by parents and teens was having realistic expectations (Flynn, Welch, & Paget, 2004; Wright & Flynn, 2006).

Parents' views of their children and any difficulties they may be having after placement are shaped by their expectations prior to adoption. A study of families adopting 15 older children concluded that parental perceptions were more important than child behaviors, and it identified specific parental perceptions that facilitated adjustment – finding strengths in the child overlooked by others, viewing behavior and growth in the context of the child's history, reframing negative behavior, and attributing improvement in behavior to parenting efforts (Clark, Thigpen, & Yates, 2007.

An important means of achieving realistic expectations in parents and in older children placed for adoption is thorough preparation. For parents, this includes accurate and up-to-date background information on the child (Barth & Berry, 1988; Rosenthal, 1993), yet many families report not having received enough information. For example, in a study of 259 families adopting from foster care, 58% reported getting insufficient information on the child, and 37% reported the child's problems were more serious than the placement agency originally described (Reilly & Platz, 2003).

Adoption preparation includes face-to-face interactions with the child's caseworker, going over the child's unique history, with explanations offered regarding the implications of different types of pre-placement experiences, in-person and online educational classes, reading, contacts with other adoptive families, and other methods (Brodzinsky, 2008). Several studies have linked parents' perceptions of pre-adoptive preparation and their readiness for adoption with positive outcomes (Barth & Berry, 1988; Paulsen & Merighi, 2009; Simmel, 2007). A British study of adopters' evaluations of their preparation for adoption from foster care found that while parents felt they had learned to understand children's issues, they needed more preparation on skills to manage difficult behaviors (Rushton & Monck, 2009). Such preparation is especially important when adopting children with serious difficulties.

Positive Parenting Style

In all families, good parent-child relationships promote secure attachments and contribute to positive outcomes for children. This is particularly true for children coming from high-risk situations, when parental sensitivity and responsiveness is essential to fostering a healing environment. Desirable qualities in parenting that research links with positive outcomes in children include warmth, sensitivity to children's needs and feelings, responsiveness, positive disciplinary strategies, and active involvement with the child (Benzies & Mychasiuk, 2009). Some examples of research on adoptive families that establishes the importance of positive parenting aspects include:

- A study of 83 African American adoptive families found that qualities of the parent-child relationship, such as amount of enjoyable time spent together and how often the parent thinks of the child when separated, are stronger predictors of child behavior problems than pre-adoption characteristics of the child or parent (Smith-McKeever, 2005).
- Positive scores on the HOME scale assessing parenting style (quality and frequency of stimulation, discipline style, and emotional support) were a significant predictor of fewer externalizing behavior problems among child welfare adoptive families (Simmel, 2007).
- Adoptive mothers with a high degree of maternal sensitivity and secure attachment styles are better able to respond to maltreated children's past loss or trauma issues, and these placements are less likely to disrupt (Steele, Hodges, Kaniuk Hillman, & Henderson, 2003; Kaniuk, Steele, & Hodges, 2004).
- A longitudinal study of families adopting from Russia found that a cohesive family environment predicted higher child competence and fewer behavior problems. The protective factor, level of family cohesion, had a greater impact on behavior problems than any pre-adoption risk factor (Robinson, McGuinness, Azuero, & Pallansch, 2015; McGuinness & Pallansch, 2007).

Communicative Openness

In all families, family communication patterns affect child adjustment, and communication is critically important in adoptive families (Brodzinsky, 2006). Research on adolescents from adoptive and non-adoptive families indicates children from families with "consensual" communication (high in frequent, spontaneous, unconstrained conversation and high in maintaining harmony) have the fewest externalizing behavior problems (Rueter & Koerner, 2008). This study classified family communication patterns into four styles (consensual, pluralistic, protective, and laissez faire), finding that the percentage of adolescents with high externalizing behaviors varied across communication patterns. The researchers concluded that having fewer adjustment problems was associated with emphasizing conversation orientation. Adopted adolescents had more externalizing behaviors than non-adopted adolescents, but this varied from 3% (in families with consensual styles) to 27% (laissez faire styles) across the communication patterns. Adopted adolescents were at greater risk for problems compared to nonadopted peers in families that emphasized conformity without conversation and in families that emphasized neither conformity nor conversation.

Brodzinsky found that communicative openness in addressing adoption issues was a stronger predictor of children's adjustment than structural openness (Brodzinsky, 2006). Adopted children experiencing more open adoption communication reported higher self-esteem and had lower parent ratings of behavior problems. Among adopted adolescents, those who perceive greater communication openness in their families report more trust for their parents, fewer feelings of alienation, and better overall family functioning (Kohler, Grotevant, & McRoy, 2002). Research also indicates that parents often underestimate the difficulty their children have in talking about adoption, and the level of communicative openness can vary between a child and each parent as well as across different adopted children in the same family (Beckett, et al., 2008; Hawkins, et al., 2007; Wroebel, Grotevant, Mendenhall, & McRoy, 2003).

Capacity to Cope with Stress and Challenges

Adoptive families have been studied to better understand the aspects of family functioning and environment that predict adoption outcomes. The importance of many aspects of family environment in shaping adoptee adjustment has been demonstrated by research, including the family's capacity to cope with stress. The California Long-Range Adoption Study demonstrates that adoptive families' ability to cognitively manage stress and challenges is linked with better psychosocial adjustments in their children (Ji, Brooks, Barth, & Kim, 2010). Having parents who scored low on a standardized measure evaluating the family's cognitive orientation toward managing stress and challenge was a more powerful predictor of adopted children's psychosocial adjustment problems than

any of the four pre-adoption risk factors analyzed. The researchers recommended greater attention to family stressors and coping mechanisms, both in adoption research and in post-adoption services.

Environmental Protective Factors

Family well-being is influenced not only by the characteristics of children, parents, and their interactions, but also by their social networks – organizations such as schools and churches – and their communities. Some environmental factors that research has identified as promoting resilience include: 1) family involvement in the community through access to social networks and resources; 2) peer acceptance for children; 3) supportive mentors; 4) access to quality childcare and schools; and 5) access to quality health and mental health services (Benzies & Mychiasiuk, 2009).

In families where adoptive and birth relatives have contact, a significant protective factor is their ability to collaborate with each other for the children's best interests (Grotevant, Ross, Marchel, & McRoy, 1999). Also, in interactions outside the family, the supportiveness of other systems, or the lack thereof, impact adopted children and their families. For example, Grotevant and colleagues describes the "fit" of transracial adoptive families within their communities, where children of a minority race may experience a range of reactions from open arms to teasing and denigration (Grotevant, Dunbar, Kohler, & Lash Esau, 2007).

Sufficient Informal and Formal Social Supports

A poignant response from a single mother who adopted a sibling group from foster care, reported by Groze (1996) in his longitudinal study of special needs adoptive families, illustrates the critical importance of a supportive network, including adoption-sensitive professionals:

> *I felt I was prepared for adoption, but I've been somewhat disappointed since. Yes, I am prepared to deal with the children's problems on my own, with my family, or with a psychologist's help. I was not prepared to deal with non-adjusting, non-understanding trained and untrained teachers, daycare and other so-called professionals (including some social workers). … Why can't people be more tolerant-sensitive of adoptive … children and their parents' problems? (p. 76)*

Social support is particularly critical for families adopting children with multiple challenges. The consequences of caring for a family member with extraordinary health or mental health problems are far-reaching and include: economic cost, impact on family and other relationships, restrictions on personal and social activities, stigma, and psychological overload or burnout. When parents experience chronic stress with their children, it can lead to shrinking social networks (fewer friends), reduced feelings of competence, and restriction of their interactions outside the family (Armstrong, Birnie-Lefcovitch, & Ungar, 2005). For example, a qualitative study of challenges in intercountry adoptive families reported that some experienced a lack of support from friends or relatives that resulted in their feeling disconnected from others who did not understand their situations or expressed insensitive comments. One adoptive mother reported, "When we adopted, my parents treated our son noticeably different from the other grandchildren. It was like he was second class" (Reynolds & Medina, 2008, p. 87).

Adoptive families need support at many levels – within their own extended families, from friends and organizations with which they interact, and from professionals. What is most important is that the support is sufficient to meet their needs. The term "social support" is most frequently used to refer to informal support from unpaid individuals such as relatives and friends (Armstrong, et al., 2005). In addition, families need formal supports and responsive assistance from schools, day care, health, and mental health resources. When "helping systems" respond in an insensitive manner, it increases families' stress rather than helping them to manage it. Research on child welfare adoptive families indicates that the amount and quality of support that adoptive families receive contributes to family permanency and positive adjustment (Groze, 1996; Leung & Erich, 2002; Houston & Kramer, 2008).

A Texas study of families who adopted children with special needs found that a higher level of support from some sources – specifically from spouses, other adoptive parents, physicians, and daycare providers – predicted a higher level of family functioning and fewer child behavior problems. However, families who were functioning at lower levels were actually receiving more support from relatives, schools, and professionals than were those who were functioning well (Leung & Erich, 2002). A longitudinal study of the contribution of agency and non-agency supportive resources to the well-being of special needs adoptive families found that families who received more services prior to finalization were more stable and experienced less conflict three years later (Houston & Kramer, 2008). That was the case even though the families' contact and satisfaction with these formal and informal resources declined from the pre-adoption period to three years later.

When families are unable to meet their needs for support within their informal social support systems, they may seek formal helping services from professionals who may or may not have training about the adoption issues they are being asked to address. Research on the needs of families after adoption yields insights into the types of services that they desire and use.

This handout is excerpted from the following publication and updated by the author:
Smith, S.L. (2010). *Keeping the promise: The critical need for post-adoption services to enable children and families to succeed.* New York: Donaldson Adoption Institute.

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