

Trauma and Psychotherapy: Implications from a Behavior Analysis Perspective

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Abstract

Attachment theory provides a useful conceptual framework for understanding trauma and the treatment of abuse in children. This article examines attachment theory and traditional models of family therapy from the perspective of behavior analysis, and provides a rationale for a behavioral treatment approach for abused children and their foster or adoptive parents. A research model has been developed based on the integration of Attachment Theory and the Attachment Based Family Therapy model with basic concepts and principles of behavior analysis. The purpose of this model is to provide a context to examine how abuse and neglect, separation or loss, family therapy, parent-child relationships, and secure attachments may be integrated to predict positive outcomes in families with adoptive and foster children, and the relevant but implicit behavioral principles operating in the attachment rebuilding process. Questions are raised which suggest that family therapy based models compete with the acquisition of new functional behaviors, and provide the environment for learned dysfunctional habits that are then reinforced in therapy. Conclusions are reached that “familial environments” in which perception and previous learning guide parent and child interaction is more important than therapy, and implications for behavioral and cognitive interventions are suggested.

Keywords: Trauma, attachment theory, traditional models, family therapy

Introduction

Authors of recent studies on abuse have proposed that trauma and related traumatic experiences have important implications for parent-child relationships, and may disrupt normal attachment behavior in children. These studies have primarily examined previous trauma and long-term sequela of severe childhood and adolescent psychopathology from the perspective of attachment theory (Bowlby, 1969, 1973, 1980). The central premise of attachment theory is that the security of the early child-parent bond is reflected in the child’s interpersonal relationships across the life span (Schneider, Tardif, & Atkinson, 2001). This article examines attachment theory as a theoretical context for understanding trauma and attachment based models of family therapy from the perspective of behavior analysis. The present article proposes a research model to provide the context to examine how abuse and neglect, separation or loss, family therapy, parent-child relationships, and secure attachments can be integrated to predict positive outcomes in families with adoptive and foster children.

Research studies focusing on mediating the long-term sequela of abuse have repeatedly argued that feeling secure is our most primary social need, and that a history of pathogenic care can interfere with secure attachment and disrupt healthy development in children (Howe, Brandon, Hinnings, & Schofield, 1999; Schneider, Tardif, & Atkinson, 2001). This is especially true in foster and adoptive families in which children have been abused or neglected as part of their early experiences. Research on foster children and problematic attachment has consistently found that long-term sequela of abuse creates strain on attachment with their adoptive parents (Berry & Barth, 1989; Dyer, 2004; O’Connor & Zeanah, 2003). This strain in the children’s lives, often through multiple placements, increases the likelihood of difficulties across a range of development. Research investigating abuse and insecure attachment behavior in foster and adoptive children has linked these factors to emotional and behavioral difficulties in these children.

This article looks at the emotional and behavioral symptoms associated with abused children placed in foster and adoptive families from a multidimensional complex of systemic and contextual

factors that impact behavior. The research model underlying this multidimensional complex provides the context to examine the many important roles of family members and other reinforcing agents, and presents a rationale for a behavioral treatment approach for abused children and their adoptive parents. The rationale underlying this behavioral approach assumes that overcoming long-term consequences of abuse is subject to the same lawful inevitability as other behavior (Wolpe, 1978), and challenges the allegation that children have a continued dependency on the external structure in behavioral treatment programs. Individual differences in abused and neglected children are determined by previous learning in relation to particular perceptions and unique experiences. Although much learning is reinforced through external consequences, the relative importance of this multidimensional behavioral approach assumes that the “character of an (abused child's) responses is inevitably controlled and is determined by previous learning, and in other instances subserved by other reinforcing agents” (Wolpe, 1978). Reasons are given for rejecting the views of traditional therapists and others that talking about trauma to “co-construct the meaning” or that recognition of “emotion” is necessary for healthy behavior change. Questions are raised which suggest that traditional family therapy provides an environment for learned dysfunctional habits that are then reinforced in therapy.

Research Model

In the case of foster and adopted children, the development of a secure and coherent pattern of attachment behaviors toward their caregivers is heralded as the primary indicator of positive change in the family. While many commentators within the field of adoption and foster parenting have argued against assuming a linear model (Hart & Thomas, 2000; Howe, 1999; Howe Brandon, Hinings, & Schofield, 1999), no research or paper has addressed the potential importance of traditional family therapy and the direction of causality between changes in the quality of caregiver-child relationships and a concomitant reduction in attachment related problems. The present article, therefore, develops a research model or framework for examining the family therapy approach for building secure attachments and achieving positive outcomes for families. This research model provides the context to examine how abuse, separation or loss, family therapy, parent-child relations, and secure attachments can be integrated to predict positive outcomes in families with adoptive and foster children. Because existing work in attachment theory and family therapy tends to focus on only one or two levels of the social system, blurring the distinction between changes in the quality of caregiver-child relationships and fostering healthy or secure attachments in children placed in foster and adoptive families, the following research model was proposed to facilitate a critical examination (See Figure 1) of the therapeutic process from a behavioral perspective. The model to be analyzed here from a behavioral analysis perspective is designed to clarify and assess the effect of family therapy on parent child relationships and changes in family outcomes. Attachment impairment, such as a poor parent-child relationship, is hypothesized to reduce or change family outcomes.

This theoretical research model is based on the family therapy model derived from work in attachment theory and provides the context for understanding trauma and traditional models of family therapy from the perspective of behavior analysis. The purpose of this model is to provide a context to examine the effect of family therapy on parent-child relationships and changes in family outcomes, and the relevant but implicit behavioral principles operating in the attachment rebuilding process (See Figure 2). This research model is fundamentally grounded in the notion that in the case where family therapy and attachment issues are paramount, an understanding of learning theory and the application of behavioral analysis may be more effective in promoting healthy parent-child relationships than traditional family therapy. This model provides the context to examine the many roles of children placed in foster care and adoptive families and other reinforcing agents, including the mental health professional or therapist and the reciprocal relationship between the therapist and child and other family members. This model is based on the integration of Attachment Theory and the Attachment Based Family Therapy model with basic concepts and principles of behavior analysis. See Figures in appendix.

Attachment Theory and Research

Bowlby's earlier work (1956, 1969) described the childhood coping reactions and emotional development of children raised in institutional settings. Bowlby hypothesized that institutionalized children go through distinct stages of *protest* (i.e., cry, complain), *despair* (i.e., depression, hopelessness) and *detachment* (i.e., withdraw, indifferent) in infancy. He proposed that these early life experiences interfere with the emotional bond between parent and child in childhood, and impact relationships and adjustment outside the family.

In his later works (1973, 1988), Bowlby expanded this idea and hypothesized that the newborn has an innate genetic predisposition to elicit the mother's (primary caregiver's) attachment, who then responds by providing protection or a "secure base" (Bowlby, 1988). Bowlby proposed that neglected and abused children who do not develop secure attachments reflect various disturbances in emotion and behavior and develop different attachment styles. Bowlby proposed that these different attachment styles lead to distinct patterns of organized attachment behavior and reflect the infant's mental internalizations of the experiences with early childhood attachment figures. These cognitive/affective representations, labeled *internal working models*, shape new relationship patterns by organizing the child's thoughts, emotions, and future behavior. Bowlby (1969) proposed that these *internal working models* help shape the child's view of self, and represent a complex array of social and emotional skills that are later applied to the child's broadening or narrowing social world. Bowlby hypothesized that abused children use these models to predict the behavior and motivation of others. This hypothesis seems sound enough, especially in light of research in attachment theory which increasingly supports Bowlby's assertion that *internal working models*, although enduring, are constantly evolving and open to change (Bowlby, 1988; Waters, Kondo-Ikemura, Posada, & Richters, 1991).

Following Bowlby's line of reasoning, Ainsworth, Blehar, Waters, and Wall, (1978) studied and empirically classified early attachment behavior through a standardized laboratory procedure called the "Strange Situation" (Ainsworth, 1982), where infants are observed during two brief episodes of separation from a caregiver, followed by two episodes of reunion. Three patterns of organized attachment behavior or attachment styles were identified in infants: *secure* (infants are more confident and more likely to use mother as secure base), *anxious-avoidant* (infants do not cry upon separation and exhibit avoidance and detachment upon reunion), and *anxious-ambivalent* (infants cry with separation and react with heightened ambivalent expressions of attachment and anger upon reunion). These three attachment patterns have broadly been categorized as secure or insecure, and, in contemporary literature, range from normal or secure attachment in the center and more insecure attachments on both extremes (Weir, 2006).

Past research using the Strange Situation with foster care children identified a fourth type of attachment behavior in which infants showed signs of disorganized, disoriented, and contradictory behavior when reunited with a caregiver (Main & Hesse, 1990). Researchers investigating children who grow up having experienced disorganized, ambivalent or avoidant attachments styles suggest that many of these children manifest symptoms similar to neglected or abused children in foster and adoptive populations, and can be characterized by one of the following patterns of interaction: angry, anxious or non-engaging (Cline, 1992; Howe, 1998). These children are often described as extraordinarily difficult to care for and find involvement in social interaction aversive and difficult to initiate or maintain in multiple settings. In more serious cases, children have been diagnosed with Bipolar Disorder or Reactive Attachment Disorder (Boris & Zeanah, 1999). Reactive Attachment Disorder (RAD), a relatively new diagnosis grounded in attachment theory, is characterized by persistent abnormalities in a child's pattern of social relationships, primarily associated with emotional disturbances resulting from severe parental neglect, abuse or pathogenic care in the first five years of life (Hart & Thomas, 2000). These persistent abnormalities include fearfulness, hypervigilance, poor social interaction with peers, aggression toward self and others, and growth failure in some cases.

In sum, research in child development and other fields, including family therapy, supports this view of different attachment styles and has consistently found that the experience of having a positive, secure attachment to a primary caregiver was necessary for healthy human functioning and development. As such, contemporary attachment-based theorists have proposed that the quality of the caregiver-infant relationships shapes a child's view of him or herself and others, and that these mental representations guide children's future behavior and help to shape expectations, affect, and reactions to distress between parent and child in the future (Ainsworth & Bowlby, 1991). This is consistent with Bowlby's concept of internal working models and suggests a link between early childhood experiences with attachment figures and the way a person experiences close relationships later in life. This view is especially important for foster children who are moved through multiple placements (Hallas, 2000; Maxey, 2004; Schofield & Beek, 2005), as well as older children adopted with a history of severe psychopathology (Berry & Barth, 1989).

Attachment Difficulties in Maltreated Foster and Adopted Children

Researchers investigating maltreated children have repeatedly found that neglected or abused children in foster and adoptive populations manifest different emotional and behavioral reactions to regain lost or secure relationships (Ainsworth, 1989; Hazan & Shaver, 1994; Sroufe, 1985), and are frequently reported to have disorganized attachments (Hughes, 2004) and a need to control their environment (Loyn-Ruth & Jacobvitz, 1999). Such children present as a diagnostic challenge and are likely to view a caregiver as a source of terror and someone who must be controlled through manipulation and intimidation (Hughes, 2004; O'Connor & Zeanah, 2003). Descriptions of these children suggest that they lack impulse control and conscience development, and often present as superficially engaging or connected to others, emotionally aloof and unwilling to participate in treatment, all possibly connected to impaired attachment (Dyer, 2004; O'Connor & Zeanah, 2003).

Research investigating separation and loss in foster and adoptive children, often through multiple placements, supports that this pattern exists and depicts children who fail to develop secure attachments as having significant difficulty across a range of development. These children tend to be described as wary, indiscriminately affectionate with strangers, distrustful and controlling when they enter foster placements. Recent research indicates that children growing up in long-term foster family care, who have come predominantly from backgrounds of separation and loss, monitor the environment closely and have great difficulty accepting new positive experiences or unlearning old negative habits from responsive and secure caregivers (Schofield & Beek, 2005).

In adulthood, both groups of children often grow up shallow or emotionally aloof and have difficulty forming close relationships, demonstrate a lack of resilience, and often display severely antisocial behavior (Howe, 1998). Researchers investigating child maltreatment and family support concluded that attachment related problems and a history of maltreatment influences children's expectations which are not easily modified and ultimately create strains on attachment with their adoptive parents (Howe, Brandon, Hinnings, & Schofield, 1999). Researchers investigating impoverished children with a history of pathogenic care and adopted at older ages report many of the same symptoms found in foster children with backgrounds of separation and loss, which include a failure to develop secure attachments. These children typically show an increase in aggressive and hyperactive behaviors, which Berry and Barth (1989) suggest disrupt healthy or secure attachment with their adopted parents. The major challenges reported in parenting maltreated children include their profound lack of trust (Schofield & Beek, 2005) and a distorted sense of security, often reflected in the children's poor interpersonal relationship across the life span. Such children need to control others and are described as suspicious and highly adaptable, all in an effort to control or manipulate people viewed as sources of fear rather than sources of love or security (Schofield & Beek, 2005). Such children have learned to adapt to a distorted

and inconsistent caregiver by becoming cautiously self-reliant and are often described as glib, manipulative and disingenuous as they move through childhood.

In sum, foster children and children adopted at older ages often have significant difficulty adjusting to their caregivers and adoptive parents. Attachment theorists suggest that many of these difficulties stem from a failure to develop secure attachments in infancy. Research investigating the potential risks of multiple caregivers in foster and adoptive populations suggest that problematic attachment usually occurs when children are abused, neglected, or experience separation and loss in their early experiences. Researchers investigating maltreatment and neglect in foster and adopted children describe these children as having anxious or avoidant attachment styles, as well as different emotional and behavioral reactions to their caregivers or adoptive parents. Common attachment-related problems in foster and some adoptive children include a distrustful and a compulsive need to control all aspects of their environments (Loyn-Ruth & Jacobvitz, 1999), increased aggressive and hyperactive behavior (Berry and Barth, 1989), and difficult or poor interpersonal relationships (Silberg, 2004). Other common attachment-related problems in children include Oppositional Defiant Disorder, as well as an inability to experience mutual joy and spontaneity (Hayes, 1997).

Attachment Based Therapy Model

As such, research indicates that many of these attachment related problems inevitably impact other family members and eventually influence adjustment outside the family. These problems represent a major challenge for attachment-based therapists who are confronted with emotional and behavioral reactions in these children, as well as the fear and desperation of their caregivers and adopted parents. These challenges, which research in attachment theory increasingly supports, are especially acute for family therapists working with adoptive and foster children and their parents.

In the past decade, family therapists have embraced many elements of attachment theory as a critical treatment area for working to repair attachment related problems with adoptive and foster children (Weir, 2006). Attachment theory, and in particular Attachment Based Family Therapy (ABFT), which is specifically tailored for depressed adolescents and their families, focuses primarily on rebuilding trust and repairing relational ruptures that disrupt healthy parent-child relationships (Diamond, Reiss, Diamond, Siqueland, & Isaacs, 2002). A primary assumption of ABFT, which is based in part on the theoretical underpinnings of systems theory, is that excessive family discord, harsh and severe criticism, reduced accessibility or affective responsiveness, and physical or emotional neglect or abuse can disrupt the security of the early parent-child attachment bonds (Diamond, Diamond, & Hogue, 2007). In addition, unhealthy parent-child interactions and attachment related problems often interfere with the acquisition of effective coping skills, which research indicates are necessary to buffer against depression (Cummings & Cicchetti, 1990; Diamond, G.S., Siqueland, L. & Diamond, G. M., 2003; Rudolph, K. D., Hammen, C., Burge, D., Linberg, N., Herzberg, D., & Shannon, E., 2000). According to Diamond et al., (2007), fostering healthy or secure attachments among abused children and children who have experienced separation and loss often lead to improved parent-child relationships and a reduction in attachment related problems including depression. An equally critical assumption, which is especially relevant to trauma and the ABFT approach to treatment, is that the quality of the caregiver-child relationships is amenable to change, and the process of achieving secure attachments and improved psychological functioning among abused children and children adopted at older ages represents the central cause of positive outcomes for families (Chase-Stovall, & Dozier, 1998; Diamond, Diamond, & Hogue, 2007; Howe, 1998; Howe, et. al., 1999; Svanberg, 1998).

According to Diamond, et al., (2007), ABFT was greatly influenced by emotion-focused therapy (Johnson, Hunsley, Greenberg, & Schindler, 1999; Greenberg & Johnson, 1998), and by contextual family therapy (Boszormenyi-Nagy & Krasner, 1986), and focuses on multiple psychological (e.g., coping, affect) domains that impact the family. The use of emotion as a primary change mechanism and

the co-construction of meaning and its emphasis on repairing trust between family members are central to the treatment process, and are equally important features in promoting child and adolescent-parent relationships. This approach to treatment, designed to promote healthy family reattachment and strengthen interpersonal coping skills, includes four interrelated tasks or treatment strategies (relational reframe, alliance building, reattachment, and competency promoting), that are presented sequentially in therapy. Family therapists accomplish these interrelated tasks by systematically identifying and working to resolve family conflicts and associated vulnerable feelings, which are typically not exhibited or expressed by children diagnosed with RAD, and include sadness, fear and disappointment (Diamond et al., 2007). The primary goal of this approach is to reduce hostility and build trust, while enhancing parenting behaviors, eventually leading to reattachment and changes in the quality of parent-child relationships in and outside of the family.

In working with foster and adopted populations, earlier family therapy models embraced other systemic elements for working with attachment impairment and related emotional problems in the family. In an interesting analysis of attachment impairment in children, Jernberg and Booth (2001) dissected the attachment-building process into four rudimentary elements. These elements included structure, engagement, nurture, and challenge. While Jernberg, et al., (2001), stressed the need to develop a balance of these four dimensions, especially in the process of building and improving parent-child relationships, other attachment based family therapy models point to the need for consistency, understanding or respect, and systemic thinking in working to repair the emotional problems associated with unhealthy attachment bonds among adoptive and foster children (Weir, 2006).

Attachment Theory and Therapy: A Brief Critical Review

Attachment theory is undoubtedly the most popular theory for practitioners working with abused and neglected foster children and with children placed in adoptive families. Attachment theory provides the conceptual and methodological considerations for research and clinical work in child welfare services, and constitutes the key theoretical underpinning of reactive attachment disorder (RAD), and other attachment related problems. In recent years, there has been burgeoning interest in attachment theory and the clinical implications for psychotherapy with foster and adopted children and their caregivers (Meyer, Pilkonis, Proietti, Heape, & Egan, 2001; Tyrell, Dozier, Teague, & Fallot, 1999). This research is critical to predicting changes in the quality of parent-child relationships, especially since research indicates that such children are reportedly viewed by their caregivers as aggressive, emotionally dishonest, not likely to experience interpersonal joy and spontaneity (Hughes, 2004), and present a major challenge for diagnosis and treatment (O'Connor & Zeanah, 2003).

O'Connor and Zeanah (2003) summarized the difficulties in using attachment theory to make diagnoses and to identify treatment interventions in regard to attachment related disorders. They report, "...there is still no consensual definition or assessment strategy; nor are there established guidelines for treatment or management" (p. 241.) This finding is especially important for clinicians who have embraced elements of attachment theory to help foster and adopted children and their caregivers. While attachment theory is identified as the conceptual foundation underlying RAD and attachment-based therapy (ABT), no positive process or outcome studies of attachment therapies are found in the scientific literature (O'Connor & Zeanah, 2003), and recent research suggests that the criteria for RAD are vague, not well researched, and that other diagnostic criteria may be more reliable (Ziberstein, 2006).

Toward a behavior Approach and Treatment

Although much learning is reinforced through external consequences, the behavioral analysis approach to treatment assumes that the character or topography of an abused child's response is controlled, and in other instances is influenced or promoted by other reinforcing agents. This view of human behavior is especially important to achieving positive changes in the family and includes both positive and negative parent-child interaction patterns and the multiple behavioral and environmental contingencies that operate in and outside the family. The theoretical model underlying this approach assumes that attachment related problems (behavioral and emotional) develop from the conditioning of motor responses to complex integrations of stimuli (Taylor, 1962; Wolpe, 1978) that evolve into learned habits that are then reinforced or maintained in multiple interpersonal environments. These environments include multiple settings or contexts, which set the stage for learned interaction patterns, and represent discriminative stimuli associated with the child's experiences and perceptions, and, in a negative family environment, continue to promote and reinforce maladaptive functioning. Individual differences in children, whether living in negative or enriched family environments, are determined by previous learning in relation to different perceptions or experiences. In this model there is no assumption that attachment impairment or changes in the quality of parent-child relationships are static moments of time and activated during traumatic experiences, but, conversely, the origin of these symptoms embodies a long-term developmental or learning process occurring within an interpersonal environment. This means that in the behavioral approach to treatment for abused children, the "process of behavior change involves substituting new controlling conditions for those that have regulated or determined an (abused child's) behavior" (Bandura, 1969). Implicit in this view of behavior, though somewhat subtle, is a focus on perception (causal antecedents to overt behavior) and changing the environmental contingencies inherent in the traumatic roots or experiences (discriminative stimuli) associated with dysfunctional behavioral and emotional patterns in children growing up in foster care.

The major challenge in treatment and parenting, according to the indications of behavior analysis, is the requisite that an abused child learns that the way he or she reacts to caregivers or adopted parents varies according to how the child perceives them. To the extent that perception and previous learning relates to similar perceptions in guiding a child's reactions, then thoughts, although repudiated in the past, are a major determinant in the behavior of the abused child. In the case of foster and adopted children, interventions based on social and cognitive learning theories offer more empirically tested interventions, especially among those children with more serious aggressive (conduct) problems (Barth, Crea, John, Thornburn, & Quinton, 2005). This emphasis on the value of social and cognitive learning theories to assist foster and adopted children and their parents is of particular importance with regard to the use of behavioral analysis to explain and treat the behavior of children diagnosed with reactive attachment disorder (RAD). Research indicates that such children, often having experienced multiple placements and poor or inconsistent parenting practices, are typically reported to exhibit severe academic and socio-emotional delays (Wodarski, Kurtz, Guadin, & Howling, 1990), and are frequently found to have reduced responsiveness to sadness and fear (Blair, 1995; Blair, Colledge, Murray, & Mitchell, 2001). Research investigating children growing up in long-term foster family care and with inconsistent parenting practices indicates that many of these same children have developmental or learning (reinforcement) histories characterized by familiar adults who ignored appropriate behavior and attended to inappropriate behavior, while at the same time, inflicted pain (punishment), neglect, or, in a reverse sense, "gave in" to stop inappropriate behavior (positive reinforcement) (Golden, in press). The problem for children who grow up having experienced multiple placements and poor or impoverished parenting practices is that many of them fail to learn accountability (Golden, in press), and have no concern for parent approval or disapproval. Golden (2007) hypothesized that these same children also learn that adults are dispensable, and cannot be trusted, which, for abuse children and children diagnosed with RAD, interferes with positive moral development (Golden, in press).

Beyond the notion of perception and the intervening influence of thought, the unlearning of dysfunctional reactions in abused children requires relearning motor and autonomic behavior consistent with other observable reinforcing agents inherent in the child's interpersonal environment. To the extent that perception and previous learning governs the child's dysfunctional habits, the relearning of cognitive, behavioral and emotional reactions requires the child to overcome motor and autonomic reactions linked to discriminative stimuli (causal antecedents to overt behavior) associated with the child's developmental or learning history. The behavioral and emotional patterns or changes in the child's reactions toward caregivers or adoptive parents provide useful information regarding the conditioned motor responses associated with disorders of attachment. This information is critical to treatment, and provides important information about the stimulus response relations involved in dysfunctional attachment related behavior, as well as important information regarding the controlling conditions or stimulus patterns operating in the family. While the origin of these learned dysfunctional patterns is appreciated, behavior therapy provides an opportunity to examine how the child's perception and previous learning experiences influence (regulate) current behavior. Thus, therapeutic intervention, regardless of interpersonal environment, provides the context for the child to unlearn dysfunctional stimulus-response habits linked with old perceptual stimuli (controlling conditions) that impacts relationships in and outside the family. In the case of working with adoptive and foster children and their parents, the behavioral approach requires an analysis of the child's experiences, which involves evoking thoughts and associated emotions, and the inherent stimulus response relations between the child and other family members. This information helps in the development of treatment strategies to disrupt dysfunctional habits, and involves systematic reinforcement of positive parent-child relationship patterns consistent with healthy reciprocal communication and emotional accessibility between the child, family members and other reinforcing agents. The primary goal of this approach is to model and teach parents and abused children new learning patterns (stimulus-response) that reinforce healthy emotional regulation and responsiveness, as well as compete with earlier controlling conditions that regulate dysfunctional parent-child relationship patterns in and outside of the family.

The use of Establishing Operations (EO) (Keller & Schoenfeld, 1950; Michael, 2004; Millenson, 1967) and Motivating Operations (MO) (Laraway, Snyderski, Michael, & Poling, 2003; Michael, 2004) are central to the treatment process. Michael (2004) defined EOs as environmental events, operations or stimulus conditions that affect behavior by altering the reinforcing or punishing effectiveness of other events, as well as altering the momentary frequency of any behavior that had been consequated by those other events (Laraway, Snyderski, Michael, & Poling, 2003; Michael, 2004). In the case of foster and adopted children, emotional responsiveness is an establishing operation that momentarily increases the effectiveness of healthy affective parental accessibility as a form of reinforcement. As such, emotional responsiveness not only establishes parental accessibility as an effective form of reinforcement, if the child encounters loving or nurturing (secure) caregivers; but it also alters the occurrence of any behavior that has been followed or consequated by emotional responsiveness. This evocative effect is the result of the direct effect of the established operation on such behavior (Michael, 2004). Motivating operations, in a similar sense, also alter or change the current reinforcing effectiveness (evocative or abative) of behavior, but only to the extent to which the behavior was based on what has happened in previous similar situations. Thus, motivating operations alter the reinforcing effectiveness of multiple or various types of behavior by being paired or associated in time by the same stimulus that is altered in reinforcing effectiveness by that MO. This is the direct effect of the MO, and is related to the differential reinforcing effectiveness of environmental events (Michael, 2004). In abused and neglected children, especially children diagnosed with RAD, affective behavior (emotional responsiveness) reinforced by the presence of a nurturing or loving caregiver that has been paired with parental accessibility alters the frequency of affective behavior relevant to the nurturing caregiver and that MO (parental accessibility). This is the indirect effect of the MO on behavior, and represents the major challenge in working with adoptive and foster children and their parents. Thus MOs can have multiple behavioral functions, and, in the case of

abused children, interventions that involve MOs not only alter alternative behaviors (affective responsiveness), but also other target behaviors (healthy parent-child interaction).

The behavioral rationale underlying this approach suggests that treatment is guided by normal behavioral expectations vis-à-vis the multiple behavioral and environmental contingencies that operate in and outside the family, and involves substituting new controlling conditions for those that have regulated the child's behavior. For example, in the same way that a young healthy toddler has learned to discriminate among stimuli (parents), and cries (affective deregulation), eventually leading to benign head banging (behavior component), followed by the biological parents interchangeably picking up the child at home, suggests an examination of the controlling conditions that have regulated the child's behavior. In this example, the behavioral expectations are especially important since the child does not exhibit the behavioral sequence at child care, clearly illustrating how the child's perception and previous learning experiences influence (regulate) current behavior and different reactions in both settings. This behavioral chain increases the likelihood that the child, in the present of either biological parent, should generalize outside of the family, but does not due to different controlling conditions. The same child does not exhibit this behavior in a child care setting because the caretaker does not respond in the same predictable manner. The parents serve as a discriminative stimulus who set the occasion for the behaviors to occur at home, evoking this behavior without inference of any traumatic roots inherent in the child's previous interpersonal environment. This behavior excess may be corrected by changing the multiple behavioral and environmental contingencies operating in the home. The parent, in this situation, ignores the child's crying and head-banging, systematically abating the behavior after a short period of time, while, at the same time, through an established operation procedure, holds the child's hand and walks the child to another area of the room to garner his or her interest in something else (motivational operation). This use of an established operation procedure that produce changes in the child's emotional behavior demonstrates the operant aspect of emotion as a predisposition designed to control and or regulate dysfunctional habits. In a similar but more complex example, abused children, who are often diagnosed with disorganized or avoidant attachment styles often manifest different emotional and behavioral reactions to purportedly regain lost or secure relationships. Emotionally, these children are often described as superficially connected to others, emotionally aloof, distrustful, and likely to have difficult or poor interpersonal relationships (Silberg, 2004). Attachment related research increasingly suggests that these children are also likely to view a caregiver as a source of terror and someone who must be controlled through manipulation and intimidation (O'Connor & Zeanah, 2003).

In this example, an examination of the behavioral expectations and competing contingencies that operate in and outside the family demonstrates how the abused child's perception and previous learning experiences influence the child's variable behaviors and emotional reactions. Caretaker abuse and neglect, consistently or inconsistently applied, followed by separation or loss and high magnitude emotional attention for inappropriate behavior, influences how the child perceives others and determines or regulates the abused child's behavioral and emotional reactions. These learned reactions or dysfunctional habits vary across contexts, and are subject to the same lawful inevitability as other behavior. The character of an abused child's response, independent of diagnostic orientation, develops from conditioning of cognitive, behavioral and motor responses to complex stimuli (abusive caretaker) that generalize to foster and adoptive parents, and evolve into learned habits that are then reinforced in multiple interpersonal environments. This emphasis on competing contingencies in multiple interpersonal environments is especially important to changes in the quality of parent-child interaction patterns, and involves teaching parents effective ways to disrupt learned dysfunctional reactions that often accompany excessive stress in the family. For example, abusive or neglectful parents who ignore appropriate behavior, or who inadvertently model and reinforce dysfunctional communication or problem solving skills, serve as discriminative stimuli that can interfere with healthy emotional expressiveness, which can lead to poor interpersonal relationships among children. Therapeutic intervention requires the child to unlearn these dysfunctional habits linked with old perceptual stimuli that impact relationships, and involves substituting

new controlling conditions for those that have regulated the child's behavior. Examining these unhealthy contingencies and the role of reinforcement in the maintenance of current behavior and reactions provides the context to model and teach new parent-child interaction patterns associated with dysfunctional behavioral (aggression) and emotional reactions (affective deregulation). The behavioral approach to treatment emphasizes learning and teaching parents how to prompt, as well as to model honest emotional accessibility, while systematically reinforcing positive interaction patterns designed to increase relationship bonds in and outside of the family. This is especially important and involves teaching parents and caregivers the use of established and motivational operation procedures, which can produce positive alternative feelings (establishing operations) designed to reinforce the child's tendency to express positive emotions (i.e., kindness, attached) that competes with emotional inaccessibility (i.e., hurtfulness, detached).

This process of unlearning and eventually overcoming cognitive, behavioral (motor) and emotional (autonomic) reactions associated with past perceptions and experiences is central to the question of whether or not attachment based family therapy models provide experiences that compete with the acquisition of new functional or positive behaviors, and provides the environment for learned dysfunctional (negative) habits that are then reinforced in therapy. Family therapy interventions, based on the recounting of abuse and a focus on emotion, and the role past trauma plays in current behavioral and emotional difficulties, are seen as the primary forces that shape dysfunctional thinking and behaving in abused children in therapy, and provide the context to reinforce continued maladaptive functioning. The clinical rationale underlying this approach suggests that life events (abuse and neglect) that may lead to emotional distress can have deleterious effects on relationship bonds and disrupt the security of the early child-parent attachment bonds. The traumatic roots of abuse become a clinically recurring theme and the caregiver-child relationship (behavioral chain or sequence) becomes stuck in a rigid, negative, interactional cycle, inevitably escalating into severe behavioral and emotional difficulties in the child.

The key to the success of this approach lies not in the analysis of traumatic experiences, but in the understanding that perception and past learning history guides behavior, and changes in behavior associated with trauma are subject to the same lawful inevitabilities as other behavior. In fact, research indicates that overt changes in motor and other physical (verbal) forms of behavior, including emotion, are correlated with autonomic behavior (Wolpe, 1978), and can be a source of useful objective data vis-à-vis changes in the quality of parent-child relationships. This is of particular importance, especially regarding the controversy surrounding the role of emotion in behavioral causation and whether or not the therapeutic or familial environment provides a well-defined context for positive changes in the family.

In the case of family therapists working to repair attachment related problems, changes in the quality of child and parent relationship patterns depend not on biological causality or other controlling conditions in the environment, but rather are inferred from changes in the patterns of attachment and the very behavior (insecure attachment) that the therapists are supposed to explain. This assumption is inconsistent with the research model and the theoretical path predicting changes in outcomes (reinforcing events) from a behavioral analysis perspective. This assumption also ignores the linear relationship between stimulus events and behaviors, learned or unlearned, in the therapeutic environment and whether or not learned dysfunctional habits are then reinforced in therapy. When significant events in the environment occur on a regular basis, people adapt by producing regularities in their behavior. In this case, therapists, not unlike family members, are viewed as agents of change who can inadvertently impact or reinforce dysfunctional thinking and behaving in abused children through an emphasis on emotion, and an unrelenting quest to discover the familial roots that past trauma plays in disorders of attachment.

Conclusion

Learning and thinking connect the causal sequences of a child's experiences and perceptions and guide behavior in and outside of the family. While attachment problems may predispose a child toward future behavior problems, early experience does not cause pathology in a linear way (Sroufe, Carlson, Levy, & Egeland, 1999), and these problems must be evaluated and treated using the principles of behavior analysis within the context of the child's current familial environment. The antithesis of this view involves an emphasis on the use of emotion as the *primary change mechanism*, and the causal relevance of emotional events is viewed not in terms of perception or in a behavioral context, but as a mental inference associated with changes in the quality of caregiver-child relationships. While emotion is correlated with behavior, especially autonomic behavior, the assumption that emotion or other internal constructs lead to behavior change lacks scientific creditability. Moreover, changes in the quality of parent-child relationships through the repair of ruptured attachments are limited both in terms of the ability to predict changes in behavior (Roisman, Padron, Sroufe, & Egeland, 2002), and the capacity to forecast how a child will develop over longer periods of time. This paper has endeavored to propose not a moratorium but rather a more critical examination of theoretical approaches to the attachment paradigm and therapy, and a move toward more empirically tested therapies in the future.

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APPENDIX TO FIGURES, NEXT PAGE

Appendix

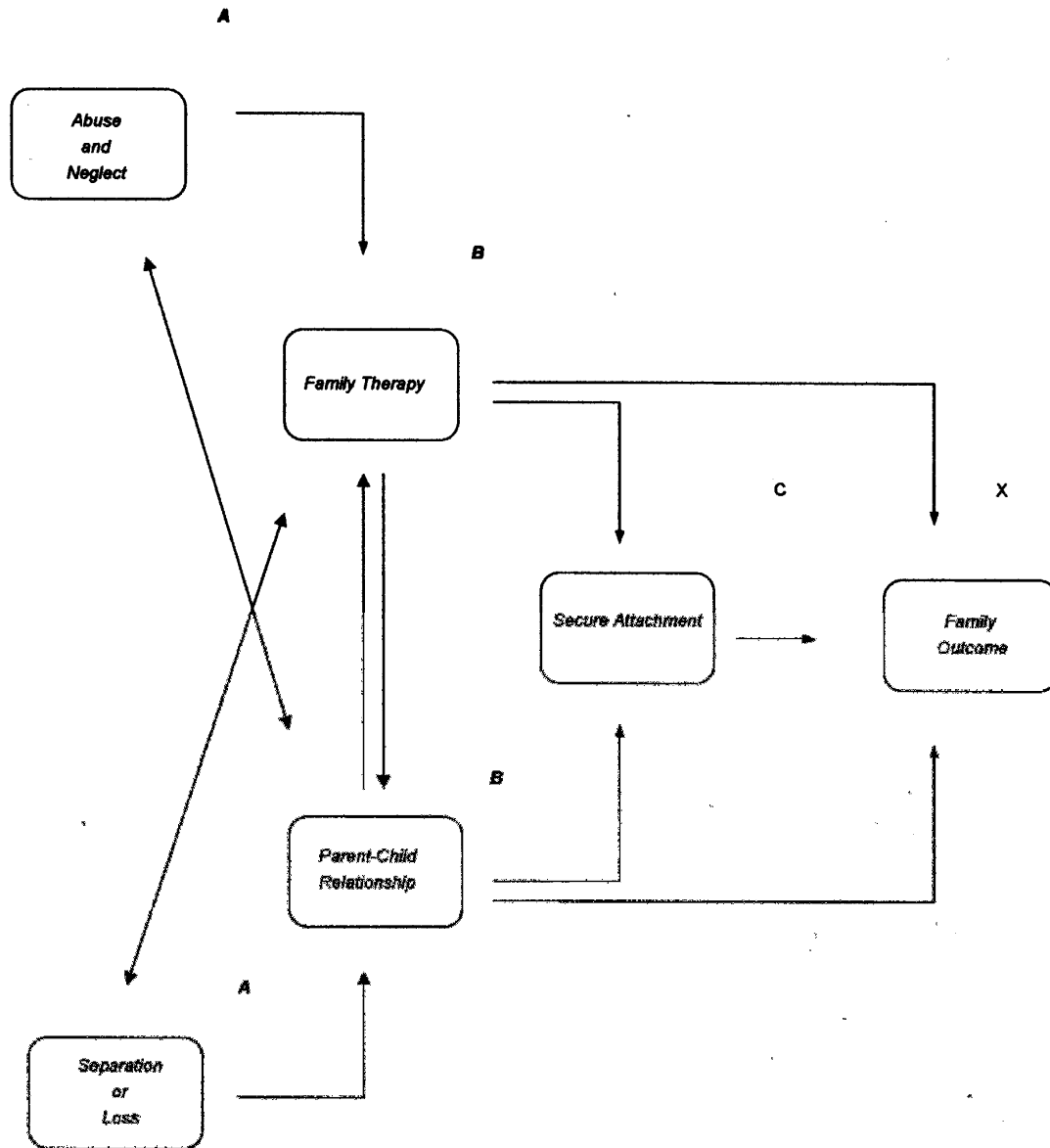


Figure 1: Theoretical Family Therapy Path Model Predicting Family Outcomes

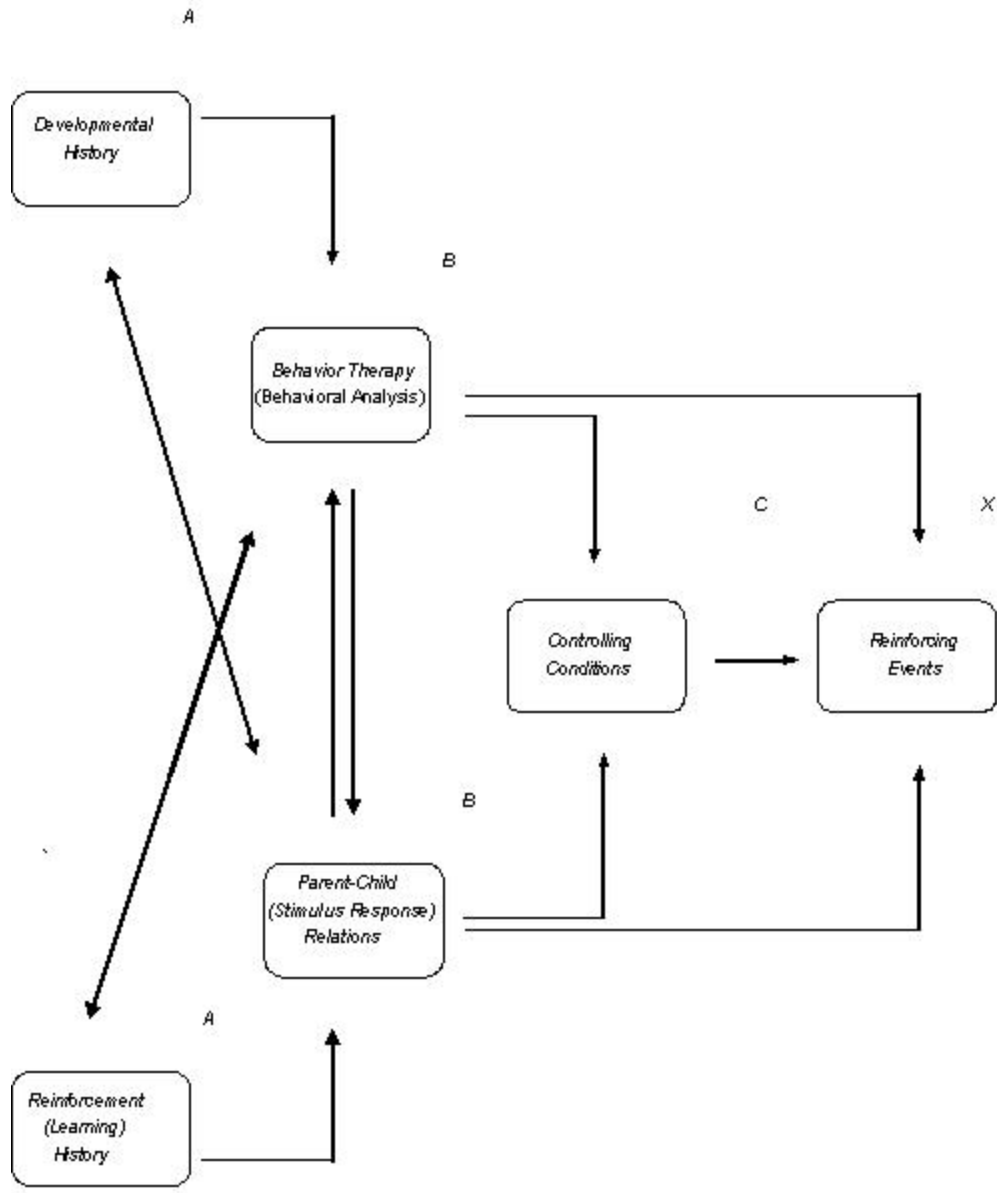


Figure 2: Theoretical Behavior Therapy Path Model Predicting Family Outcomes